

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

April 2, 2014

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D.C. 20555-0001

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

Subject:

Watts Bar Nuclear Plant (WBN) Unit 2 - Submittal of Pre-operational Test

Instruction

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

PTI NUMBER	Rev.	TITLE
2-PTI-003A-01	0	Feedwater Isolation Valves

If you have any questions, please contact Nick Welch at (423) 365-7820.

Respectfully,

Raymond A. Hruby, Jr.

General Manager, Technical Services

Watts Bar Unit 2

Enclosure

D030

U.S. Nuclear Regulatory Commission Page 2 April 2, 2014

cc (Enclosure):

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

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

WATTS BAR NUCLEAR PLANT UNIT 2 PREOPERATIONAL TEST			
TITLE: Feedwater Isolation Valve	5		
Instruction No: $\frac{2-PTI-003A-}{O}$	<u>0 </u>		
PREPARED BY: William Ryan Is sa Water Byons PRINT NAME / SIGNATURE	DATE: 3-17-2014		
REVIEWED BY: SAM LINGINFELTER SIGNATURE FOR JOE WOOTEN PRINT NAME / SIGNATURE	DATE:		
INSTRUCTION APPROVAL			
JTG MEETING No: 2-14-011 JTG CHAIRMAN: APPROVED BY: PREOPERATIONAL STARTUP MANAGER	DATE: 3/17/14 DATE: 3/17/14		
TEST RESULTS APPROVAL			
JTG MEETING No:			
JTG CHAIRMAN:	DATE:		
APPROVED BY :	DATE:		

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Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change
0000	3/17/14		Original Issue

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1.0 INTRODUCTION

1.1 Test Objectives

The objective of this test is to demonstrate the operability of the Main Feedwater Isolation Valves (MFIV), Main Feedwater Regulator Valves (MFRV), Main Feedwater Bypass Regulator Valves (MFBRV), Main Feedwater Bypass Isolation Valves (MFBIV), Main Feedwater Backflush Warming Isolation Valves (MFBWIV), including the ability to close automatically as required. Deaeration line control valves and Main Feedwater Regulating Isolating Valves (MFRIV) will also be tested.

1.2 Scope

1.2.1 Isolation Valves

- A. To demonstrate each MFIV, MFBIV, and MFBWIV closes upon receipt of an isolation signal.
- B. To ensure safety related controls, interlocks and operation of the MFIVs and MFBIVs is in accordance with design criteria.
- C. MFRIVs are operable from local control station and indicating lights report appropriate valve position.
- D. MFBWIVs close on loss of control power.

1.2.2 Regulator Valves

- A. To demonstrate each MFRV, MFBRV closes upon receipt of an isolation signal.
- B. To ensure MFRVs and MFBRVs close on loss of control power.
- C. MFRVs operate accordingly when 2-HS-3-45 is utilized.

1.2.3 Deaeration Valves

- A. Deaeration line back pressure control valve and line isolation valves operate accordingly when 2-HS-3-45 is utilized.
- B. Deaeration line isolation valves are operable from local control station and indicating lights report appropriate valve position.

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2.0 REFERENCES

2.1 Performance References

- A. SMP-9.0, Conduct of Test
- B. OPDP-7, Fuse Control
- C. OPDP-8, Limiting Conditions for Operation Tracking.
- D. TSP 1021, TVA Safety Manual, Working on/or Near Energized Electrical Equipment.
- E. GOI-7, Generic Equipment Operating Guidelines

2.2 Developmental References

- A. Unit 2 Final Safety Analysis Report Amendment 111
 - 1. Section 10.4.7
 - 2. Chapter 14 Table 14.2-1, Sheet 65 and 67 of 89

B. Drawings

1. Flow Diagrams

2-47W803-1, Rev. 14, Main Feedwater System

2. Control Diagrams

- a. 2-47W610-3-1, Rev. 4, Electrical Control Diagram Main & Aux Feedwater System
- b. 2-47W610-3-1A, Rev. 1, Electrical Control Diagram Main & Aux Feedwater System
- c. 2-47W610-3-1B, Rev. 3, Electrical Control Diagram Main & Aux Feedwater System
- d. 2-47W610-3-1C, Rev. 2, Electrical Control Diagram Main & Aux Feedwater System
- e. 2-47W610-3-1D, Rev. 4, Electrical Control Diagram Main & Aux Feedwater System

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- f. 2-47W610-3-2, Rev. 2, Electrical Control Diagram Main & Aux Feedwater System
- g. 2-47W610-3-2A, Rev. 4, Electrical Control Diagram Main & Aux Feedwater System
- h. 2-47W610-3-2B, Rev. 2, Electrical Control Diagram Main & Aux Feedwater System
- i. 2-47W610-3-2C, Rev. 5, Electrical Control Diagram Main & Aux Feedwater System
- j. 2-47W610-3-5, Rev. 3, Electrical Control Diagram Main & Aux Feedwater System
- k. 2-47W610-3-5A, Rev. 3, Electrical Control Diagram Main & Aux Feedwater System

3. Electrical Diagrams

- a. 2-45W751-4, Rev 2, Wiring Diagrams, 480V Reac MOV Bd 2A2-A, Single Line SH-1
- b. 2-45W751-10, Rev 7, Wiring Diagrams, 480V Reac MOV Bd 2B2-2, Single Line SH-1
- c. 2-45W753-2, Rev 3, Wiring Diagram, 480V Turbine MOV Bd 2A, Single Line
- d. 2-45W753-3, Rev 3, Wiring Diagram, 480V Turbine MOV Bd 2A, Single Line
- e. 45N2635-17, Rev 5, Wiring Diagrams Local Instrument Panels Connection Diagram
- f. 45N2642-2, Rev 11, Wiring Diagrams Unit Control Board Panel 2-M-3 Connection Diagram
- g. 45N2652-2, Rev 4, Wiring Diagrams Unit Control Board Panel 2-M-13 Connection Diagram
- h. 2-45N2655-1A, Rev 0, Electrical Wiring Diagram Connection Diagram PNL 2-M-18

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- 2-45N2655-1B, Rev 0, Electrical Wiring Diagram Connection Diagram PNL 2-M-18
- j. 45N2665-2, Rev 12, Wiring Diagram Process Instr Control Group 1 Connection Diagram
- 45N2665-3, Rev 4, Wiring Diagram Process Instr Control Group 1
 Connection Diagram
- 45N2666-3, Rev 5, Wiring Diagram Process Instr Control Group 2 Connection Diagram
- m. 45N2667-2, Rev 9, Wiring Diagram Process Instr Control Group 3 Connection Diagram
- n. 45N2668-2, Rev 6, Wiring Diagram Process Instr Control Group 4 Connection Diagram
- 45N2668-3, Rev 1, Wiring Diagram Process Instr Control Group 4 Connection Diagram
- p. 45N2668-4, Rev 6, Wiring Diagram Process Instr Control Group 4
 Connection Diagram
- q. 45N2676-4, Rev 16, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram
- r. 45N2676-5, Rev 10, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram
- s. 45N2676-6, Rev 3, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram
- t. 45N2676-7, Rev 7, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram
- u. 45N2677-4, Rev 18, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram
- v. 45N2677-5, Rev 9, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram
- w. 45N2677-6, Rev 5, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram

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- x. 45N2677-7, Rev 7, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram
- y. 2-45N2688-1, Rev 2, Wiring Diagrams Separation Aux Relay Pnl 2-R-73 Connection Diagram
- z. 2-45N2688-4, Rev 0, Wiring Diagrams Separation Aux Relay PnI 2-R-73 Connection Diagram
- aa. 45N2689-1, Rev 11, Wiring Diagrams Separation Aux Relay PnI 2-R-74 Connection Diagram
- bb. 45N2689-2, Rev 7, Wiring Diagrams Separation Aux Relay Pnl 2-R-74 Connection Diagram; DRA 55879-001 Rev 0
- cc. 45N2689-2, Rev 7, Wiring Diagrams Separation Aux Relay Pnl 2-R-74 Connection Diagram; DRA 52378-332 Rev 5
- dd. 45N2689-4, Rev 18, Wiring Diagrams Separation Aux Relay Pnl 2-R-74 Connection Diagram
- ee. 45N2692-4, Rev 17, Wiring Diagrams Separation Aux Relay Pnl 2-R-77 Connection Diagram
- ff. 45W2643-6, Rev 12
- gg. 2–47A615–0, Rev. 1, Integrated Computer System Terminations and I/O List

4. Logic Diagrams

- a. 2-47W611-3-2, Rev. 6, Electrical Logic Diagrams Feedwater System
- b. 2-47W611-3-5, Rev. 4, Electrical Logic Diagram Feedwater System
- c. 2-47W611-3-6, Rev. 3, Electrical Logic Diagram Feedwater System

5. Schematic Diagrams

- a. 2-45W600-3-1, Rev. 1, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- b. 2-45W600-3-5, Rev 1, Wiring Diagram Man & Aux Feedwater System Schematic Diagram

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- c. 2-45W600-3-6, Rev. 3, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- d. 2-45W600-3-7, Rev. 3, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- e. 2-45W600-3-8, Rev 2, Wiring Diagram Main & Aux Feedwater System Schematic Diagram
- f. 2-45W600-3-9, Rev 2, Wiring Diagram Main & Aux Feedwater System Schematic Diagram
- g. 2-45W600-3-10, Rev 1, Wiring Diagram Main & Aux Feedwater System Schematic Diagram
- h. 2-45W600-3-11, Rev. 5, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- i. 2-45W600-3-14, Rev. 0, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- j. 2-45W600-57-19, Rev 2, Wiring Diagram Separation & Misc Aux Relays Schematic Diagram
- k. 2-45W600-57-24, Rev 2, Wiring Diagram Separation & Misc Aux Relays Schematic Diagram
- I. 2-45W600-57-33, Rev 2, Wiring Diagram Separation & Misc Aux Relays Schematic Diagram
- m. 45W760-55-3, Rev 2, Wiring Diagrams Annunciator System Schematic Diagram
- n. 2-45W760-3-3, Rev. 5, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- o. 2-45W760-3-4, Rev. 4, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- p. 2-45W760-3-6, Rev. 4, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- q. 2-45W760-3-7, Rev. 3, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram

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- r. 2-45W760-3-8, Rev. 2, Wiring Diagrams Main & Aux Feedwater Sys Schematic Diagram
- s. 2-45W760-270-2, Rev 6, Wiring Diagram Miscellaneous System Schematic Diagram

6. Connection Diagrams

- a. 2-45B640-90, Rev 0, Contact Development of Control and Instrument Switches
- b. 2-45B640-156, Rev 0, Contact Development of Control and Instrument Switches
- c. 16-4336I/OXA55-06F-1, Rev. 8, Input/Output Listing Control
- d. 16-4336I/OXA55-01C-1, Rev. 8, Input/Output Listing Control
- e. 7246D11-21, Rev. F, Solid State Protection System Interconnection Diagram
- f. 7246D11-22, Rev. L, Solid State Protection System Interconnection Diagram
- g. 7246D11-23, Rev. G, Solid State Protection System Interconnection Diagram
- h. 8756D77-7, Rev. 4, Safeguards Test Cabinet
- i. 08F802403-FD-2101, Rev 2, Steam Generator 1 to 4 Steam Generator Narrow Range Level Input/Validation
- j. 08F802403-FD-2103, Rev 2, Steam Generator 1 to 4 Feedwater Flow Input Validation
- k. 08F802403-FD-2105, Rev 3, Steam Generator 1 to 4 Steam Generator Level & Bypass Feedwater Control
- 08F802403-FD-2107, Rev 3, Steam Generator 1 Steam Generator Level & Feedwater Control Main FW Valve
- m. 08F802403-FD-2111, Rev 3, Steam Generator 1 to 4 Reactor Power Level Setpoint

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n. 08F802403-FD-2203, Rev 4, Rod Control System NIS Channel Input Validation Higher Median Selection

C. Documents

- 1. Test Scoping Documents
 - a. 2-TSD-3A-1, Feedwater Isolation and Bypass Valves, Rev 1
 - b. 2-TSD-3A-3, Main Feedwater System Functional Test, Rev 3
- 2. System Descriptions
 - a. WBN2-3A-4002, System Description for Main Feedwater, Feedwater Control, and Injection Water, Rev 1
- 3. Vendor Manuals
 - a. VTM-W120-2062, Vendor Technical Manual For Westinghouse Feedwater Control Valves Supplied By Fisher Controls, Rev. 13
 - VTM-W120-2780, Vendor Technical Manual For IDS NO.G-023 THRU G-040 Foxboro Electronic Controllers Supplied By Westinghouse, Rev. 3

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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. Generic Equipment Operating Guidelines (GOI-7) shall be followed for equipment such as valves and breakers.
- C. 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.
- D. 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-31-0468 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.
- E. 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.
- F. All open problems are to be tracked by a corrective action document and entered on the appropriate system punch list.
- G. Problems identified during the test shall be annotated on the CTL from SMP-9.0 including a description of the problem, the procedure step when/where the problem was identified, corrective action steps taken to resolve the problem, and the number of the corrective action document, if one was required.
- H. Observe all Radiation Protection (RP) requirements when working in or near radiological areas.
- I. Ensure there are no adverse effects to the operation of Unit 1 structures, systems, or components.
- J. Test personnel will coordinate with Unit 1 Operations when manipulating Unit 1 equipment, if required.
- K. System water chemistry is within system specifiable parameters especially for fluids supplied from external sources.

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3.0 PRECAUTIONS AND LIMITATIONS (continued)

- L. During the performance of this procedure, visual observation of piping and components is required. This includes steady state and transient operations with visual confirmation that vibration is not excessive.
- M. If the vibration is determined to be excessive the Test Engineer shall initiate a Test Deficiency Notice (TDN).
- N. Exercise caution when manually actuating relays to avoid contact with control circuit power.
- O. Manual actuation of relays should be made with a nonconductive device.
- P. Safety Related Valves will be stroke timed locally at the valve and remotely at the control switch in both the open and close directions. Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.
- Q. Operability testing of the MFW Isolation valve control switches, indicating lights, status monitoring, and alarms shall be conducted prior to auto response testing.
- R. The maintenance block valves 2_FCV-3-250, 251, 252, and 253, upstream of the MFW control valves, should be closed during operability testing of MFW Isolation valves 2-FCV-3-33, 47, 87, and 100.
- S. When using test signals, ensure current range does not exceed 20mAdc or 10V.

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Date	

4.0 PREREQUISITE ACTIONS

NOTE

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

4.1 Preliminary Actions

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

	•		
		SURE they will NOT adversely affect the test performance differential.	
	A.	Subsection 6.1	
	B.	Subsection 6.2	
	C.	Subsection 6.3	
	D.	Subsection 6.4	
	E.	Subsection 6.5	
	F.	Subsection 6.6	
[2]	bee	SURE changes to the references listed on Appendix A have en reviewed and determined NOT to adversely affect the t performance.	
[3]	dra	RIFY current revisions and change paper for referenced wings has been reviewed and determined NOT to versely affect the test performance, and	
		TACH documentation of current drawing revision numbers d change paper that were reviewed to the data package.	
[4]	Inst not	RIFY the test/performance copy of this Preoperational Test truction (PTI) is the current revision including any change ices and, as needed, each test person assisting in this test is the current revision including any change notices.	

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	Date	e
Preli	minary Actions (continued)	
[5]	ENSURE special environmental conditions are available for testing if required.	
[6]	ENSURE outstanding Design Change Notices (DCNs), Engineering Design Change Requests (EDCRs), or Temporary Modifications (TMODs) do NOT adversely impact testing, AND	
	ATTACH documentation of DCNs, EDCRs, and TMODs that were reviewed to the data package.	
[7]	ENSURE required Component Testing has been completed PRIOR to start of test.	
	A. Subsection 6.1	
	B. Subsection 6.2	
	C. Subsection 6.3	
	D. Subsection 6.4	
	E. Subsection 6.5	
	F. Subsection 6.6	
[8]	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.	
[9]	ENSURE a review of outstanding Clearances has been coordinated with U2 Operations for impact to the test performance, and	
	RECORD on Appendix B, Temporary Condition Log if required.	
[10]	VERIFY System cleanliness as required for the performance of this test has been completed in accordance with SMP-7.0 for piping systems.	
	A. Subsection 6.1	
	B Subsection 6.2	

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		Date	
Prelin	mina	ry Actions (continued)	
	C.	Subsection 6.3	
	D.	Subsection 6.4	
	E.	Subsection 6.5	
	F.	Subsection 6.6	
[11]	Pla	RIFY plant instruments, listed on Appendix C, Permanent nt Instrumentation Log, are placed in service and are within ir calibration interval.	
	A.	Subsection 6.1	
	B.	Subsection 6.2	
	C.	Subsection 6.3	
	D.	Subsection 6.4	
	E.	Subsection 6.5	
	F.	Subsection 6.6	
[12]	test	RIFY Measuring and Test Equipment (M&TE) required for t performance has been (as required) filled, vented, place in vice and	
		CORD on M&TE log in SMP-9.0 for the following sections.	
	A.	Subsection 6.1	
	B.	Subsection 6.2	
	C.	Subsection 6.3	
	D.	Subsection 6.4	
	E.	Subsection 6.5	
	F.	Subsection 6.6	
[13]	cor	RIFY M&TE calibration due dates will support the mpletion of this test performance for the following psections.	

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		Date _	
4.1	Preli	minary Actions (continued)	
		A. Subsection 6.1	
		B. Subsection 6.2	
		C. Subsection 6.3	
		D. Subsection 6.4	
		E. Subsection 6.5	
		F. Subsection 6.6	
	[14]	ENSURE System 55, Annunciator and Sequential Events Recording System applicable TBK switches are ON, the applicable Master Switches ON, and window software input(s) are ENABLED for the following Annunciator windows.	
		A. 2-XA-55-06F/149-C	
		B. 2-XA-55-06F/150-C	
	[15]	PERFORM a pretest walkdown on equipment to be tested to ensure conditions exist that will impact test performance for the following subsections.	NO
		A. Subsection 6.1	
		B. Subsection 6.2	
		C. Subsection 6.3	
		D. Subsection 6.4	
		E. Subsection 6.5	
		F. Subsection 6.6	
	[16]	ESTABLISH communications in areas where testing is to be conducted.	
	[17]	CONDUCT a pretest briefing with Test and Operations personnel in accordance with SMP-9.0.	
	[18]	ENSURE all piping supports required for testing are installed and adjusted as required.	

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Preli	minary Actions (continued)	
[19]	ENSURE components contained within the boundaries of this test are under the jurisdictional control of Preoperational Startup Engineering (PSE) and/or Plant Operations.	·····
[20]	ENSURE the following systems are operational and have been placed in service to the extent necessary to perform this test:	
	A. System 003, Main Feedwater System - valves operational	
	B. System 032, Control Air - provide control air to all AOVs.	
	C. System 213, Reactor Motor Operated Valve Power - supply power to required valves.	
	System 235, 120V AC Vital Power - supply power to required control circuits.	
	E. System 236, 125V DC Vital Power - supply power to required valves and control circuits.	
[21]	PERFORM Switch Lineup per Appendix E. (Subsection 6.1)	**
[22]	PERFORM Switch Lineup per Appendix F. (Subsection 6.2)	
[23]	PERFORM Switch Lineup per Appendix G. (Subsection 6.3)	
[24]	PERFORM Switch Lineup per Appendix H. (Subsection 6.4)	
[25]	PERFORM Breaker Lineup per Appendix I. (Subsection 6.1)	
[26]	PERFORM Breaker Lineup per Appendix J. (Subsection 6.2)	
[27]	PERFORM Breaker Lineup per Appendix K. (Subsection 6.3)	
[28]	PERFORM Breaker Lineup per Appendix L. (Subsection 6.4)	
[29]	PERFORM Valve Lineup per Appendix M.	
[30]	REVIEW preventive maintenance for system/components covered by this test, and	
	VERIFY no conditions exist that will impact test performance	

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Date		
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	Date
	cial Tools, Measuring and Test Equipment, Parts, and olies
[1]	ENSURE the following equipment is available:
	 (16) Switched Jumpers (grabber type with insulated boots)
	Jumpers (Momentary hand-held contact)
[2]	ENSURE the following M&TE or equivalent is available and within their calibration due dates, AND
	RECORD the M&TE data on SMP-9.0, Measuring and Test Equipment (M&TE) Log.
	 Six (6) process calibrators with step function capability for test signals of 0-20mAdc and 0-10V such as I.E. (Fluke 744)
	 Digital Stopwatches - Micronta, 63 to 5010, ± 0.1 second accuracy (or equivalent).
[3]	ENSURE The following parts and supplies are available:

Step change apparatus for use with current source

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		· · · · · · · · · · · · · · · · · · ·	Date	<u> </u>
E:ala	l Duc-			
rieid	ı Prej	parations		
[1]		SURE scaffolding and platforms have been erected, as eded.		
[2]	Ste	RFORM the following wire lifts and jumper installations for eam Generator (SG) 1 feedwater isolation simulation absection 6.1) (DWGs 2-45N2676-4, -5, & 45N2677-5):		
	Α.	LIFT the black wire (1AP) in Cable 2SG103A from TB630-9 AND		
		(1A1) Report 2 B. 48 (SSRS Train A)		
		(1A1), Panel 2-R-48. (SSPS Train A)		1st
			_	CV
	В.	LIFT the white wire (3DCT) in Cable 2V2983 A from TB622-5, AND		
		INSTALL a switched jumper (Jumper 2) (switch OPEN/OFF) from the white wire to TB622-6 (3D3), Panel 2-R-48 (SSPS Train A).		
				1st
				CV
	C.	LIFT the black wire (1BP) in Cable 2SG123B from TB630-9 AND		
		INSTALL a switched jumper (Jumper 3) (switch CLOSED/ON) from the black wire to TB630-10		
		(1B1), Panel 2-R-51 (SSPS Train B).	_	1st

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			Date
4.3	Field Pro	eparations (continued)	
	D	LIFT the green wire (2B5) in Cable 2SG12 TB633-1 AND	7B from
		INSTALL a switched jumper (Jumper 4) (switch CLOSED/ON) from the green wire (2B6), Panel 2-R-51 (SSPS Train B).	to TB633-2
			1st
			CV
	S	ERFORM the following wire lifts and jumper in team Generator 2 (SG2) feedwater isolation s subsection 6.2) (DWGs 45N2677-4, -5 & 2-45	imulation
	A	LIFT the black wire (2BP) in Cable 2SG12 TB631-5 AND	7B from
		INSTALL a switched jumper (Jumper 5) (switch CLOSED/ON) from the black wire t (2B1), Panel 2-R-51 (SSPS Train B).	o TB631-6
			1st
			CV
	В	LIFT the black wire (3DCT) in Cable 2V300 TB622-5 AND	03B from
		INSTALL a switched jumper (Jumper 6) (s OPEN/OFF) from the black wire to TB622-2-R-51 (SSPS Train B).	
		2 Trof (Ser & Train 2).	1st
			CV
	С	LIFT the black wire (2AP) in Cable 2SG10 TB631-5 AND	7A from
		INSTALL a switched jumper (Jumper 7) (switch CLOSED/ON) from the black wire t (2A1), Panel 2-R-48 (SSPS Train A).	o TB631-6
		(2.11), 1 and 2 11 to (001 0 Hall A).	1st

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			Date
4.3	Field Pre	eparations (continued)	
	D.	LIFT the green wire (1A5) in Cable 2SG10 TB633-1 AND	3A from
		INSTALL a switched jumper (Jumper 8) (switch CLOSED/ON) from the green wire (1A6), Panel 2-R-48 (SSPS Train A).	to TB633-2
			1st
			CV
	St	ERFORM the following wire lifts and jumper in eam Generator 3 (SG3) feedwater isolation subsection 6.3) (DWGs 2-45N2676-4, -5, & 45	simulation
	A.	LIFT the black wire (3AP) in Cable 2SG11 TB648-1 AND	1A from
		INSTALL a switched jumper (Jumper 9) (switch CLOSED/ON) from the black wire (3A1), Panel 2-R-48 (SSPS Train A).	
			1st
			CV
	B.	LIFT the black wire (4DCT) in Cable 2V29 TB622-7 AND	93A from
		INSTALL a switched jumper (Jumper 10) of OPEN/OFF) from the black wire to TB622-2-R-48 (SSPS Train A).	
		211 10 (001 0 114.1171).	1st
			CV
	C.	LIFT the black wire (3BP) in Cable 2SG13 TB648-1 AND	1B from
		INSTALL a switched jumper (Jumper 11) (switch CLOSED/ON) from the black wire (3B1), Panel 2-R-51 (SSPS Train B).	to TB648-2
		(==:,, : a = :: (==: (==: = :: ==: ==: ==: ==: ==:	1st

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			Date	
4.3 Field	Prep	parations (continued)		
	D.	LIFT the green wire (4B5) in Cable 2SG135TB633-3 AND	5B from	
		INSTALL a switched jumper (Jumper 12) (switch CLOSED/ON) from the green wire t (4B6), Panel 2-R-51 (SSPS Train B).	o TB633-4	
				1st
			_	CV
[5]	Ste	RFORM the following wire lifts and jumper in am Generator 4 (SG4) feedwater isolation si bsection 6.4) (DWGs 45N2677-4, -5, & 2-45	mulation	
	A.	LIFT the black wire (4BP) in Cable 2SG135TB649-1 AND	5B from	
		INSTALL a switched jumper (Jumper 13) (switch CLOSED/ON) from the black wire to (4B1), Panel 2-R-51 (SSPS Train B).	o TB649-2	
		(151), 1 dilot 2 10 0 (001 0 11dil 15).		1st
			· <u></u>	CV
	В.	LIFT the black wire (4DCT) in Cable 2V301 TB622-7, AND	3B from	
		INSTALL a switched jumper (Jumper 14) (some of the property of the plack wire to TB622-82-R-51 (SSPS Train B).		
		2	_	1st
				CV
	C.	LIFT the black wire (4AP) in Cable 2SG115 TB649-1 AND	5A from	
		INSTALL a switched jumper (Jumper 15) (switch CLOSED/ON) from the black wire to (4A1), Panel 2-R-48 (SSPS Train A).	o TB649-2	
		(),		1st

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				Date	e
4.3	Field Pre	parations (continued)			
	D.	LIFT the green wire (3A5) in TB633-3 AND	Cable 2SG11	1A from	
		INSTALL a switched jumper (switch CLOSED/ON) from the (3A6), Panel 2-R-48 (SSPS 3	ne green wire	to TB633-4	
		(3/10), 1 and 2-11-40 (331 3	riam Aj.		1st
					CV
	FC	RFORM the following prerequi V-3-250: Steam Generator 1 F lation Valve:			
	[6.1]	ENSURE 2-FCV-3-250, ST REG VALVE ISOLATION, i		ATOR 1 FW	
	[6.2]	ENSURE the following brea	aker is CLOSE	ED:	
		<u>Breaker</u>	Description		<u>Initials</u>
		2-BKR-3-250 [T14D/708]	SG 1 FW RE FCV-3-250)	EG VLV ISOL (2-	
	FC	RFORM the following prerequi V-3-251: Steam Generator 2 F lation Valve:			
	[7.1]	ENSURE 2-FCV-3-251, ST REG VALVE ISOLATION, i		ATOR 2 FW	
	[7.2]	ENSURE the following brea	aker is CLOSE	ED:	
		<u>Breaker</u>	Description		Initials
		2-BKR-3-251 [T14D/708]	SG 2 FW RE FCV-3-251)	EG VLV ISOL (2-	

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				Date	e
4.3	Field Prep	parations (continued)			
	FC'	RFORM the following prerequi V-3-252: Steam Generator 3 F ation Valve:		•	
	[8.1]	ENSURE 2-FCV-3-252, ST REG VALVE ISOLATION, i		ATOR 3 FW	
	[8.2]	ENSURE the following brea	aker is CLOSE	ED:	
		Breaker	Description		<u>Initials</u>
		2-BKR-3-252 [T11K/729]	SG 3 FW RE FCV-3-252)	EG VLV ISOL (2-	
	FC'	RFORM the following prerequi V-3-253: Steam Generator 4 F ation Valve:			
	[9.1]	ENSURE 2-FCV-3-253, ST REG VALVE ISOLATION, i		ATOR 4 FW	
	[9.2]	ENSURE the following brea	aker is CLOSE	ED:	
		Breaker	Description		<u>Initials</u>
		2-BKR-3-254 [T14D/708]	SG 4 FW RE FCV-3-253)	EG VLV ISOL (2-	
		RFORM the following prerequi		section 6.6.1, 2-	
	[10.1]	ENSURE 2-FCV-3-191, MFCONTROL, is CLOSED.	W DEAERAT	TON LINE	

ENSURE the following breaker is CLOSED:

[10.2]

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Field I	Prepar	ations (continued)			
		<u>Breaker</u>	Description		Initials
		2-BKR-3-191 [A12S/772]		R-003-0191, MAIN ATION LINE LP1	
[11]		ORM the following prerequi 3-192: MFW Deaeration Line		section 6.6.2, 2-	
[11	_	ENSURE 2-FCV-3-192, MF CONTROL, is CLOSED.	W DEAERA	TION LINE	
[11	.2]	ENSURE the following brea	aker is CLOS	ED:	
[11	.2]	ENSURE the following brea	nker is CLOS	ED:	Initials
[11	.2]		Description WBN-2-MTI	ED: R-003-0192, MAIN ATION LINE LP2	Initials
•	PERF	Breaker	Description WBN-2-MTI FW DEAER VLV MTR.	R-003-0192, MAIN ATION LINE LP2	Initials
•	PERF FCV-3	Breaker 2-BKR-3-192 [A12S/772] ORM the following prerequi	Description WBN-2-MTI FW DEAER VLV MTR. sites for Subsections	R-003-0192, MAIN ATION LINE LP2 section 6.6.3, 2-	Initials
[12]	PERF FCV-3	Breaker 2-BKR-3-192 [A12S/772] ORM the following prerequiselds: MFW Deaeration Line ENSURE 2-FCV-3-193, MF	Description WBN-2-MTI FW DEAER VLV MTR. sites for Subsections Control:	R-003-0192, MAIN ATION LINE LP2 section 6.6.3, 2-	Initials
[12] [12	PERF FCV-3	Breaker 2-BKR-3-192 [A12S/772] ORM the following prerequiance of the second control of	Description WBN-2-MTI FW DEAER VLV MTR. sites for Subsections Control:	R-003-0192, MAIN ATION LINE LP2 section 6.6.3, 2-	Initials

ENSURE 2-FCV-3-194, MFW DEAERATION LINE CONTROL, is CLOSED.

[13.1]

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4.3 Field Preparations (continued)

[13.2] **ENSURE** the following breaker is CLOSED:

<u>Breaker</u>	<u>Description</u>	<u>Initials</u>
2-BKR-3-194 [A12R/772]	WBN-2-MTR-003-0194, MAIN FW DEAERATION LINE LP4 VLV MTR	

- [14] **PERFORM** the following prerequisites for Subsection 6.6.5, 2-FCV-3-195: MFW Deaeration Line Control:
 - [14.1] **ENSURE** 2-FCV-3-195, MFW DEAERATION LINE CONTROL, is CLOSED.

[14.2] **ENSURE** the following breaker is CLOSED:

Breaker	Description	<u>Initials</u>
2-BKR-3-195 [T14D/708]	WBN-2-MTR-003-0195, MAIN FW DEAERATION LINE VALVE MTR	

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jer to	
	Date

Date

Approvals and Notifications OBTAIN permission of the Preoperational Startup Manag [1] start the test. Preoperational Startup Manager Signature **OBTAIN** the Unit 2 Supervisor's (US/SRO) or Shift Manager's (SM) authorization. [2]

U 2 US/SRO/SM Signature

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5.0 ACCEPTANCE CRITERIA

Steps which determine acceptance criteria shall be designated by (Acc Crit).

- [1] 2-FCV-3-33 Steam Generator #1 MFW Isolation Valve
 - [1.1] MFIV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.1[11.1], 6.1[11.2]
 - [1.2] MFIV remains CLOSED when the Train "A" ESFAS relay is reset. 6.1[13]
 - [1.3] MCR Annunciator actuates when transfer switch is placed in AUX position. 6.1[32.7]
 - [1.4] MCR Status Monitoring System reflects correct valve position. 6.1[7.2], 6.1[7.3], 6.1[7.7], 6.1[8.2], 6.1[8.3], 6.1[8.6], 6.1[20]
 - [1.5] MFIV CLOSES when 2-HS-3-45 placed in FORWARD FLUSH. 6.1[77.1]
 - [1.6] MFIV OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.1[78.2]
- [2] 2-FCV-3-47 Steam Generator #2 MFW Isolation Valve
 - [2.1] MFIV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.2[11.1], 6.2[11.2]
 - [2.2] MFIV remains CLOSED when the Train "B" ESFAS relay is reset. 6.2[13]
 - [2.3] MCR Annunciator actuates when transfer switch is placed in AUX position. 6.2[32.7]
 - [2.4] MCR Status Monitoring System reflects correct valve position 6.2[7.2], 6.2[7.3], 6.2[7.7], 6.2[8.2], 6.2[8.3], 6.2[8.6], 6.2[20]
 - [2.5] MFIV CLOSES when 2-HS-3-45 placed in FORWARD FLUSH. 6.2[77.1]
 - [2.6] MFIV OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.2[78.2]
- [3] 2-FCV-3-87 Steam Generator #3 MFW Isolation Valve

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5.0 ACCEPTANCE CRITERIA (continued)

- [3.1] MFIV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal 6.3[11.1], 6.3[11.2]
- [3.2] MFIV remains CLOSED when the Train "A" ESFAS relay is reset. 6.3[13]
- [3.3] MCR Annunciator actuates when transfer switch is placed in AUX position. 6.3[32.7]
- [3.4] MCR Status Monitoring System reflects correct valve position. 6.3[7.2], 6.3[7.3], 6.3[7.7], 6.3[8.2], 6.3[8.6], 6.3[8.6]
- [3.5] MFIV CLOSES when 2-HS-3-45 placed in FORWARD FLUSH. 6.3[77.1]
- [3.6] MFIV OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.3[78.2]
- [4] 2-FCV-3-100 Steam Generator #4 MFW Isolation Valve
 - [4.1] MFIV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.4[11.1], 6.4[11.2]
 - [4.2] MFIV remains CLOSED when the Train "B" ESFAS relay is reset. 6.4[13]
 - [4.3] MCR Annunciator actuates when transfer switch is placed in AUX position. 6.4[32.7]
 - [4.4] MCR Status Monitoring System reflects correct valve position. 6.4[7.2], 6.4[7.3], 6.4[7.7], 6.4[8.2], 6.4[8.3], 6.4[8.6], 6.4[20]
 - [4.5] MFIV CLOSES when 2-HS-3-45 placed in FORWARD FLUSH. 6.4[77.1]
 - [4.6] MFIV OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.4[78.2]
- [5] 2-FCV-3-35 Steam Generator #1 MFW Regulating Valve
 - [5.1] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.4[66.3], 6.4[66.4]
 - [5.2] MFRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.4[70]

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5.0 ACCEPTANCE CRITERIA (continued)

- [5.3] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.1[66.1], 6.1[66.2],
- [5.4] MFRV remains CLOSED when the Train "B" ESFAS relay is reset. 6.1[69]
- [5.5] MFRV fails CLOSED on loss of control power. 6.1[73.1], 6.4[73.2]
- [5.6] MFRV CLOSES when 2-HS-3-45 placed in BACKFLUSH. 6.1[78.1]
- [5.7] MCR Status Monitoring System reflects correct valve position. 6.1[51.1], 6.1[51.2], 6.1[53.1], 6.1[53.2]
- [6] 2-FCV-3-48 Steam Generator #2 MFW Regulating Valve
 - [6.1] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.2[66.1], 6.2[66.2]
 - [6.2] MFRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.2[69]
 - [6.3] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.3[66.3], 6.3[66.4]
 - [6.4] MFRV remains CLOSED when the Train "B" ESFAS relay is reset. 6.3[70]
 - [6.5] MFRV fails CLOSED on loss of control power. 6.2[73.1], 6.3[73.2]
 - [6.6] MFRV CLOSES when 2-HS-3-45 placed in BACKFLUSH. 6.2[78.1]
 - [6.7] MCR Status Monitoring System reflects correct valve position. 6.2[51.1], 6.2[51.2], 6.2[53.1], 6.2[53.2]
- [7] 2-FCV-3-90 Steam Generator #3 MFW Regulating Valve
 - [7.1] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.2[66.3], 6.2[66.4]
 - [7.2] MFRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.2[70]
 - [7.3] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.3[66.1], 6.3[66.2]

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5.0 ACCEPTANCE CRITERIA (continued)

- [7.4] MFRV remains CLOSED when the Train "B" ESFAS relay is reset. 6.3[69]
- [7.5] MFRV fails CLOSED on loss of control power. 6.2[73.2], 6.3[73.1]
- [7.6] MFRV CLOSES when 2-HS-3-45 placed in BACKFLUSH. 6.3[78.1]
- [7.7] MCR Status Monitoring System reflects correct valve position. 6.3[51.1], 6.3[51.2], 6.3[53.1], 6.3[53.2]
- [8] 2-FCV-3-103 Steam Generator #4 MFW Regulating Valve
 - [8.1] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.4[66.1], 6.4[66.2]
 - [8.2] MFRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.4[69]
 - [8.3] MFRV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.1[66.3], 6.1[66.4]
 - [8.4] MFRV remains CLOSED when the Train "B" ESFAS relay is reset. 6.1[70]
 - [8.5] MFRV fails CLOSED on loss of control power. 6.1[73.2], 6.4[73.1]
 - [8.6] MFRV CLOSES when 2-HS-3-45 placed in BACKFLUSH. 6.4[78.1]
 - [8.7] MCR Status Monitoring System reflects correct valve position. 6.4[51.1], 6.4[51.2], 6.4[53.1], 6.4[53.2]
- [9] 2-FCV-3-35A Steam Generator #1 MFW Bypass Regulating Valve
 - [9.1] MFBRV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.1[60.1], 6.1[60.2]
 - [9.2] MFBRV remains CLOSED when the Train "B" ESFAS relay is reset. 6.1[62]
 - [9.3] MFBRV fails CLOSED on loss of control power. 6.1[73.3]
- [10] 2-FCV-3-48A Steam Generator #2 MFW Bypass Regulating Valve
 - [10.1] MFBRV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.2[60.1], 6.2[60.2]

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- [10.2] MFBRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.2[62]
- [10.3] MFBRV fails CLOSED on loss of control power. 6.2[73.3]
- [11] 2-FCV-3-90A Steam Generator #3 MFW Bypass Regulating Valve
 - [11.1] MFBRV CLOSES in ≤ 6.5 seconds upon receipt of Train "B" Feedwater Isolation Signal. 6.3[60.1], 6.3[60.2],
 - [11.2] MFBRV remains CLOSED when the Train "B" ESFAS relay is reset. 6.3[62]
 - [11.3] MFBRV fails CLOSED on loss of control power. 6.3[73.3]
- [12] 2-FCV-3-103A Steam Generator #4 MFW Bypass Regulating Valve
 - [12.1] MFBRV CLOSES in ≤ 6.5 seconds upon receipt of Train "A" Feedwater Isolation Signal. 6.4[60.1], 6.4[60.2]
 - [12.2] MFBRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.4[62]
 - [12.3] MFBRV fails CLOSED on loss of control power. 6.4[73.3]
- [13] 2-PCV-3-40 Deaeration Line Back Pressure Control Valve
 - [13.1] Valve OPENS when 2-HS-3-45 placed in FORWARD FLUSH. 6.1[77.3]
 - [13.2] Valve OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.1[78.3]
 - [13.3] Valve CLOSES when 2-HS-3-45 placed in NORMAL. 6.1[79.3]
- [14] 2-FCV-3-185 Steam Generator #1 MFW Backflush Warming Isolation Valve
 - [14.1] MFBWIV CLOSES in ≤ 6.5 seconds upon receipt of Feedwater Train B Isolation Signal. 6.1[97.1], 6.1[97.2],
 - [14.2] MFBWIV remains CLOSED when the ESFAS relay is reset. 6.1[99]
 - [14.3] MFBWIV fails CLOSED on loss of control power. 6.1[109]
 - [14.4] MVBWIV OPENS when 2-HS-3-45 in BACKFLUSH. 6.1[92.4]

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5.0 ACCEPTANCE CRITERIA (continue

- [14.5] MCR Status Monitoring System reflects correct valve position. 6.1[91.2], 6.1[91.3], 6.1[92.3]
- [15] 2-FCV-3-186 Steam Generator #2 MFW Backflush Warming Isolation Valve
 - [15.1] MFBWIV CLOSES in ≤ 6.5 seconds upon receipt of Feedwater Train A Isolation Signal. 6.2[97.1], 6.2[97.2]
 - [15.2] MFBWIV remains CLOSED when the ESFAS relay is reset. 6.2[99]
 - [15.3] MFBWIV fails CLOSED on loss of control power. 6.2[109]
 - [15.4] MVBWIV OPENS when 2-HS-3-45 in BACKFLUSH. 6.2[92.4]
 - [15.5] MCR Status Monitoring System reflects correct valve position. 6.2[91.2], 6.2[91.3], 6.2[92.2], 6.2[92.3]
- [16] 2-FCV-3-187 Steam Generator #3 MFW Backflush Warming Isolation Valve
 - [16.1] MFBWIV CLOSES in ≤ 6.5 seconds upon receipt of Feedwater Train B Isolation Signal. 6.3[97.1], 6.3[97.2]
 - [16.2] MFBWIV remains CLOSED when the ESFAS relay is reset. 6.3[99]
 - [16.3] MFBWIV fails CLOSED on loss of control power. 6.3[109]
 - [16.4] MVBWIV OPENS when 2-HS-3-45 in BACKFLUSH. 6.3[92.4]
 - [16.5] MCR Status Monitoring System reflects correct valve position. 6.3[91.2], 6.3[91.3], 6.3[92.2], 6.3[92.3]
- [17] 2-FCV-3-188 Steam Generator #4 MFW Backflush Warming Isolation Valve
 - [17.1] MFBWIV CLOSES in ≤ 6.5 seconds upon receipt of Feedwater Train A Isolation Signal. 6.4[97.1], 6.4[97.2]
 - [17.2] MFBWIV remains CLOSED when the ESFAS relay is reset. 6.4[99]
 - [17.3] MFBWIV fails CLOSED on loss of control power. 6.4[109]
 - [17.4] MVBWIV OPENS when 2-HS-3-45 in BACKFLUSH. 6.4[92.4]
 - [17.5] MCR Status Monitoring System reflects correct valve position. 6.4[91.2], 6.4[91.3], 6.4[92.2], 6.4[92.3]

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- [18] 2-FCV-3-236 Steam Generator #1 MFW Bypass Isolation Valve
 - [18.1] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "A" Feedwater Isolation Signal. 6.4[65.1], 6.4[65.2]
 - [18.2] MFBRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.4[71]
 - [18.3] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "B" Feedwater Isolation Signal. 6.1[60.3], 6.1[60.4]
 - [18.4] MFBIV remains CLOSED when the Train "B" ESFAS relay is reset. 6.1[63]
 - [18.5] MFBIV fails CLOSED on loss of control power. 6.1[73.4]
 - [18.6] MCR Panel 2-M-3 indicating lights reflect correct valve position. 6.1[60.3]
- [19] 2-FCV-3-239 Steam Generator #2 MFW Bypass Isolation Valve
 - [19.1] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "A" Feedwater Isolation Signal. 6.2[60.3], 6.2[60.4]
 - [19.2] MFBRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.2[63]
 - [19.3] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "B" Feedwater Isolation Signal. 6.3[65.1], 6.3[65.2]
 - [19.4] MFBIV remains CLOSED when the Train "B" ESFAS relay is reset. 6.3[71]
 - [19.5] MFBIV fails CLOSED on loss of control power. 6.2[73.4]
 - [19.6] MCR Panel 2-M-3 indicating lights reflect correct valve position. 6.2[60.3]
- [20] 2-FCV-3-242 Steam Generator #3 MFW Bypass Isolation Valve
 - [20.1] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "A" Feedwater Isolation Signal. 6.2[65.1], 6.2[65.2]

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- [20.2] MFBRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.2[71]
- [20.3] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "B" Feedwater Isolation Signal. 6.3[60.3], 6.3[60.4]
- [20.4] MFBIV remains CLOSED when the Train "B" ESFAS relay is reset. 6.3[63]
- [20.5] MFBIV fails CLOSED on loss of control power. 6.3[73.4]
- [20.6] MCR Panel 2-M-3 indicating lights reflect correct valve position. 6.3[60.3]
- [21] 2-FCV-3-245 Steam Generator #4 MFW Bypass Isolation Valve
 - [21.1] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "A" Feedwater Isolation Signal. 6.4[60.3], 6.4[60.4]
 - [21.2] MFBRV remains CLOSED when the Train "A" ESFAS relay is reset. 6.4[63]
 - [21.3] MFBIV CLOSES in ≤ 6.5 seconds upon receipt of a Train "B" Feedwater Isolation Signal. 6.1[65.1], 6.1[65.2]
 - [21.4] MFBIV remains CLOSED when the Train "B" ESFAS relay is reset. 6.1[71]
 - [21.5] MFBIV fails CLOSED on loss of control power. 6.4[73.4]
 - [21.6] MCR Panel 2-M-3 indicating lights reflect correct valve position. 6.4[60.3]
- [22] 2-FCV-3-191 MFW Loop 1 Deaeration Line Isolation Valve
 - [22.1] Valve can be operated from the Local Control Station. 6.6.1[2]A, 6.6.1[3]A
 - [22.2] Local indicating lights indicate correct valve position. 6.6.1[2]B, 6.6.1[2]C, 6.6.1[3]B, 6.6.1[5]B, 6.6.1[5]C, 6.6.1[8]B, 6.6.1[8]C
 - [22.3] Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.6.1[5]A, 6.6.1[8]A
 - [22.4] Valve OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.1[91.1]

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5.0

6.6.4[3]A

[25.2]

ACC	ACCEPTANCE CRITERIA (continued)				
[2	2.5]	Valve OPENS when 2-HS-3-45 placed in FORWARD FLUSH. 6.1[92.1]			
[2	2.6]	Valve CLOSES when 2-HS-3-45 placed in NORMAL. 6.1[79.4]			
[23] 2-FC		V-3-192 MFW Loop 2 Deaeration Line Isolation Valve			
[2	23.1]	Valve can be operated from the Local Control Station. 6.6.2[2]A, 6.6.2[3]A			
[2	23.2]	Local indicating lights indicate correct valve position. 6.6.2[2]B, 6.6.2[2]C, 6.6.2[3]B, 6.6.2[3]C, 6.6.2[5]B, 6.6.2[5]C, 6.6.2[8]B, 6.6.2[8]C			
[2	23.3]	Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.6.2[5]A, 6.6.2[8]A			
[2	23.4]	Valve OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.2[91.1]			
[2	23.5]	Valve OPENS when 2-HS-3-45 placed in FORWARD FLUSH. 6.2[92.1]			
[2	23.6]	Valve CLOSES when 2-HS-3-45 placed in NORMAL. 6.2[79.3]			
[24]	2-FC	V-3-193 MFW Loop 3 Deaeration Line Isolation Valve			
[2	24.1]	Valve can be operated from the Local Control Station. 6.6.3[2]A, 6.6.3[3]A			
[2	24.2]	Local indicating lights indicate correct valve position. 6.6.3[2]B, 6.6.3[2]C, 6.6.3[3]B, 6.6.3[3]C, 6.6.3[5]B, 6.6.3[5]C, 6.6.3[8]C			
[2	4.3]	Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.6.3[5]A, 6.6.3[8]A			
[2	24.4]	Valve OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.3[91.1]			
[2	4.5]	Valve OPENS when 2-HS-3-45 placed in FORWARD FLUSH. 6.3[92.1]			
[2	4.6]	Valve CLOSES when 2-HS-3-45 placed in NORMAL. 6.3[79.3]			
[25]	2-FC	V-3-194 MFW Loop 4 Deaeration Line Isolation Valve			
[2	25.11	Valve can be operated from the Local Control Station, 6.6.4[2]A.			

Local indicating lights indicate correct valve position 6.6.4[2]B, 6.6.4[2]C, 6.6.4[3]B, 6.6.4[3]C, 6.6.4[5]B, 6.6.4[5]C, 6.6.4[8]B, 6.6.4[8]C

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5.0 A

[28.3]

AC	ACCEPTANCE CRITERIA (continued)				
	[25.3]	Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.6.4[5]A, 6.6.4[8]A			
	[25.4]	Valve OPENS when 2-HS-3-45 placed in BACKFLUSH. 6.4[91.1]			
	[25.5]	Valve OPENS when 2-HS-3-45 placed in FORWARD FLUSH. 6.4[92.1]			
	[25.6]	Valve CLOSES when 2-HS-3-45 placed in NORMAL. 6.4[79.3]			
[26	6] 2-FC	V-3-195 MFW Deaeration Line Control Valve			
	[26.1]	Valve can be operated from the Local Control Station. 6.6.5[2]A, 6.6.5[3]A			
	[26.2]	Local indicating lights indicate correct valve position. 6.6.5[2]B, 6.6.5[2]C, 6.6.5[3]B, 6.6.5[3]C, 6.6.5[5]B, 6.6.5[5]C, 6.6.5[8]B, 6.6.5[8]C			
	[26.3]	Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.6.5[5]A, 6.6.5[8]A			
[27	'] 2-FC	V-3-250 Steam Generator #1 MFW Regulating Isolation Valve			
	[27.1]	Valve can be operated from the Local Control Station. 6.5.1[2]A, 6.5.1[3]A			
	[27.2]	Local indicating lights indicate correct valve position. 6.5.1[2]B, 6.5.1[2]C, 6.5.1[3]B, 6.5.1[3]C, 6.5.1[5]B, 6.5.1[5]C, 6.5.1[8]B, 6.5.1[8]C			
	[27.3]	Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.5.1[5]A, 6.5.1[8]A			
[28	3] 2-FC	V-3-251 Steam Generator #2 MFW Regulating Isolation Valve			
	[28.1]	Valve can be operated from the Local Control Station. 6.5.2[2]A, 6.5.2[3]A			
	[28.2]	Local indicating lights indicate correct valve position. 6.5.2[2]B, 6.5.2[2]C, 6.5.2[3]B, 6.5.2[3]C, 6.5.2[5]B, 6.5.2[5]C, 6.5.2[8]B, 6.5.2[8]C			

- [29] 2-FCV-3-252 Steam Generator #3 MFW Regulating Isolation Valve
 - [29.1] Valve can be operated from the Local Control Station. 6.5.3[2]A, 6.5.3[3]A

traveling to OPEN & CLOSED position. 6.5.2[5]A, 6.5.2[8]A

Valve can be stopped in mid-position from Local Control Station when

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- [29.2] Local indicating lights indicate correct valve position. 6.5.3[2]B, 6.5.3[2]C, 6.5.3[3]B, 6.5.3[3]C, 6.5.3[5]B, 6.5.3[5]C, 6.5.3[8]B, 6.5.3[8]C
- [29.3] Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.5.3[5]A, 6.5.3[8]A
- [30] 2-FCV-3-253 Steam Generator #4 MFW Regulating Isolation Valve
 - [30.1] Valve can be operated from the Local Control Station. 6.5.4[2]A, 6.5.4[3]A
 - [30.2] Local indicating lights indicate correct valve position. 6.5.4[2]B, 6.5.4[2]C, 6.5.4[3]B, 6.5.4[3]C, 6.5.4[5]B, 6.5.4[5]C, 6.5.4[8]C
 - [30.3] Valve can be stopped in mid-position from Local Control Station when traveling to OPEN & CLOSED position. 6.5.4[5]A, 6.5.4[8]A

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6.0	PERFOR	MANCE	
		NOTE	
The	Subsections	of this procedure may be performed in any	order.
6.1	Steam Ge	enerator Loop 1 Valves	
	[1] VE I	RIFY prerequisites for this Subsection have	been satisfied.
		TUP the 2-FCV-3-35, STEAM GENERATO LVE, control loop as follows:	R 1 MFW REG
	[2.1]	ENSURE 2-FIC-3-35, SG 1-MFW REG '2-M-3 in MANUAL AND	VLV controller at
		ADJUST for 0 demand (NO demand for	MFW flow).
		NOTE	
For	Steps 6.1[2.2]	through [3.7], the black wire is positive (+)	and white wire is negative (-)
	[2.2]	LIFT the following wires:	
		 Black wire in Cable 2PM1293 from at Panel 2-M-4 (See drawings 45W 45N2655-1A). 	
		•	1st
			CV
		 White wire in Cable 2PM1293 from at Panel 2-M-4. 	TB C2-5 (3K9)
			1st
			CV

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		Dat	e
6.1	Steam Ge	nerator Loop 1 Valves (continued)	
	[2.3]	INSTALL a process calibrator to simulate Test Signal 1 (SG Loop 1 MFW Flow) at Cable 2PM1293.	
		M&TE No	
			1st
			CV
	[2.4]	ADJUST Test Signal 1 current source to 4mAdc.	
	[2.5]	Lift the following wires:	
		 Black wire in Cable 2PM1294 (7K8) from TB C2-5 at Panel 2-M-4 (45W2643-6, 2-45N2655-1A). 	
			1st
			CV
		 White wire in Cable 2PM1294 (7K9) from TB C2-5 at Panel 2-M-4. 	
			1st
			CV
	[2.6]	INSTALL a process calibrator to simulate Test Signal 2 (SG Loop 1 MFW Flow) at Cable 2PM1294.	
		M&TE No.	
			1st
			CV
	[2.7]	ADJUST Test Signal 2 current source to the same setting of Step 6.1[2.4].	
	[2.8]	LIFT the following wires:	
		 Black wire in Cable 2PM1318 from TB C2-18 (3F7) at Panel 2-M-4. (45W2643-6, 2-45N2655-1A) 	
		at and min in the first to o, a fortage of the	1st

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		Date	<u> </u>
6.1	Steam Gei	nerator Loop 1 Valves (continued)	
		 White wire in Cable 2PM1318 from TB C2-18 (3F8) at Panel 2-M-4. 	
		at Fundizing 4.	1st
			CV
	[2.9]	INSTALL a process calibrator to simulate Test Signal 3 (SG Loop 1 Steam Flow) at Cable 2PM1318.	
		M&TE No	
			1st
			CV
	[2.10]	ADJUST Test Signal 3 current source to the same setting of Step 6.1[2.4].	
	[2.11]	LIFT the following wires:	
		 Black wire in Cable 2PM1319 from TB C2-18 (7F7) at Panel 2-M-4 (45W2643-6, 2-45N2655-1A). 	
			1st
			CV
		 White wire in Cable 2PM1319 from TB C2-18 (7F8) at Panel 2-M-4. 	
			1st
			CV
	[2.12]	INSTALL a process calibrator to simulate Test Signal 4 (SG Loop 1 Steam Flow) at Cable 2PM1319.	
		M&TE No	
			1st
			CV
	[2.13]	ADJUST Test Signal 4 current source to the same setting of Step 6.1[2.4].	
	[2.14]	VERIFY the following:	

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			ate
6.1	Steam G	Generator Loop 1 Valves (continued)	
		A. Red Light (FCV-3-35) OFF at 2-XX-3-35, MFW REG Status Light Box at 2-M-3.	
		B. Green Light (FCV-3-35) ON at 2-XX-3-35.	
		C. 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE is CLOSED (locally 739/C12P).	
		ETUP the 2-FCV-3-35A, STEAM GENERATOR 1 MFW YPASS REG VALVE, control loop as follows:	
	[3.1]	VERIFY/PLACE 2-LIC-3-35A, SG 1 MFW BYPASS REG CONTROL at 2-M-3 in MANUAL.	
	[3.2]	LIFT the following wires:	
		 N40201 (T1 - black) in Cable 2PM550 from TB 25C at Panel 2-R-25. (See Drawing 45N2668-4, 45N2652-2) 	
		40142002-2)	1st
			CV
		 N40202 (T2 - white) in Cable 2PM550 from TB 25C at Panel 2-R-25. 	
			1st
			CV
	[3.3]	INSTALL a process calibrator to simulate Test Signal 5 (Simulates NIS Channel 1 Power) at Cable 2PM550.	
		M&TE No	
			1st
			CV
	[3.4]	ADJUST Test Signal 5 voltage source to 2V.	
	[3.5]	LIFT the following wires:	

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6.1	Stea	m Gen	erate	or Loop 1 Valves (continued)	
			•	24W1 (T1 - black) in Cable 2PM8879 from TB24W at Panel 2-R-24. (See Drawing 45N2668-3, 2-45W2668-3A)	
				+0002000-07/	1st
					CV
			•	24W2 (T2 - white) in Cable 2PM8879 from TB24W at Panel 2-R-24.	
					1st
					CV
	[3	3.6]		TALL a process calibrator to simulate Test Signal 6 mulates Validated NIS Power) at Cable 2PM8879.	
			M&	TE No	
					1st
					CV
	[3	3.7]	AD	JUST Test Signal 6 current source to 4mAdc.	<u></u>
	[3	3.8]	VE	RIFY the following:	
			A.	Red Light (FCV-3-35A) OFF at 2-XX-3-35A, BYPASS REG Status Light Box at 2-M-3.	
			B.	Green Light (FCV-3-35A) ON at 2-XX-3-35A.	
			C.	2-FCV-3-35A is CLOSED (locally, 729/T15P).	<u> </u>
	[4]		DING	-HS-3-945A, HAND SWITCH FOR CONTROL G ISOLATION, to ON, located at 2-JB-292-8205 Q).	
	[5]	PRE	SS 2	-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3 AND)
		VERI	I FY t	he indicator light at 2-HS-3-99A2 is OFF.	
	[6]	PRE	SS 2	-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3 AND)
		VER	IFY t	he indicator light at 2-HS-3-99B2 is OFF.	

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		Da	ite
6.1	Steam Ger	nerator Loop 1 Valves (continued)	
		ACE 2-HS-3-33A, SG #1 MFW ISOL VLV, at 2-M-3 to the EN position AND	
	VER	RIFY:	
	[7.1]	2-FCV-3-33, SG #1 MFW ISOL VLV FULLY OPENS, locally (729/A15U).	
	[7.2]	Red Light ON at 2-HS-3-33A. (Acc Crit) 5.0[1.4]	
	[7.3]	Green Light OFF at 2-HS-3-33A. (Acc Crit) 5.0[1.4]	
	[7.4]	Red Light ON at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD-2A2-A, Compt. 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV-A).	
	[7.5]	Green Light OFF at 2-MCC-213-A2-A.	
	[7.6]	POWER ON, Red Light ON at 2-BKR-3-33, SG 1 MFW ISOL.	
	[7.7]	IPCS Computer Point FD2028, SG1 FEEDWATER ISOLATION VALVE, indicates OPEN. (Acc Crit) 5.0[1.4]	-
	[7.8]	IPCS Computer Point FD2051, SG1 FEEDWATER ISOLATION VALVE, indicates PWR ON.	
	[8] PLA	CE 2-HS-3-33A in the CLOSE position AND	
	VER	RIFY:	
	[8.1]	2-FCV-3-33 is CLOSED, locally (729/A15U).	
	[8.2]	Red Light OFF at 2-HS-3-33A. (Acc Crit) 5.0[1.4]	
	[8.3]	Green Light ON at 2-HS-3-33A. (Acc Crit) 5.0[1.4]	
	[8.4]	Red Light OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	[8.5]	Green Light ON at 2-BKR-3-33, SG 1 MFW ISOL.	

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6.1	Stea	m Ge	nerator Loop 1 Valves (continued)		
	[8]	5.6]	IPCS Computer Point FD2028, SG1 FEE ISOLATION VALVE, indicates NOT OPE 5.0[1.4]		
	[9]	PL/	ACE 2-HS-3-33A in the OPEN position AND		
		VE	RIFY:		
	[9	.1]	2-FCV-3-33 is OPEN, locally (729/A15U)		
	[9	.2]	Red Light ON at 2-HS-3-33A.	-	
	[9	.3]	Green Light OFF at 2-HS-3-33A.	-	
	[10]		SURE 2-HS-3-45, MFW RECIRCULATION (ITCH, at 2-M-3, to NORMAL AND	CONTROL	
			RIFY using light indication at 2-HS-3-33A the PPEN.	at 2-FCV-3-33 -	
			NOTE		
			res valve stroke timing locally and remotely. starting the next step will ensure equal reco		
	[11]		ACE Jumper 2 from Step 4.3[2]B to the CLC ition to simulate a Train A Feedwater Isolati		
	[1	1.1]	RECORD remote closing time at 2-HS-3-(Acc Crit) 5.0[1.1]	33A.	
			Seconds (≤ 6.5s)		
			M&TE No	-	
	[1	1.2]	RECORD local closing time at 2-FCV-3-3 ISOL VLV. (Acc Crit) 5.0[1.1]	3, SG #1 MFW	
			Seconds (≤ 6.5s)		
			M&TE No	-	

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6.1	Stea	m Ge	nerator Loop 1 Valves (continued)		
	[1	1.3]	VERIFY the indicator light is ON at 2-HS RESET TR-A MFW ISOL at 2-M-3.	S-3-99A2,	
	[12]		ACE Jumper 2 to the OPEN/OFF position (in A relay reset)	For ESFAS	
	[13]		RIFY using light indication at 2-HS-3-33A th #1 MFW ISOL VLV, remains CLOSED. (A		
	[14]	PR	ESS 2-HS-3-99A2, RESET TR-A MFW ISC	DL AND	
		VEI	RIFY the indicator light is OFF at 2-HS-3-99	9A2.	-
			NOTE		
		_	res valve stroke timing locally and remotely starting the next step will ensure equal rec		
	[15]	PR	ESS 2-HS-3-33A AND		
	[1	5.1]	RECORD remote opening time at 2-HS-	3-33A.	
			Seconds		
			M&TE No		
	[1	5.2]	RECORD local opening time at 2-FCV-3 MFW ISOL VLV.	3-33, SG #1	
			Seconds		
			M&TE No		
	[16]		SURE 2-HS-3-45, MFW RECIRCULATION TTCH, at 2-M-3 to NORMAL AND	CONTROL	
			RIFY using light indication at 2-HS-3-33A th	nat 2-FCV-3-33,	

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6.1	Stear	m Generator Loop 1 Valves (continued)		
	[17]	PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, at 2-M-3 to FORWARD FLUSH AND		
		VERIFY using light indication at 2-HS-3-33A that 2-FCV-3-33, SG #1 MFW ISOL VLV, CLOSES.	_	
	[18]	REMOVE Fuse 2-FU-275-R74/K5, at Panel 2-R-74 (to simulate opening of 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE by de-energizing Relay ZS1 (See DWG 2-45W600-57-33)).		
			_	1st
				CV
	[19]	PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, at 2-M-3 to BACK FLUSH AND		
		VERIFY using light indication at 2-HS-3-33A that 2-FCV-3-33 remains CLOSED.	_	
	[20]	REPLACE Fuse 2-FU-275-R74/K5, at Panel 2-R-74 AND		
		VERIFY using light indication at 2-HS-3-33A that 2-FCV-3-33, SG #1 MFW ISOL VLV, OPENS. (Acc Crit) 5.0[1.4]	_	
				1st
				CV
	[21]	PLACE 2-HS-3-33C, SG #1 MFW ISOL VLV SW, in the CLOSE position at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 3D AND		
		VERIFY by light indication that 2-FCV-3-33, SG #1 MFW ISOL VLV, remains OPEN.		
	[22]	REMOVE Fuse 2-FU-213-A23/31N at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A at Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV) (45W760-3-6)		
			-	1st
			_	CV

[23] **VERIFY** the following:

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				Date
6.1	Stear	n Gen	erator Loop 1 Valves (continued)	
	[2:	3.1]	Red Light (VALVE OPEN) OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	[2	3.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	[2	3.3]	Red Light for POWER ON is OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	[2:	3.4]	Red Light OFF at 2-HS-3-33A.	
	[2:	3.5]	Green Light OFF at 2-HS-3-33A.	
	[2:	3.6]	IPCS Computer Point FD2051, SG1 FEEDWATER ISOLATION VALVE, indicates PWR OFF.	
	[24]		CE 2-HS-3-33A, SG #1 FW ISOL VLV SW, in the CLOSE ion AND	=
			IFY 2-FCV-3-33, SG #1 MFW ISOL VLV, remains OPEN y (729/A15U).	,
	[25]	CLO	CE 2-HS-3-33C, SG #1 MFW ISOL VLV SW in the SE position at 2-MCC-213-B2-B, 480V REACTOR MOV RD 2B2-B, Compt 3D AND	
		VER	I FY 2-FCV-3-33, SG #1 MFW ISOL VLV, remains OPEN lly).	
	[26]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL FCH, at 2-M-2 to NORMAL AND	
			IFY that 2-FCV-3-33, SG #1 MFW ISOL VLV, remains N (locally).	·

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			Dat	e
6.1	Stea	m Ger	nerator Loop 1 Valves (continued)	
	[27]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to FORWARD FLUSH AND	
			RIFY that 2-FCV-3-33, SG #1 MFW ISOL VLV, remains EN (locally).	
	[28]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-2 to BACK FLUSH AND	
			RIFY that 2-FCV-3-33, SG #1 MFW ISOL VLV, remains EN (locally).	
	[29]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-2 to NORMAL AND	
			RIFY that 2-FCV-3-33, SG #1 MFW ISOL VLV, remains EN (locally).	
	[30]	NOF	SURE 2-HS-3-33C, SG #1 MFW ISOL VLV SW, in the RMAL position at 2-MCC-213-B2-B, 480V REACTOR MOV ARD 2B2-2, Compt 3D.	
	[31]	AUX	ACE 2-XS-3-33, SG #1 MFW ISOL VLV TRF SW, to the consition at 2-MCC-213-A2-A, 480V Reactor MOV 2A2-A, Compt 3D.	
	[32]	VER	RIFY the following:	
	[3	2.1]	Red Light (VALVE OPEN) ON at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	[3	2.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 3D, 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	[3	2.3]	Red Light OFF at 2-HS-3-33A.	
	[3	2.4]	Green Light OFF at 2-HS-3-33A.	
	[3	2.5]	IPCS Computer Point FD2051, SG1 FEEDWATER ISOLATION VALVE, indicates PWR ON.	

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		Date	·
Stea	m Ger	nerator Loop 1 Valves (continued)	
[3	32.6]	Unit 2 Events Display Recorder indicates 149-C 480 RX MOV BD 2A1-A/2A2-A IN AUX is in ALARM (Red).	<u></u>
[3	32.7]	Annunciator Panel 2-XA-55-6F, Window 149-C 480 RX MOV BD 2A1-A/2A2-A, ALARMS. (Acc Crit) 5.0[1.3]	
[33]	480\	PLACE Fuse 2-FU-213-A23/31N at 2-MCC-213-A2-A, V REACTOR MOV BOARD 2A2-A at Compt 3D, 2-BKR-3- SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV).	
	JJ, (3G 1 MFW 13OL (2-FCV-3-33, 3G #1 MFW 13OL VLV).	1st
			CV
[34]	CLC	ACE 2-HS-3-33C, SG #1 MFW ISOL VLV SW, in the OSE position at 2-MCC-213-A2-A, 480V REACTOR MOV ARD 2A2-A, Compt 3D AND	
		RIFY by light indication at the breaker that 2-FCV-3-33 is OSED.	
[35]		ACE 2-HS-3-33A, SG #1 FW ISOL VLV SW, in the OPEN tion at 2-M-3 AND	
	REA	RIFY by light indication at 2-MCC-213-A2-A, 480V ACTOR MOV BOARD 2A2-A, Compt 3D that 2-FCV-3-33 ains CLOSED.	
[36]		ACE 2-HS-3-33C in the OPEN position at 2-MCC-213-A2-80V REACTOR MOV BOARD 2A2-A AND	
	VER OPE	RIFY by light indication at the breaker that 2-FCV-3-33 is EN.	
[37]		SURE 2-HS-3-33C in the NORMAL position at 2-MCC-213-A, 480V REACTOR MOV BD 2A2-A, Compt 3D.	
[38]		ACE 2-HS-3-33A, SG #1 FW ISOL VLV SW, in the CLOSE tion at 2-M-3 AND	
	REA	RIFY by light indication at 2-MCC-213-A2-A, 480 V ACTOR MOV BOARD 2A2-A, Compt 3D that 2-FCV-3-33 ains OPEN.	

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		Date	
6.1	Stea	m Generator Loop 1 Valves (continued)	
	[39]	PLACE 2-XS-3-33, SG #1 MFW ISOL VLV TRF SW, to the NORMAL position at 2-MCC-213-2A-A, 480V Reactor MOV BD 2A2-2, Compt 3D.	
	[40]	VERIFY Unit 2 Events Display Recorder indicates 149-C 480 RX MOV BD 2A1-A/2A2-A IN AUX is NORMAL (Blue).	
	[41]	VERIFY 2-XA-55-6F, 149-C 480 RX MOV BD 2A1-A/2A2-A, is CLEAR.	
	[42]	LIFT wire 2 from the T1 Thermal Overload contact to disconnect thermal overload circuitry from 2-BKR-3-33, SG 1 MFW ISOL (2-FCV-3-33, SG #1 MFW ISOL VLV), Compt 3D at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A. (See DWG 2-45W760-3-6)	
		(000 - 000 - 000 - 0)	1st
			CV
	[43]	VERIFY Red Light is OFF at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 6D.	
	[44]	PLACE 2-HS-3-33A, SG #1 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication that 2-FCV-3-33 remains OPEN.	
	[45]	PRESS AND HOLD the armature of overload bypass Relay K2 in back of 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 6D, to simulate an Overload Bypass.	
	[46]	PLACE 2-HS-3-33A, SG #1 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication that 2-FCV-3-33 CLOSES.	
	[47]	RELEASE the armature of overload bypass Relay K2.	
	[48]	LAND wire 2 from the T1 Thermal Overload contact from Step 6.1[42] at Breaker 2-BKR-3-33, SG 1 MFW ISOL, Compt 3D.	
		•	1st
			CV

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			Da	te
6.1	Stear	n Ger	nerator Loop 1 Valves (continued)	
	[49]	PLA	CE 2-FIC-3-35, SG 1 MFW REG VLV at 2-M-3 in AUTO.	
	[50]		UST Test Signal 3 from Step 6.1[2.9] (SG Loop 1 Steam) to between 12 and 16 mAdc.	
	[51]	VER	IFY the following:	
	[5	1.1]	Red Light (2-FCV-3-35) ON at 2-XX-3-35, MFW REG Status Light Box at 2-M-3. (Acc Crit) 5.0[5.7]	
	[5	1.2]	Green Light (2-FCV-3-35) OFF at 2-XX-3-35. (Acc Crit) 5.0[5.7]	Markey was a second
	[5	1.3]	2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, OPEN (locally, 729/T15P).	
	[5	1.4]	IPCS Computer Point FD2010, SG1 & SG4 FLOW CONTROL, indicates ENERG.	
	[5	1.5]	IPCS Computer Point FD2208, OPEN SG1 FW ISV 2-FCV-3-236, indicates ENERG.	
	[5	1.6]	IPCS Computer Point FD2352, SG1 & SG4 FW FLOW CONTROL, indicates ENERG.	
	[52]	ADJ	UST Test Signal 3 to between 12 and 8 mAdc.	
	[53]	VER	IFY the following:	
	[5	3.1]	Red Light (2-FCV-3-35) OFF at 2-XX-3-35. (Acc Crit) 5.0[5.7]	
	[5	3.2]	Green Light (2-FCV-3-35) ON at 2-XX-3-35. (Acc Crit) 5.0[5.7]	
	[5	3.3]	2-FCV-3-35 CLOSES (locally).	
	[54]		CE 2-FIC-3-35, SG 1 MFW REG VLV at 2-M-3 in IUAL.	

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6.1 Steam Generator Loop 1 Valves (continued)

NOTE

Steps 6.1[55-56] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[55]		JST output of 2-FIC-3-35, SG 1 MFW REG VLV at 2-M-3 0% (full open) using RAMP function for fast change.	
[55	5.1]	RECORD 2-FCV-3-35 remote opening time using light indication at 2-XX-3-35, MFW REG Status Light Box at 2-M-3.	
		Seconds (≤ 20s)	
		M&TE No	
[55	5.2]	RECORD local opening time at 2-FCV-3-35.	
		Seconds (≤ 20s)	
		M&TE No	
[56]		JST output of 2-FIC-3-35 to 0% (full closed) using RAMP ion for fast change.	
[56	6.1]	RECORD 2-FCV-3-35 remote closing time using light indication at 2-XX-3-35.	
		Seconds (≤ 20s)	
		M&TE No	
[56	6.2]	RECORD local closing time at 2-FCV-3-35.	
		Seconds (≤ 20s)	
		M&TE No	
[57]		JST output of 2-FIC-3-35 to 100% (full open) using RAMP ion for fast change.	
[58]	VERI OPE	FY using light indication at 2-XX-3-35 that 2-FCV-3-35 NS.	

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		Date	.
6.1	Steam G	Senerator Loop 1 Valves (continued)	
		NSURE 2-FCV-3-103, STEAM GENERATOR 4 MFW REG ALVE, is in the OPEN position.	
	··· <u>·</u> ···	NOTE	
requir before	res valve st e starting th lso modulat	cause 2-FCV-3-35A, 2-FCV-3-185, and 2-FCV-3-236 to fail CLO roke timing locally and remotely. The initiation of a 10 second come next step will ensure equal recording times at all locations. 2-Fixe throughout these next steps but is not tested for Acceptance C	ountdown FCV-3-185
	[60] PI	LACE Jumper 3 from 4.3[2]C to the OPEN/OFF position.	
	[60.1]	RECORD remote closing time at 2-FCV-3-35A, SG #1 INLET FLOW CONT VLV BYPASS VLV, using light indication at 2-XX-3-35A. (Acc Crit) 5.0[9.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[60.2]	RECORD local closing time at 2-FCV-3-35A. (Acc Crit) 5.0[9.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[60.3]	RECORD remote closing time at 2-FCV-3-236, STEAM GENERATOR 1 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[18.3], 5.0[18.6]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[60.4]	RECORD local closing time at 2-FCV-3-236 (729/A15U). (Acc Crit) 5.0[18.3]	
		Seconds (≤ 6.5s)	

M&TE No. _____

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			D	ate
6.1	Stear	n Gen	nerator Loop 1 Valves (continued)	
	[60.5]		VERIFY 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE remains OPEN, using light indication at 2-XX-3-35.	
	[6	0.6]	VERIFY 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE remains OPEN, using light indication at 2-XX-3-35.	
	[6	0.7]	VERIFY IPCS Computer Point FD2208, OPEN SG1 FW ISV 2-FCV-3-236, indicates NOT ENER.	
	[6	0.8]	VERIFY Indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	
	[61]	PLA	CE Jumper 3 to the CLOSED/ON position.	
	[62]		IFY using light indication at 2-XX-3-35A, that CV-3-35A remains CLOSED.(Acc Crit) 5.0[9.2]	
	[63]	STE	IFY using light indication at 2-M-3 that 2-FCV-3-236, AM GENERATAOR 1 MFW BYPASS LINE ISOL, remains SED. (Acc Crit) 5.0[18.4]	
	[64]	PRE	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
		VER	IFY:	
	[6-	4.1]	Using light indication at 2-XX-3-35A that 2-FCV-3-35A OPENS.	
	[6	4.2]	Using light indication at 2-M-3 that 2-FCV-3-236, STEAM GENERATAOR 1 MFW BYPASS LINE ISOL, OPENS.	
	[6	4.3]	Indicator light is OFF at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	

NOTE

Step 6.1[65] will cause 2-FCV-3-245 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[65] PLACE Jumper 13 from 4.3[5]A to the OPEN/OFF position.	
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6.1

	Date _	
Steam Gen	nerator Loop 1 Valves (continued)	
[65.1]	RECORD remote closing time at 2-FCV-3-245, STEAM GENERATOR 4 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[21.3]	
	Seconds (≤ 6.5s)	
	M&TE No	
[65.2]	RECORD local closing time at 2-FCV-3-245 (729/A15U). (Acc Crit) 5.0[21.3]	
	Seconds (≤ 6.5s)	
	M&TE No	
[65.3]	VERIFY IPCS Computer Point FD2062, OPEN SG4 FW ISV 2-FCV-3-245, indicates NOT ENER.	
[65.4]	VERIFY 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
[65.5]	VERIFY 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
[65.6]	VERIFY Indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	

NOTE

Step 6.1[66] requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations. Jumper 3 and Jumper 13 are both required to be OPEN/OFF to simulate the Train B Feedwater Isolation Signal. Valves from Step 6.1[60] will close when Jumper 3 changes state.

ater isolation Signal. Valves from Step 6. I[60] will close when Jumper 3 changes				
[66]	PLACE Jumper 3 from 4.3[2]C to the OPEN/OFF position to simulate a Train B Feedwater Isolation Signal.			

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6.1	Steam Gen	nerator Loop 1 Valves (continued)	
	[66.1]	RECORD remote closing time at 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, using light indication at 2-XX-3-35. (Acc Crit) 5.0[5.3]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66.2]	RECORD local closing time at 2-FCV-3-35. (Acc Crit) 5.0[5.3]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66.3]	RECORD remote closing time at 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE using light indication at 2-XX-3-35. (Acc Crit) 5.0[8.3]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66.4]	RECORD local closing time at 2-FCV-3-103 (740/T15P). (Acc Crit) 5.0[8.3]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66.5]	VERIFY IPCS Computer Point FD2352, SG1 & SG4 FW FLOW CONTROL, indicates DE-ENER.	
	[66.6]	VERIFY IPCS Computer Point FD2005, SG4 & SG1 FW FLOW CONTROL, indicates DE-ENER.	
	[66.7]	VERIFY Indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	
		CE Jumper 3 to the CLOSED/ON position (for ESFAS	
		CE Jumper 13 to the CLOSED/ON position (for ESFAS B relay reset).	

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6.1	Steam Generator Loop 1 Valves (continued)				
STEA		STEA	FY using light indication at 2-XX-3-35 that 2-FCV-3-35, AM GENERATOR 1 MFW REG VALVE, remains SED. (Acc Crit) 5.0[5.4]		
	[70]	STEA	FY using light indication at 2-XX-3-35 that 2-FCV-3-103, AM GENERATOR 4 MFW REG VALVE, remains SED. (Acc Crit) 5.0[8.4]		
	[71] VERIFY using light indication at 2-M-3 that 2-FCV-3-245, STEAM GENERATAOR 4 MFW BYPASS LINE ISOL, remains CLOSED. (Acc Crit) 5.0[21.4]		AM GENERATAOR 4 MFW BYPASS LINE ISOL, remains		
	[72]	PRES	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND		
		VERI	FY:		
	[72	2.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, OPENS.		
[72.2]		2.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, OPENS.		
	[72.3]		Using light indication at 2-M-3 that 2-FCV-3-245, STEAM GENERATAOR 4 MFW BYPASS LINE ISOL, OPENS.		
[72.4]		2.4]	Indicator light is OFF at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.		
NOTE					
Steps 6 valves	_		will test the loss of Control Power. Using 2-HS-3-945B will al	so affect	
[73] PLACE 2-HS-3-945B, HAND SWITCH FOR CONTROL BUILDING ISOLATION, to OFF, located at 2-JB-292-8223 (757/A11Q) AND					
	VERIFY:				
	[73.1]		Using light indication at 2-XX-3-35 that 2-FCV-3-35 CLOSES. (Acc Crit) 5.0[5.5]		
	[73	3.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-103 CLOSES. (Acc Crit) 5.0[8.5]		

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			Date
Steam	Gen	erator Loop 1 Valves (continued)	
[73	3.3]	Using light indication at 2-XX-3-35A, that 2-FCV-3-35A CLOSES. (Acc Crit) 5.0[9.3]	
[73	3.4]	Using light indication at 2-M-3, that 2-FCV-3-236 CLOSES. (Acc Crit) 5.0[18.5]	
[74]	PLAC	CE 2-HS-3-945B to ON AND	
	VERI	FY:	
[74	l.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-35 remains CLOSED.	
[74	.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-103 remains CLOSED.	
[74	.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-35A remains CLOSED.	
[74	.4]	Using light indication at 2-M-3 that 2-FCV-3-236 remain CLOSED.	s
[75]	PRES	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
	VERI	FY:	
[75	5.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-35, OPENS.	
[75	5.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-103 OPENS.	
[75	5.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-35A OPENS.	
[75	5.4]	Using light indication at 2-M-3 that 2-FCV-3-236 OPENS.	
[75	5.5]	Indicator light is OFF at 2-HS-3-99B2.	
[76]		CE 2-HS-3-33A, SG #1 FW ISOL VLV SW, in the OPEN on at 2-M-3 AND	
•	VERI	FY by light indication that 2-FCV-3-33 OPENS.	

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6.1	Steam Generator Loop 1 Valves (continued)				
			NOTE		
The f 45.	following	steps	will test FORWARD FLUSH and BACK FLUSH capability via 2-HS-3-		
	[77]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to FORWARD FLUSH AND		
		VER	IFY:		
	[7]	7.1]	Using light indication at 2-HS-3-33A, SG #1 FW ISOL VLV SW, that 2-FCV-3-33 CLOSES. (Acc Crit) 5.0[1.5]		
	[7]	7.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-35, STEAM GENERATOR 2 MFW REG VALVE, remains OPEN.		
	[7]	7.3]	That 2-PCV-3-40, MFW DEAERATION LINE BACK PRESSURE CONTROL, OPENS (locally (708/T13J) by observing valve stem position). (Acc Crit) 5.0[13.1]		
	[7]	7.4]	That 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, OPENS.		
	[78]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to BACK FLUSH AND		
		VER	IFY:		
	[78	3.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-35 CLOSES. (Acc Crit) 5.0[5.6]		
	[78	3.2]	Using light indication at 2-HS-3-33A, SG #1 FW ISOL VLV SW, that 2-FCV-3-33 OPENS when 2-FCV-3-35, STEAM GENERATOR 2 MFW REG VALVE, is FULLY CLOSED. (Acc Crit) 5.0[1.6]		
	[78	3.3]	That 2-PCV-3-40 remains OPEN locally (by observing valve stem position). (Acc Crit) 5.0[13.2]		
	[78	3.4]	That 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, remains OPEN.		

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		Date	
Stea	am G	enerator Loop 1 Valves (continued)	
[79]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL WITCH, at 2-M-3 to NORMAL AND	
	VI	ERIFY:	
[79.1	Using light indication at 2-HS-3-33A, SG #1 FW ISOL VLV SW, that 2-FCV-3-33 remains OPEN.	
[79.2	Using light indication at 2-XX-3-35 that 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, OPENS.	
[79.3	That 2-PCV-3-40 CLOSES (by observing valve stem position). (Acc Crit) 5.0[13.3]	
[79.4	That 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, CLOSES. (Acc Crit) 5.0[22.6]	
[80]		ACE 2-LIC-3-35A, SG 1 MFW BYPASS REG CONTROL at M-3 in AUTO.	
[81]		DJUST Test Signal 5 (from Step 6.1[3.3]) for a voltage output stween 0 and 5V at Panel 2-R-25. (NIS)	
[82]	Vi	ERIFY the following:	
[82.1	Red Light (FCV-3-35A) ON at 2-XX-3-35A.	
[82.2	Green Light (FCV-3-35A) OFF at 2-XX-3-35A.	
[82.3	2-FCV-3-35A is OPEN (locally).	
[83]		DJUST Test Signal 4 current source (from Step 6.1[2.12]) to mAdc. (Steam Flow)	
[84]	A	DJUST Test Signal 5 voltage output to 5V. (NIS)	
[85]		DJUST Test Signal 6 current source (from Step 6.1[3.6]) to mAdc. (Validated NIS)	
[86]	V	ERIFY the following:	
[86.1	Red Light (FCV-3-35A) OFF at 2-XX-3-35A	
[86.2	Green Light (FCV-3-35A) ON at 2-XX-3-35A.	
ŗ	86.3	2-FCV-3-35A is CLOSED (locally).	

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		Date
6.1 Steam (Generator Loop 1 Valves (continued)	
	LACE 2-LIC-3-35A, SG 1 MFW BYPASS -M-3 in MANUAL.	REG CONTROL at
	NOTE	
] require valve stroke timing locally and rer wn before starting the next step will ensure	
i c	DJUST output of 2-LIC-3-35A, SG 1 MFW ONTROL at 2-M-3 to 100% (full open) by inction.	
[88.1] RECORD 2-FCV-3-35A remote openindication at 2-XX-3-35A.	ng time using light
	Seconds (≤ 20s)	
	M&TE No	
[88.2	RECORD local opening time at 2-FC	/-3-35A.
	Seconds (≤ 20s)	
	M&TE No	
C	DJUST output of 2-LIC-3-35A, SG 1 MFW CONTROL at 2-M-3 to 0% (closed) by using unction.	
[89.1	RECORD 2-FCV-3-35A, remote closi indication at 2-XX-3-35A at 2-M-3.	ng time using light
	Seconds (≤ 20 seconds)	
	M&TE No	
[89.2	RECORD local closing time at 2-FCV	-3-35A.
	Seconds (≤ 20s)	
	M&TE No	

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		Date
6.1	Steam Ge	nerator Loop 1 Valves (continued)
		RIFY by light indication at 2-XX-3-35A that 2-FCV-3-35A is
		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL ITCH, at 2-M-3 to FORWARD FLUSH AND
	VEF	RIFY:
	[91.1]	Using light indication at 2-XX-3-235, SG WATER HAMMER PREVENT, that 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, OPENS. (Acc Crit) 5.0[22.4]
	[91.2]	Red light OFF (FCV-3-185 Open) at 2-XX-3-235. (Acc Crit) 5.0[14.5]
	[91.3]	Green light ON (FCV-3-185 Closed) at 2-XX-3-235. (Acc Crit) 5.0[14.5]
	[91.4]	2-FCV-3-185, STEAM GENERATOR #1 MFW BACKFLUSH WARMING, CLOSED (locally 729/A14V).
	[91.5]	Using light indication at 2-XX-3-35 that 2-FCV-3-35 is OPEN.
		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL ITCH, at 2-M-3 to BACK FLUSH AND
	VEF	RIFY:
	[92.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, remains OPEN. (Acc Crit) 5.0[22.5]
	[92.2]	Red light ON (FCV-3-185 Open) at 2-XX-3-235. (Acc Crit) 5.0[14.5]
	[92.3]	Green light OFF (FCV-3-185 Open) at 2-XX-3-235. (Acc Crit) 5.0[14.5]
	[92.4]	2-FCV-3-185, STEAM GENERATOR #1 MFW BACKFLUSH WARMING, OPENS (locally 729/A15U). (Acc Crit) 5.0[14.4]

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			Dat	e
6.1	Stea	m Ge	nerator Loop 1 Valves (continued)	
	[9	2.5]	Using light indication at 2-XX-3-35 that 2-FCV-3-35 CLOSES.	
	[93]	sim MF	MOVE Fuse 2-FU-275-R77/K3, at Panel 2-R-77, to ulate opening of 2-FCV-3-35, STEAM GENERATOR 1 W REG VALVE by de-energizing Relay ZS6 (DWG 12692-1).	
				1st
				CV
	[94]		RIFY using light indication at 2-XX-3-235 that 2-FCV-3-185 DSES.	
	[95]	REI	PLACE Fuse 2-FU-275-R77/K3, at Panel 2-R-77.	
`				1st
	[96]		RIFY using light indication at 2-XX-3-235, that CV-3-185 OPENS.	
			NOTE	
	nd coun		.2] require valve stroke timing locally and remotely. The initiating before starting the next step will ensure equal recording times	
	[97]		ACE Jumper 3 to the OPEN/OFF position to simulate a in B Feedwater Isolation.	
	[97.1]		RECORD 2-FCV-3-185 remote closing time using light indication at 2-XX-3-235 at 2-M-3. (Acc Crit) 5.0[14.1]	
			Seconds (≤ 6.5s)	
			M&TE NO	

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			Da	<u> </u>
6.1	Steam	n Gen	erator Loop 1 Valves (continued)	
	[97.2]		RECORD local closing time at 2-FCV-3-185. (Acc Crit) 5.0[14.1]	
			Seconds (≤ 6.5s)	
			M&TE No	
	[9	7.3]	VERIFY the indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	
	[98]	PLA	CE Jumper 3 to the CLOSED/ON position (ESFAS).	
			IFY using light indication at 2-XX-3-235 that 2-FCV-3-185 ins CLOSED. (Acc Crit) 5.0[14.2]	
	[100] PRE		SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
VERIFY:				
[100.1]		00.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-185 OPENS.	
	[100.2]		Indicator light is OFF at 2-HS-3-99B2.	
			NOTE	
will CL positio	.OSE a	nd ÒP CV-3-1	utilizes the 2-HS-3-191 pushbutton. When it is pressed, 2-Fore EN. At the same time, when 2-FCV-3-191 leaves the FULL 85 will CLOSE. 2-FCV-3-185 will OPEN again when 2-FCV EN.	OPEN
	[101]	DEA	SS CLOSE Pushbutton at 2-HS-3-191, MFW ERATION LINE LOOP 1 ISOL VLV at 2-JB-292-851, 29 Southeast Valve Room.	
	[102]		IFY, using light indication at 2-XX-3-235 that 2-FCV-3-191 SES and then OPENS.	
	[103]	WHE	N 2-FCV-3-191 leaves the FULL OPEN position, THEN	
			IFY, using light indication at 2-XX-3-235, that 2-FCV-3-	

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			Date	,
6.1	Stean	n Gen	erator Loop 1 Valves (continued)	
	[104]	4] WHEN 2-FCV-3-191 returns to the FULL OPEN position, THEN		
			IFY, using light indication at 2-XX-3-235, that 2-FCV-3- OPENS.	
	[105]		CE Jumper 4 to the OPEN/OFF position to simulate a O Steam Generator level signal.	
	[105.1]		RECORD 2-FCV-3-185 remote closing time using light indication at 2-XX-3-235 at 2-M-3.	
			Seconds (≤ 6.5s)	
			M&TE NO	
	[105.2]		RECORD local closing time at 2-FCV-3-185.	
			Seconds (≤ 6.5s)	
			M&TE No	
	[106]	PLA	CE Jumper 4 to the CLOSED/ON position.	
	[107]		IFY, using light indication at 2-XX-3-235, that V-3-185 OPENS.	<u></u>
			NOTE	
-	6.1[108 s in othe	_	will test the loss of Control Power. Using 2-HS-3-945B will also.	so affect
	[108]		CE 2-HS-3-945B, HAND SWITCH FOR CONTROL DING ISOLATION, to OFF, located at 2-JB-292-8223.	
	[109]		IFY, using light indication at 2-XX-3-235 that EV-3-185 CLOSES. (Acc Crit) 5.0[14.3]	
	[110]		CE 2-HS-3-945B, HAND SWITCH FOR CONTROL DING ISOLATION, to ON, located at 2-JB-292-8223.	
	[111]		IFY, using light indication at 2-XX-3-235 that 2-FCV-3-185 tins CLOSED.	

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			Date	
6.1	Steam	Gen	erator Loop 1 Valves (continued)	
	[112]	PRE	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
			IFY, using light indication at 2-XX-3-235 that V-3-185 OPENS.	
			CE 2-HS-3-45, MFW RECIRCULATION CONTROL ICH, at 2-M-3 to NORMAL AND	
		VER	IFY:	
	[11	3.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-185 CLOSES.	
	[11	3.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, OPENS.	
	[114]	RES'	TORE the 2-FCV-3-35 control loop as follows:	
	[11	4.1]	ENSURE 2-FIC-3-35, SG 1-MFW REG VLV at 2-M-3 in MANUAL.	
	[11	4.2]	REMOVE Test Signal 1 (SG Loop 1 MFW Flow) at Cable 2PM1293 from TB C2-5 at Panel 2-M-4.	
				1st
				CV
	[11	4.3]	LAND the following wires:	
			 Black wire in Cable 2PM1293 to TB C2-5 (3K8), Terminal 1, at Panel 2-M-4. (45W2643-6) 	
				1st
				CV
			 White wire in Cable 2PM1293 to TB C2-5 (3K9), Terminal 2, at Panel 2-M-4. (45W2643-6) 	
				1st
				CV

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		ι	Date
6.1	Steam Gen	nerator Loop 1 Valves (continued)	
	[114.4]	REMOVE Test Signal 2 (SG Loop 1 MFW Flow) at Cable 2PM1294 from TB C2-5 at Panel 2-M-4.	
			1st
			CV
	[114.5]	LAND the following wires:	
		 Black wire in Cable 2PM1294 to TB C2-5 (7K8), Terminal 4, at 2-M-4. 	
			1st
			CV
		 White wire in Cable 2PM1294 to TB C2-5 (7K9), Terminal 5, at 2-M-4. 	
			1st
			CV
	[114.6]	REMOVE Test Signal 3 (SG Loop 1 Steam Flow) at Cable 2PM1318 from TB C2-18 at Panel 2-M-4.	
			1st
			CV
	[114.7]	LAND the following wires:	
		 Black wire in Cable 2PM1318 to TB C2-18 (3F7), Terminal 1, at Panel 2-M-4. 	
			1st
			CV
		 White wire in Cable 2PM1318 to TB C2-18 (3F8), Terminal 2, at Panel 2-M-4. 	
			1st
			CV

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	D	ate
Steam	Generator Loop 1 Valves (continued)	
[11	4.8] REMOVE process calibrator that simulated SG Loop 1 Steam Flow at Cable 2PM1319 from TB C2-18 at Panel 2-M-4.	
		1st
		CV
[11	4.9] LAND the following wires:	
	 Black wire in Cable 2PM1319 to TB C2-18 (7F7), Terminal 4, at Panel 2-M-4. 	
	reminary, at Failer 2-W-4.	1st
		CV
	 White wire in Cable 2PM1319 to TB C2-18 (7F8), Terminal 5, at Panel 2-M-4. 	
	reminal 5, at railer 2-ivi-4.	1st
		CV
[115]	RESTORE the 2-FCV-3-35A control loop as follows:	
[11	5.1] VERIFY/PLACE 2-LIC-3-35A, SG 1 MFW BYPASS REG CONTROL at 2-M-3 in MANUAL.	
[11	5.2] REMOVE Test Signal 5 (NIS Channel 1 Power) at Cable 2PM550 from TB25C at Panel 2-R-25. (45N2668-4)	
	21 W000 Hom 15200 at 1 and 2 11 20. (40142000 4)	1st
		CV
[11	5.3] LAND the following wires:	
	 N40201 in Cable 2PM550 to TB25C, Terminal 1, at Panel 2-R-25. 	
		1st
		CV

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	Dat	е
Steam Ger	nerator Loop 1 Valves (continued)	
	 N40202 in Cable 2PM550 to TB25C, Terminal 2, at Panel 2-R-25. 	
		1st
		CV
[115.4]	REMOVE Test Signal 6 (Validated NIS Power) at Cable 2PM8879 from TB24W at Panel 2-R-24. (45N2668-3)	
	•	1st
		CV
[115.5]	LAND the following wires:	
	 24W1 in Cable 2PM8879 to TB24W, Terminal 1, at Panel 2-R-24. 	
		1st
		CV
	 24W2 in Cable 2PM8879 to TB24W, Terminal 2, at Panel 2-R-24 	
		1st
		CV
	STORE the Steam Generator 1 Feedwater Isolation Signals bllows:	
[116.1]	REMOVE Jumper 1 (Step 4.3[2]A) AND	
	LAND the black wire (1AP) in Cable 2SG103A on TB630-9 at 2-R-48.	
		1st
		CV
[116.2]	REMOVE Jumper 2 (Step 4.3[2]B) AND	
	LAND the white wire (3DCT) in Cable 2V2983A on TB622-5 at 2-R-48.	
		1st
		CV

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		Date
Steam Gen	erator Loop 1 Valves (continued)	
[116.3]	REMOVE Jumper 3 (4.3[2]C) AND	
	LAND the black wire (1BP) in Cable 2SG123B on TB630-9 at 2-R-51.	
		1st
		CV
[116.4]	REMOVE Jumper 4 (4.3[2]D) AND	
	LAND the green wire (2B5) in Cable 2SG127B on TB633-1 at 2-R-51.	
		1st
		CV

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			Date	e
6.2	Steam	n Ge	nerator Loop 2 Valves	
	[1]	VEF	RIFY prerequisites for this Subsection have been satisfied.	
	[2]		TUP the 2-FCV-3-48, STEAM GENERATOR 2 MFW REG LVE, control loop as follows:	
	[2.	1]	ENSURE 2-FIC-3-48, SG 2-MFW REG VLV controller at 2-M-3 in MANUAL AND	
			ADJUST for 0 demand (no demand for MFW flow).	
<u> </u>			NOTE	
For S	Steps 6.2[[2.2]	through [3.7], the black wire is positive (+) and white wire is ne	gative (-)
	[2.2	2]	LIFT the following wires:	
			 Black wire in Cable 2PM1433 from TB C2-6 (3R8) at Panel 2-M-4 (See DWG 45W2643-6, 2-45N2655- 1A). 	
			,	1st
				CV
			 White wire in Cable 2PM1433 from TB C2-6 (3R9) at Panel 2-M-4. 	
				1st
				CV
	[2.3	3]	INSTALL a process calibrator to simulate Test Signal 2 (SG Loop 2 MFW Flow) at Cable 2PM1433.	
			M&TE No	
				1st
				CV
	[2.4	4]	ADJUST Test Signal 1 current source to 4mAdc.	

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Unit 2

[2.5]

LIFT the following wires:

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		Dat	E
6.2	Steam Ge	nerator Loop 2 Valves (continued)	
		 Black wire in Cable 2PM1434 from TB C2-6 (8K8) at Panel 2-M-4 (45W2643-6, 2-45N2655-1A). 	
		at 1 anel 2-101-4 (40002040-0, 2-40102000-17).	1st
			CV
		 White wire in Cable 2PM1434 from TB C2-6 (8K9) at Panel 2-M-4. 	
			1st
			CV
	[2.6]	INSTALL a process calibrator to simulate Test Signal 2 (SG Loop 2 MFW Flow) at Cable 2PM1434.	
		M&TE No	4-4
		•	1st
			CV
	[2.7]	ADJUST Test Signal 2 current source to the same setting of Step 6.2[2.4]	
	[2.8]	LIFT the following wires:	
		 Black wire in Cable 2PM1459 from TB C2-19 (3G7) at Panel 2-M-4 (45W2643-6, 2-45N2655-1A). 	
			1st
			CV
		 White wire in Cable 2PM1459 from TB C2-19 (3G8) at Panel 2-M-4. 	
			1st
			CV
	[2.9]	INSTALL a process calibrator to simulate Test Signal 3 (SG Loop 2 Steam Flow) at Cable 2PM1459.	
		M&TE No	
			1st
			CV

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6.2	Steam Ger	nerator Loop 2 Valves (continued)	
	[2.10]	ADJUST Test Signal 3 current source to the same setting of Step 6.2[2.4].	
	[2.11]	LIFT the following wires:	
		 Black wire in Cable 2PM1457 from TB C2-19 (8F7) at Panel 2-M-4. (45W2643-6, 2-45N2655-1A) 	
			1st
			CV
		 White wire in Cable 2PM1457 from TB C2-19 (8F8) at Panel 2-M-4. 	
			1st
			CV
	[2.12]	INSTALL a process calibrator to simulate Test Signal 4 (SG Loop 2 Steam Flow) at Cable 2PM1457.	
		M&TE No	
			1st
			CV
	[2.13]	ADJUST Test Signal 4 current source to the same setting of Step 6.2[2.4].	
	[2.14]	VERIFY the following:	
		A. Red Light (FCV-3-48) OFF at 2-XX-3-35, MFW REG Status Light Box at 2-M-3.	
		B. Green Light (FCV-3-48) ON at 2-XX-3-35.	
		C. 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE is CLOSED (locally 739/C12P).	
		UP the 2-FCV-3-48A, STEAM GENERATOR 2 MFW ASS REG VALVE, control loop as follows:	
	[3.1]	VERIFY/PLACE 2-LIC-3-48A, SG 2 MFW BYPASS REG CONTROL, at 2-M-3 in MANUAL.	
	[3.2]	LIFT the following wires:	

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		Date)
6.2	Steam Ge	nerator Loop 2 Valves (continued)	
		 N40204 (T4 - black) in Cable 2PM551 from TB 25C at Panel 2-R-25 (See Drawing 45N2668-4). 	
		(1st
			CV
		 N40205 (T5 - white) in Cable 2PM551 from TB 25C at Panel 2-R-25. 	
			1st
			CV
	[3.3]	INSTALL a process calibrator to simulate Test Signal 5 (Simulates NIS Channel 2 Power) at Cable 2PM551.	
		M&TE No	1st
			CV
	[3.4]	ADJUST Test Signal 5 voltage source to 2V.	Ov
		•	
	[3.5]	LIFT the following wires:	
		 24W4 (T4 - black) in Cable 2PM8877 from TB24W at Panel 2-R-24 (See Drawing 45N2666-3, 2- 45W2668-3A). 	
			1st
			CV
		 24W5 (T5 - white) in Cable 2PM8877 from TB24W at Panel 2-R-24. 	
			1st
			CV
	[3.6]	INSTALL a process calibrator to simulate Test Signal 6 (simulates Validated NIS Power) at Cable 2PM8877.	
		M&TE No	
			1st
			C\/

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				Da	ate
2	Stea	m Ger	erat	or Loop 2 Valves (continued)	
	[3	3.7]	AD	JUST Test Signal 6 current source to 4mAdc.	
	[3	3.8]	VE	RIFY the following:	
			A.	Red Light (FCV-3-48A) OFF at 2-XX-35A, BYPASS REG Status Light Box at 2-M-3.	
			В.	Green Light (FCV-3-48A) ON at 2-XX-3-35A.	
			C.	2-FCV-3-48A, STEAM GENERATOR 2 MFW BYPASS REG VALVE is CLOSED (locally, 729/T15P).	
	[4]	BUIL		-HS-3-945A, HAND SWITCH FOR CONTROL G ISOLATION, to ON, located at 2-JB-292-8205 Q).	
	[5]	PRE	SS 2	-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3 AND	
		VER	IFY t	he indicator light at 2-HS-3-99A2 is OFF.	
	[6]	PRE	SS 2	-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3 AND	
		VER	I FY t	he indicator light at 2-HS-3-99B2 is OFF.	
	[7]			-HS-3-47A, SG #2 MFW ISOL VLV at 2-M-3 to the sition AND	
		VER	IFY:		
	[7	7.1]		CV-3-47, SG #2 MFW ISOL VLV FULLY OPENS, ally (729/A15X).	
	[7	7.2]	Red	d Light ON at 2-HS-3-47A. (Acc Crit) 5.0[2.4]	
	[7	7.3]	Gre	en Light OFF at 2-HS-3-47A. (Acc Crit) 5.0[2.4]	
	[7	7.4]	MO	d Light ON at 2-MCC-213-B2-B, 480V REACTOR V BOARD-2B2-B, Compt. 3D, 2-BKR-3-47, SG 2 W ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	
	[7	7.5]	MO	een Light OFF at 2-MCC-213-B2-B, 480V REACTOR V BOARD 2B2-B, Compt. 3D, 2-BKR-3-47, SG 2 W ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	

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		Da	te
6.2	Steam Ger	nerator Loop 2 Valves (continued)	
	[7.6]	POWER ON Red Light ON at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt. 3D, 2-BKR-3-47 SG 2 MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	
	[7.7]	IPCS Computer Point FD2029, SG2 FEEDWATER ISOLATION VALVE, indicates OPEN. (Acc Crit) 5.0[2.4]	
	[7.8]	IPCS Computer Point FD2199, SG2 FEEDWATER ISOLATION VALVE, indicates PWR ON.	
		ACE 2-HS-3-47A, SG #2 MFW ISOL VLV, in the CLOSE tion AND	
	VER	RIFY:	
	[8.1]	2-FCV-3-47, SG #2 MFW ISOL VLV is CLOSED (locally 729/A15X).	
	[8.2]	Red Light OFF at 2-HS-3-47A. (Acc Crit) 5.0[2.4]	
	[8.3]	Green Light ON at 2-HS-3-47A. (Acc Crit) 5.0[2.4]	
	[8.4]	Red Light OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D, 2-BKR-3-47, SG 2 MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	
	[8.5]	Green Light ON at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D, 2-BKR-3-47, SG 2 MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	
	[8.6]	IPCS Computer Point FD2029, SG2 FEEDWATER ISOLATION VALVE, indicates NOT OPEN. (Acc Crit) 5.0[2.4]	
	[9] PLA	ACE 2-HS-3-47A in the OPEN position AND	
	VEF	RIFY:	
	[9.1]	2-FCV-3-47 is OPEN, locally (729/A15U).	
	[9.2]	Red Light ON at 2-HS-3-47A.	
	[9.3]	Green Light OFF at 2-HS-3-47A.	

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6.2	Steam	n Ge	nerator Loop 2 Valves (continued)	
	[10]		SURE 2-HS-3-45, MFW RECIRCULATION ITCH, at 2-M-3 to NORMAL AND	CONTROL
			RIFY using light indication at 2-HS-3-47A th #2 MFW ISOL VLV, is OPEN.	at 2-FCV-3-47, ————
			NOTE	
			res valve stroke timing locally and remotely starting the next step will ensure equal reco	
	[11]		ACE Jumper 6 from Step 4.3[3]B to the CLC ition to simulate a Train B Feedwater Isolati	
	[1	1.1]	RECORD remote closing time at 2-HS-3-(Acc Crit) 5.0[2.1]	-47A.
			Seconds (≤ 6.5s)	
			M&TE No	
	[1	1.2]	RECORD local closing time at 2-FCV-3-4 ISOL VLV. (Acc Crit) 5.0[2.1]	17, SG #2 MFW
			Seconds (≤ 6.5s)	
			M&TE No	
	[1	1.3]	VERIFY the indicator light is ON at 2-HS RESET TR-B MFW ISOL at 2-M-3.	-3-99B2,
	[12]		ACE Jumper 6 to the OPEN/OFF position (Fin B relay reset).	For ESFAS
	[13]		RIFY using light indication at 2-HS-3-47A, the #2 MFW ISOL VLV, remains CLOSED. (A	•
	[14]	PRI	E SS 2-HS-3-99B2, RESET TR-B MFW ISO	L AND
		VEF	RIFY the indicator light is OFF at 2-HS-3-99	B2.

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6.2 Steam Generator Loop 2 Valves (continued)

NOTE

Step 6.2[15] requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.						
[15]	[15] PRESS 2-HS-3-47A AND					
[15.	1] RECORD remote opening time at 2-HS-3-47A.					
	Seconds					
	M&TE No					
[15.:	2] RECORD local opening time at 2-FCV-3-47, SG #2 MFW ISOL VLV.					
	Seconds					
	M&TE No					
	ENSURE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, at 2-M-3 to NORMAL AND					
	VERIFY using light indication at 2-HS-3-47A that 2-FCV-3-47, SG #2 MFW ISOL VLV, is OPEN.					
	PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, at 2-M-3 to FORWARD FLUSH AND					
	VERIFY using light indication at 2-HS-3-47A that 2-FCV-3-47 CLOSES.					
	REMOVE Fuse 2-FU-275-R77/N1, at Panel 2-R-77 (to simulate opening of 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE by de-energizing Relay ZS2 (See DWG 2-45W600-57-33)).					
	<i>"</i>	1st				
		CV				

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			Date	
5.2	Stear	n Gen	erator Loop 2 Valves (continued)	
	[19]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL FCH, at 2-M-3 to BACK FLUSH AND	
			IFY using light indication at 2-HS-3-47A that 2-FCV-3-47, 2 MFW ISOL VLV, remains CLOSED.	
	[20]	REP	LACE Fuse 2-FU-275-R77/N1, at Panel 2-R-77 AND	
			IFY using light indication at 2-HS-3-47A that 2-FCV-3-47, 22 MFW ISOL VLV, OPENS. (Acc Crit) 5.0[2.4]	
				1st
				CV
	[21]	posit	CE 2-HS-3-47C, SG #2 FW ISOL VLV SW, in the CLOSE ion at 2-MCC-213-B2-B, 480V REACTOR MOV RD 2B2-B, Compt 3D AND	
		VER	IFY by light indication that 2-FCV-3-47 remains OPEN.	
	[22]	REA SG 2	IOVE Fuse 2-FU-213-B23/31N at 2-MCC-213-B2-B, 480V CTOR MOV BOARD 2B2-B at Compt 3D, 2-BKR-3-47, MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV) (760-3-6)	
				1st
				CV
	[23]	VER	IFY the following:	
	[2	3.1]	Red Light (VALVE OPEN) OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D, 2-BKR-3-47, SG #2 MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	
	[2	3.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D, 2-BKR-3-47, SG 2 MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	

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6.2	Stea	m Ge	nerator Loop 2 Valves (continued)	
	[2	3.3]	Red Light for POWER ON is OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D, 2-BKR-3-47, SG 1 MFW ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV).	
	[2	23.4]	Red Light OFF at 2-HS-3-47A.	
	[2	23.5]	Green Light OFF at 2-HS-3-47A.	
	[2	23.6]	IPCS Computer Point FD2199, SG2 FEEDWATER ISOLATION VALVE, indicates PWR OFF.	
	[24]		ACE 2-HS-3-47A, SG #2 FW ISOL VLV SW, in the CLOSE ition AND	
			RIFY 2-FCV-3-47, SG #2 MFW ISOL VLV, remains OPEN, ally (729/A15X).	
	[25]	posi	ACE 2-HS-3-47C, SG #2 FW ISOL VLV SW, in the CLOSE ition at 2-MCC-213-B2-B, 480V REACTOR MOV ARD 2B2-B, Compt 3D AND	
			RIFY 2-FCV-3-47, SG #2 MFW ISOL VLV, remains OPEN ally).	
	[26]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL ITCH, at 2-M-3 to NORMAL AND	
			RIFY that 2-FCV-3-47, SG #2 MFW ISOL VLV, remains EN (locally).	
	[27]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL ITCH, at 2-M-3 to FORWARD FLUSH AND	
			RIFY that 2-FCV-3-47, SG #2 MFW ISOL VLV, remains EN (locally).	
	[28]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL ITCH, at 2-M-3 to BACK FLUSH AND	
			RIFY that 2-FCV-3-47, SG #2 MFW ISOL VLV, remains EN (locally).	

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			Da	ate
6.2	Stear	m Ger	nerator Loop 2 Valves (continued)	
	[29]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to NORMAL AND	
			RIFY that 2-FCV-3-47, SG #2 MFW ISOL VLV, remains EN (locally).	
	[30]	NOF	SURE 2-HS-3-47C, STM GEN #2 ISOL VLV SW, in the RMAL position at 2-MCC-213-B2-B, 480V REACTOR MOV ARD 2B2-B, Compt 3D.	
	[31]	posi	tion at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, apt 3D.	
	[32]	VER	RIFY the following:	
	[32.1]		Red Light (VALVE OPEN) ON at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 3D, 2-BKR-3-47, SG #2 MFW ISOL (2-FCV-3-47).	
	[3	2.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 3D, 2-BKR-3-47, SG #2 MFW ISOL (2-FCV-3-47).	
	[3	2.3]	Red Light OFF at 2-HS-3-47A.	
	[3	2.4]	Green Light OFF at 2-HS-3-47A.	
	[3	2.5]	IPCS Computer Point FD2199, SG2 FEEDWATER ISOLATION VALVE, indicates PWR ON.	
	[3	2.6]	Unit 2 Events Display Recorder indicates 150-C 480 RX MOV BD 2B1-B/2B2-B IN AUX is in ALARM (Red).	
	[3	2.7]	Annunciator Panel 2-XA-55-6F, Window 150-C 480 RX MOV BD 2B1-B/2B2-B, ALARMS. (Acc Crit) 5.0[2.3]	
	[33]	480\	PLACE Fuse 2-FU-213-B23/31N at 2-MCC-213-B2-B, V REACTOR MOV BOARD 2B2-B at Compt 3D, KR-3-47, SG 2 MFW ISOL (2-FCV-3-47).	
		۲-۵۱۰	(1 () +1, 00 2 WII W 100L (2-1 0 V-0-41).	1st

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			Date
6.2	Steam	n Generator Loop 2 Valves (continued)	
	[34]	PLACE 2-HS-3-47C, SG #2 FW ISOL VLV SW, in the CLOSI position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D AND	E
		VERIFY by light indication at the breaker that 2-FCV-3-47 is CLOSED.	
	[35]	PLACE 2-HS-3-47A, SG 2 MFW ISOL VLV, in the OPEN position at 2-M-3 AND	
		VERIFY by light indication at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D that 2-FCV-3-47 remains CLOSED.	
	[36]	PLACE 2-HS-3-47C, SG #2 FW ISOL VLV SW, in the OPEN position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D AND	
		VERIFY by light indication at the breaker that 2-FCV-3-47 is OPEN.	
	[37]	ENSURE 2-HS-3-47C, SG #2 FW ISOL VLV SW, in the NORMAL position at 2-MCC-213-B2-B, 480V REACTOR MO BOARD 2B2-B, Compt 3D.	•V
	[38]	PLACE 2-HS-3-47A, SG 2 MFW ISOL VLV, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 3D that 2-FCV-3-47 remains OPEN.	
	[39]	PLACE 2-XS-3-47, SG #2 FW ISOL VLV TRF SW, to the NORMAL position at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 3D.	<u>.</u>
	[40]	VERIFY Unit 2 Events Display Recorder indicates 150-C 480 RX MOV BD 2B1-B/2B2-B IN AUX is NORMAL (Blue).	
	[41]	VERIFY 2-XA-55-6F, 150-C 480 RX MOV BD 2B1-B/2B2-B, CLEAR.	is

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			Da	te
6.2	Stea	m Gei	nerator Loop 2 Valves (continued)	
	[42]	disc MFV at 2-	wire 2 from the T1 Thermal Overload contact to onnect thermal overload circuitry from 2-BKR-3-47, SG #2 N ISOL (2-FCV-3-47, SG #2 MFW ISOL VLV), Compt 3D-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B. DWG 2-45W760-3-6)	1st
				CV
	[43]		RIFY Red Light is OFF at 2-MCC-213-B2-B, 480V Reactor V BD 2B2-B, Compt 6F.	
	[44]		ACE 2-HS-3-47A, SG 2 MFW ISOL VLV, in the CLOSE tion at 2-M-3 AND	
		VER	RIFY by light indication that 2-FCV-3-47 remains OPEN.	
	[45]	in ba	ESS AND HOLD the armature of overload bypass Relay K1 ack of 2-MCC-213-B2-B, 480V REACTOR MOV ARD 2B2-B, Compt 6F, to simulate an Overload Bypass.	
	[46]		ACE 2-HS-3-47A, SG 2 MFW ISOL VLV, in the CLOSE tion at 2-M-3 AND	
		VER	RIFY by light indication that 2-FCV-3-47 CLOSES.	
	[47]	REL	EASE the armature of overload bypass Relay K1.	
	[48]	6.2[4 MFV	ID wire 2 from the T1 Thermal Overload contact from Step 42] at 2-BKR-3-47, SG 2 MFW ISOL (2-FCV-3-47, SG #2 V ISOL VLV), Compt 3D at 480V REACTOR MOV ARD 2B2-B.	
		БОР	AND ZDZ-D.	1st
				CV
	[49]	PLA	CE 2-FIC-3-48, SG 2 MFW REG VLV at 2-M-3 in AUTO.	
	[50]		IUST Test Signal 3 from Step 6.2[2.9] (SG Loop 2 Steam v) to between 12 and 16 mAdc.	
	[51]	VER	RIFY the following:	
	[5	51.1]	Red Light (FCV-3-48) ON at 2-XX-3-35. (Acc Crit) 5.0[6.7]	

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				Date	
6.2	Steam	Gen	erator Loop 2 Valves (continued)		
	[51.	.2]	Green Light (FCV-3-48) OFF at 2-XX-3-35. (Acc Crit) 5.0[6.7]	-	
	[51.	.3]	2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, OPEN (locally 729/C12P).	-	
	[51.	.4]	IPCS Computer Point FD2358, SG2 & SG3 FW FLOW CONTROL, indicates ENERG	-	
	[51.	.5]	IPCS Computer Point FD2033, OPEN SG2 FW ISV 2-FCV-3-239, indicates ENERG	-	
	[51.	.6]	IPCS Computer Point FD2353, SG2 & SG3 FW FLOW CONTROL, indicates ENERG	-	
	[52]	ADJI	JST Test Signal 3 to between 12 and 8 mAdc.	_	
	[53]	VER	FY the following:		
	[53.	.1]	Red Light (FCV-3-48) OFF at 2-XX-3-35. (Acc Crit) 5.0[6.7]	-	
	[53.	.2]	Green Light (FCV-3-48) ON at 2-XX-3-35. (Acc Crit) 5.0[6.7]	-	
	[53.	.3]	2-FCV-3-48 CLOSES (locally).	-	
		PLA MAN	CE 2-FIC-3-48, SG #2 MFW REG VLV at 2-M-3 in UAL.	_	

NOTE

Steps 6.2[55-56] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[55]	ADJUST output of 2-FIC-3-48, SG #2 MFW REG VLV at	
	2-M-3 to 100% (full open) using RAMP function for fast	
	change.	

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6.2	Steam Ge	enerator Loop 2 Valves (continued)	
	[55.1]	RECORD 2-FCV-3-48 remote opening time using light indication at 2-XX-3-35, MFW REG Status Light Box at 2-M-3.	
		Seconds (≤ 20s)	
		M&TE No	
	[55.2]	RECORD local opening time at 2-FCV-3-48.	
		Seconds (≤ 20s)	
		M&TE No	
		JUST output of 2-FIC-3-48, SG 2 MFW REG VLV, at 2-M-3 0% (full closed) using RAMP function for fast change.	
	[56.1]	RECORD 2-FCV-3-48 remote closing time using light indication at 2-XX-3-35.	
		Seconds (≤ 20s)	
		M&TE No	
	[56.2]	RECORD local closing time at 2-FCV-3-48.	
		Seconds (≤ 20s)	
		M&TE No	
		JUST output of 2-FIC-3-48 to 100% (full open) using RAMP ction for fast change.	
		RIFY using light indication at 2-XX-3-35 that 2-FCV-3-48 ENS.	
		SURE 2-FCV-3-90, STEAM GENERATOR 3 MFW REG LVE, is in the OPEN position.	

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6.2 Steam Generator Loop 2 Valves (continued)

NOTE

Step 6.2[60] will cause 2-FCV-3-48A and 2-FCV-3-239 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.2-FCV-3-186 will also modulate throughout these next steps but is not tested for Acceptance Criteria until Step [89]

[60] P	LACE Jumper 7 from 4.3[3]C to the OPEN/OFF position.	
[60.1	RECORD remote closing time at 2-FCV-3-48A, SG #2 INLET FLOW CONT VLV BYPASS VLV using light indication at 2-XX-3-35A. (Acc Crit) 5.0[10.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.2	RECORD local closing time at 2-FCV-3-48A. (Acc Crit) 5.0[10.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.3	RECORD remote closing time at 2-FCV-3-239, STEAM GENERATOR 2 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[19.1], 5.0[19.6]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.4	RECORD local closing time at 2-FCV-3-239 (729/A15X). (Acc Crit) 5.0[19.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.5	VERIFY 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, remains OPEN, using light indication at 2-XX-3-35.	

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		D	ate
Steam	n Gen	erator Loop 2 Valves (continued)	
[60	0.6]	VERIFY 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, remains OPEN, using light indication at 2-XX-3-35.	
[60	0.7]	VERIFY IPCS Computer Point FD2033, OPEN SG2 FW ISV 2-FCV-3-239, indicates NOT ENE.	
[60	0.8]	VERIFY Indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	
[61]	PLA	CE Jumper 7 to the CLOSED/ON position.	
[62]		IFY using light indication at 2-XX-3-35A that V-3-48A remains CLOSED. (Acc Crit) 5.0[10.2]	
[63]	STE	IFY using light indication at 2-M-3 that 2-FCV-3-239, AM GENERATAOR 2 MFW BYPASS LINE ISOL, remains SED. (Acc Crit) 5.0[19.2]	
[64]	PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISOL AND	
	VER	IFY:	
[64	1 .1]	Using light indication at 2-XX-3-235A that 2-FCV-3-48A OPENS.	-
[64	1.2]	Using light indication at 2-M-3 that 2-FCV-3-239, STEAM GENERATAOR 2 MFW BYPASS LINE ISOL, OPENS.	
[64	1.3]	Indicator light is OFF at 2-HS-3-99A2, RESET TR-A MFW ISOL, at 2-M-3.	

NOTE

Step 6.2[65] will cause 2-FCV-3-242 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[65]	PLACE Jumper 9 from 4.3[4]A to the OPEN/OFF position.	
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Steam Gen	nerator Loop 2 Valves (continued)	
[65.1]	RECORD remote closing time at 2-FCV-3-242, STEAM GENERATOR 3 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[20.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[65.2]	RECORD local closing time at 2-FCV-3-242 (729/A15X). (Acc Crit) 5.0[20.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[65.3]	VERIFY IPCS Computer Point FD2210, OPEN SG3 FW ISV 2-FCV-3-242, indicates NOT ENER.	
[65.4]	VERIFY 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
[65.5]	VERIFY 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
[65.6]	VERIFY Indicator light is ON at 2-HS-3-99A2, RESET	

NOTE

TR-A MFW ISOL at 2-M-3.

Step 6.1[66] requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations. Jumper 7 and Jumper 9 are both required to be OPEN/OFF to simulate the Train A Feedwater Isolation Signal.

ater Is	olation Signal.	
[66]	PLACE Jumper 7 to the CLOSED/ON position (for ESFAS Train A relay reset).	

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6.2	Steam	n Generator Loop 2 Valves (continued)	
	[66	RECORD remote closing time at 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, using light indication at 2-XX-3-35. (Acc Crit) 5.0[6.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66]	RECORD local closing time at 2-FCV-3-48. (Acc Crit) 5.0[6.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66]	RECORD remote closing time at 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE using light indication at 2-XX-3-35. (Acc Crit) 5.0[7.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66	RECORD local closing time at 2-FCV-3-90 (740/T15N). (Acc Crit) 5.0[7.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
	[66	VERIFY IPCS Computer Point FD2353, SG2 &SG3 FW FLOW CONTROL, indicates DE-ENER	
	[66	VERIFY IPCS Computer Point FD2001, SG3 &SG2 FW FLOW CONTROL, indicates DE-ENER	·
	[66	VERIFY Indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	
		PLACE Jumper 7 to the CLOSED/ON position (for ESFAS Train A relay reset).	
		PLACE Jumper 9 to the CLOSED/ON position (for ESFAS Train A relay reset).	

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			Date	
6.2	Stean	n Gen	erator Loop 2 Valves (continued)	
STE		STE	IFY using light indication at 2-XX-3-35 that 2-FCV-3-48, AM GENERATOR 2 MFW REG VALVE, remains SED. (Acc Crit) 5.0[6.2]	
STEA		STE	IFY using light indication at 2-XX-3-35 that 2-FCV-3-90, AM GENERATOR 3 MFW REG VALVE, remains SED. (Acc Crit) 5.0[7.2]	
STE		STE	IFY using light indication at 2-M-3 that 2-FCV-3-242, AM GENERATAOR 3 MFW BYPASS LINE ISOL, remains SED. (Acc Crit) 5.0[20.2]	
	[72]	PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISOL AND	
		VER	IFY:	
	[72	2.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, OPENS.	
[72.2]		2.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, OPENS.	
	[72	2.3]	Using light indication at 2-M-3 that 2-FCV-3-242, STEAM GENERATAOR 3 MFW BYPASS LINE ISOL, OPENS.	
[72.4]		2.4]	Indicator light is OFF at 2-HS-3-99A2, RESET TR-A MFW ISOL, at 2-M-3.	
NOTE				
Step [73] will test the loss of Control Power. Using 2-HS-3-945A will also affect valves other loops.		alves in		
[73] PLACE 2-HS-3-945A, HAND SWITCH FOR CONTROL BUILDING ISOLATION, to OFF, located at 2-JB-292-8205, AND				
		VER	IFY:	
	[73	3.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-48 CLOSES. (Acc Crit) 5.0[6.5]	
[73.2]		3.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-90 CLOSES. (Acc Crit) 5.0[7.5]	

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		Date	
6.2	Steam Gen	nerator Loop 2 Valves (continued)	
	[73.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-48A CLOSES. (Acc Crit) 5.0[10.3]	
	[73.4]	Using light indication at 2-M-3 that 2-FCV-3-239 CLOSES. (Acc Crit) 5.0[19.5]	
		CE 2-HS-3-945A, HAND SWITCH FOR CONTROL DING ISOLATION, to ON AND	
	VER	RIFY:	
	[74.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-48 remains CLOSED.	,
	[74.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-90 remains CLOSED.	
	[74.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-48A remains CLOSED.	
	[74.4]	Using light indication at 2-M-3 that 2-FCV-3-239 remains CLOSED.	
	[75] PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISOL AND	
	VER	RIFY:	
	[75.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-48 OPENS.	
	[75.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-90 OPENS.	
	[75.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-48A OPENS.	
	[75.4]	Using light indication at 2-M-3 that 2-FCV-3-239 OPENS.	
	[75.5]	Indicator light is OFF at 2-HS-3-99A2	

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				Date
6.2	Steam	n Ge	nerator Loop 2 Valves (continued)	
	[76]		ACE 2-HS-3-47A, SG #2 FW ISOL VLV SW ition at 2-M-3 AND	, in the OPEN
		VEI	RIFY by light indication that 2-FCV-3-47 OP	ENS
			NOTE	
	following -3-45	step	s will test FORWARD FLUSH and BACK Fl	USH capability via
	[77]		ACE 2-HS-3-45, MFW RECIRCULATION C ITCH, at 2-M-3 to FORWARD FLUSH AND	
		VEI	RIFY:	
	[7]	7.1]	Using light indication at 2-HS-3-47, SG # SW, that 2-FCV-3-47 CLOSES. (Acc Cri	
	[7]	7.2]	Using light indication at 2-XX-3-35, that 2 STEAM GENERATOR 2 MFW REG VAL	· · · · · · · · · · · · · · · · · · ·
	[7]	7.3]	That 2-FCV-3-192, MFW DEAERATION ISOL VLV, OPENS.	LINE LOOP 4
	[78]		ACE 2-HS-3-45, MFW RECIRCULATION C ITCH, at 2-M-3 to BACK FLUSH AND	ONTROL
		VEI	RIFY:	
	[78	8.1]	Using light indication at 2-XX-3-35 that 2-STEAM GENERATOR 2 MFW REG VAL (Acc Crit) 5.0[6.6]	
	[78	8.2]	Using light indication at 2-HS-3-47A, SG VLV SW, that 2-FCV-3-47 OPENS when FULLY CLOSED. (Acc Crit) 5.0[2.6]	
	[78	8.3]	That 2-FCV-3-192, MFW DEAERATION ISOL VLV, remains OPEN.	LINE LOOP 4
	[79]		ACE 2-HS-3-45, MFW RECIRCULATION C ITCH, at 2-M-3 to NORMAL AND	ONTROL
		VEI	RIFY:	

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Stea	m Ger	nerator Loop 2 Valves (continued)	
[7	9.1]	Using light indication at 2-HS-3-47A, SG #2 FW ISOL VLV SW, that 2-FCV-3-47 remains OPEN.	
[7	9.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, OPENS.	
[7	9.3]	That 2-FCV-3-192, MFW DEAERATION LINE LOOP 4 ISOL VLV, CLOSES. (Acc Crit) 5.0[23.6]	
		CE 2-LIC-3-48A, SG #2 MFW BYPASS REG CONTROL M-3 in AUTO.	
[81]		UST Test Signal 5 (from Step 6.2[3.3]) for a voltage output yeen 0 and 5V at Panel 2-R-25. (NIS)	
[82]	VER	IFY the following:	
[8	2.1]	Red Light (FCV-3-48A) ON at 2-XX-3-35A.	
[8]	2.2]	Green Light (FCV-3-48A) OFF at 2-XX-3-35A,.	
[8]	2.3]	2-FCV-3-48A is OPEN (locally).	
		UST Test Signal 4 current source (from Step 6.2[2.12]) to Adc. (Steam Flow)	
[84]	ADJ	UST Test Signal 5 voltage output to 5V. (NIS)	
[85]		UST Test Signal 6 current source (from Step 6.2[3.6]) to nAdc. (Validated NIS)	
[86]	VER	IFY the following:	
[8]	6.1]	Red Light (FCV-3-48A) OFF at 2-XX-3-35A.	
[8]	6.2]	Green Light (FCV-3-48A) ON at 2-XX-3-35A.	·
[8	6.3]	2-FCV-3-48A is CLOSED (locally).	·
[87]		CE 2-LIC-3-48A, SG #2 MFW BYPASS REG CONTROL M-3 in MANUAL.	

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6.2 Steam Generator Loop 2 Valves (continued)

NOTE

Steps 6.2[88-89] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

•	UST output of 2-LIC-3-48A, SG #2 MFW BYPASS REG NTROL at 2-M-3 to 100% (full open) by using the RAMP tion.	
[88.1]	RECORD 2-FCV-3-48A remote opening time using light indication at 2-XX-3-35A.	
	Seconds (≤ 20s)	
	M&TE No	
[88.2]	RECORD local opening time at 2-FCV-3-48A.	
	Seconds (≤ 20s)	
	M&TE No	
	UST output of 2-LIC-3-48A to 0% (closed) by using the MP function.	
[89.1]	RECORD 2-FCV-3-48A remote closing time using light indication at 2-XX-3-35A.	
	Seconds (≤ 20s)	
	M&TE No	
[89.2]	RECORD local closing time at 2-FCV-3-48A.	
	Seconds (≤ 20s)	
	M&TE No	
_	RIFY by light indication at 2-XX-3-35A that 2-FCV-3-48A is	

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		Dat	e
Steam	n Ger	nerator Loop 2 Valves (continued)	
[91]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to FORWARD FLUSH AND	
	VER	NFY:	
[9:	1.1]	Using light indication at 2-XX-3-235, SG WATER HAMMER PREVENT, that 2-FCV-3-192, MFW DEAERATION LINE LOOP 2 ISOL, OPENS. (Acc Crit) 5.0[23.4]	
[9	1.2]	Red light OFF (FCV-3-186 Closed) at 2-XX-3-235. (Acc Crit) 5.0[15.5]	
[9	1.3]	Green light OFF (FCV-3-186 Closed) at 2-XX-3-235. (Acc Crit) 5.0[15.5]	
[9	1.4]	2-FCV-3-186, STEAM GENERATOR #2 MFW BACKFLUSH WARMING, OPEN (locally 729/A14X). (Acc Crit) 5.0[15.4]	
[9	1.5]	Using light indication at 2-XX-3-35, that 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, is OPEN.	
[92]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to BACK FLUSH AND	
	VER	IFY:	
[92	2.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-192, MFW DEAERATION LINE LOOP 2 ISOL, remains OPEN. (Acc Crit) 5.0[23.5]	
[92	2.2]	Red light ON (FCV-3-186 Open) at 2-XX-3-235. (Acc Crit) 5.0[15.5]	
[92	2.3]	Green light OFF (FCV-3-186 Open) at 2-XX-3-235. (Acc Crit) 5.0[15.5]	
[92	2.4]	2-FCV-3-186, STEAM GENERATOR #2 MFW BACKFLUSH WARMING, OPENS (locally 729/A14X) (Acc Crit). 5.0[15.4]	
[92	2.5]	Using light indication at 2-XX-3-35, that 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, CLOSES.	

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6.2	Stear	n Gei	nerator Loop 2 Valves (continued)	
	[93]	simu	MOVE Fuse 2-FU-275-R74/K13, at Panel 2-R-74 (to ulate opening of 2-FCV-3-48 by de-energizing Relay ZS5) /G 45N2689).	
		(,	1st
				CV
	[94]		RIFY using light indication at 2-XX-3-235 that 2-FCV-3-186 OSES.	
	[95]	REF	PLACE Fuse 2-FU-275-R74/K13, at Panel 2-R-74.	104
				1st
	[96]		RIFY using light indication at 2-XX-3-235 that 2-FCV-3-186 ENS.	CV
			NOTE	<u>.</u>
			es valve stroke timing locally and remotely. The initiation of a starting the next step will ensure equal recording times at all lo	
	[97]		ACE Jumper 7 to the OPEN/OFF position to simulate a n A Feedwater Isolation.	
	[9	7.1]	RECORD 2-FCV-3-186 remote closing time using light indication at 2-XX-3-235. (Acc Crit) 5.0[15.1]	
			Seconds (≤ 6.5s)	
			M&TE NO	
	[9	7.2]	RECORD local closing time at 2-FCV-3-186. (Acc Crit) 5.0[15.1]	
			Seconds (≤ 6.5s)	
			M&TE No.	

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6.2	Steam	Gen	erator Loop 2 Valves (continued)	
	[97.3	3]	VERIFY the indicator light is ON at 2-HS RESET TR-A MFW ISOL at 2-M-3.	S-3-99A2,
	[98] F	PLA	CE Jumper 7 to the CLOSED/ON position	ı
[99] VERIFY using light indication at 2-XX-3-235 that 2-FCV-3-186 remains CLOSED. (Acc Crit) 5.0[15.2]		nat 2-FCV-3-186		
	[100] F	PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISC	DL AND
	\	/ER	IFY:	
	[100).1]	Using light indication at 2-XX-3-235 that OPENS.	2-FCV-3-186,
	[100).2]	Indicator light is OFF at 2-HS-3-99A2.	
			NOTE	
will C posit	CLOSE and	the '-3-1	utilizes the 2-HS-3-192 pushbutton. When OPEN. At the same time, when 2-FCV-3-86 will OPEN PEN.	3-192 leaves the FULL OPEN

[101]	PRESS CLOSE Pushbutton 2-HS-3-192, MFW DEAERATION LINE LOOP 2 ISOL VLV at 2-JB-292-853, EL 729 Northeast Valve Room, outside.	
[102]	VERIFY , using light indication at 2-XX-3-235 that 2-FCV-3-192, MFW DEAERATION LINE LOOP 2 ISOL, CLOSES then OPENS.	
[103]	WHEN 2-FCV-3-192 leaves the FULL OPEN position, THEN	
	VERIFY , using light indication at 2-XX-3-235, that 2-FCV-3-186 CLOSES	
[104]	WHEN 2-FCV-3-192 returns to the FULL OPEN position, THEN	
	VERIFY , using light indication at 2-XX-3-235, that 2-FCV-3-186 OPENS.	

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				Date	
6.2	Stean	n Gen	erator Loop 2 Valves (continu	ed)	
	[105]		E Jumper 8 to the OPEN/OFF O Steam Generator level signal	•	
	[10)5.1]	RECORD 2-FCV-3-186 remote indication at 2-XX-3-235 at 2-N		
			Seconds (≤ 6.5s)		
			M&TE NO		
	[10)5.2]	RECORD local closing time at	2-FCV-3-186.	
			Seconds (≤ 6.5s)		
			M&TE NO		
	[106]	PLA	CE Jumper 8 to the CLOSED/O	N position.	
	[107]	VER OPE	FY Using light indication at 2-X NS.	X-3-235 that 2-FCV-3-186,	
NOTE					
	[108-10 s in othe			Using 2-HS-3-945A will also affect	İ
	[108]	BUIL	CE 2-HS-3-945A, HAND SWITC DING ISOLATION, to OFF, loca A12Q).		
	[109]		FY using light indication at 2-XXSES. (Acc Crit) 5.0[15.3]	(-3-35 that 2-FCV-3-186	
	[110]	BUIL	CE 2-HS-3-945A, HAND SWITC DING ISOLATION, to ON, locat A12Q).		
	[111]		FY using light indication at 2-XX ins CLOSED.	<-3-35 that 2-FCV-3-186	
	[112]	PRE	SS 2-HS-3-99A2, RESET TR-A	MFW ISOL AND	
		VER OPE	FY using light indication at 2-XX	(-3-235 that 2-FCV-3-186	

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		Da	te
6.2	Steam Gen	nerator Loop 2 Valves (continued)	
	•	CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to NORMAL AND	
	VER	IFY:	
	[113.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-186 CLOSES.	
	[113.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-48 OPENS.	
	[114] RES	TORE the 2-FCV-3-48 control loop as follows:	
	[114.1]	ENSURE 2-FIC-3-48, SG 2 MFW REG VLV at 2-M-3 in MANUAL.	
	[114.2]	REMOVE Test Signal 1 (SG Loop 2 MFW Flow) at Cable 2PM1433 from TB C2-6 at Panel 2-M-4.	
			1st
			CV
	[114.3]	LAND the following wires:	
		 Black wire in Cable 2PM1433 to TB C2-6 (3R8), Terminal 1, at Panel 2-M-4. (45W2643-6) 	
			1st
			CV
		 White wire in Cable 2PM1433 to TB C2-6 (3R9), Terminal 2, at Panel 2-M-4. 	
			1st
			CV
	[114.4]	REMOVE Test Signal 2 (SG Loop 2 MFW Flow) at Cable 2PM1434 from TB C2-6 at Panel 2-M-4.	
			1st
			CV

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		·)ate
6.2	Steam Ger	nerator Loop 2 Valves (continued)	
	[114.5]	LAND the following wires:	
		 Black wire in Cable 2PM1434 to TB C2-6 (8K8), Terminal 4, at Panel 2-M-4. (45W2643-6) 	
		, , ,	1st
			CV
		 White wire in Cable 2PM1434 to TB C2-6 (8K9), Terminal 5, at Panel 2-M-4. 	***
			1st
			CV
	[114.6]	REMOVE Test Signal 3 (SG Loop 2 Steam Flow) at Cable 2PM1459 from TB C2-19 at Panel 2-M-4.	
			1st
			CV
	[114.7]	LAND the following wires:	
		 Black wire in Cable 2PM1459 to TB C2-19 (3G7), Terminal 1, at Panel 2-M-4. (45W2643-6) 	
		,	1st
			CV
		 White wire in Cable 2PM1459 to TB C2-19 (3G8), Terminal 2, at Panel 2-M-4. (45W2643-6) 	
		· · · ·	1st
			CV
	[114.8]	REMOVE Test Signal 4 (SG Loop 2 Steam Flow) at Cable 2PM1457 from TB C2-19 at Panel 2-M-4.	
		,	1st
			CV

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Steam Ger	nerator Loop 2 Valves (continued)	
[114.9]	LAND the following wires:	
	 Black wire in Cable 2PM1457 to TB C2-19 (8F7), Terminal 4, at Panel 2-M-4. (45W2643-6) 	
		1st
		CV
	 White wire in Cable 2PM1457 to TB C2-19 (8F8), Terminal 5, at Panel 2-M-4. 	
		1st
		CV
[115] RES	TORE the 2-FCV-3-48A control loop as follows:	
[115.1]	VERIFY/PLACE 2-LIC-3-48A, SG 2 MFW BYPASS REG CONTROL at 2-M-3 in MANUAL.	
[115.2]	REMOVE Test Signal 5 (NIS Channel 2 Power) at Cable 2PM551from TB 25C at Panel 2-R-25. (45N2668-4)	
	,	1st
		CV
[115.3]	LAND the following wires:	
	 N40204 in Cable 2PM551 to TB 25C, Terminal 4, at Panel 2-R-25. 	
		1st
		CV
	 N40205 in Cable 2PM551 to TB 25C, Terminal 5, at Panel 2-R-25. 	
		1st
		CV
[115.4]	REMOVE Test Signal 6 (Validated NIS Power) at Cable 2PM8877 from TB 24W at Panel 2-R-24. (45N2668-3)	
	(1st
		CV

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Steam Ger	nerator Loop 2 Valves (continued)	
[115.5]	LAND the following wires:	
	 24W4 in Cable 2PM8877 to TB 24W, Terminal 4, at Panel 2-R-24. 	
		1st
		CV
	 24W5 in Cable 2PM8877 to TB 24W, Terminal 5, at Panel 2-R-24. 	
		1st
		CV
	STORE the Steam Generator 2 Feedwater Isolation Signals bllows:	
[116.1]	REMOVE Jumper 5 (Step 4.3[3]A) AND	
	LAND the black wire (2BP) in Cable 2SG127B to TB631-5 at 2-R-51.	
		1st
		CV
[116.2]	REMOVE Jumper 6 (Step 4.3[3]B) AND	
	LAND the black wire (3DCT) in Cable 2V3003B to TB622-5 at 2-R-51.	
		1st
		CV
[116.3]	REMOVE Jumper 7 (Step 4.3[3]C) AND	
	LAND the black wire (2AP) in Cable 2SG107A to TB631-5 at 2-R-48.	
		1st
		CV

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6.2 Steam Generator Loop 2 Valves (continued)

[116.4] **REMOVE** Jumper 8 (Step 4.3[3]D) AND

LAND the green wire (1A5) in Cable 2SG103A to TB633-1 at 2-R-48.

1st

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		Date	e
6.3	Steam Ge	nerator Loop 3 Valves	
	[1] VE F	RIFY prerequisites for this Subsection have been satisfied.	
		TUP the 2-FCV-3-90, STEAM GENERATOR 3 MFW REG LVE, control loop as follows:	
	[2.1]	ENSURE 2-FIC-3-90, SG 3-MFW REG VLV controller at 2-M-3 in MANUAL AND	
		ADJUST for 0 demand (no demand for MFW flow).	
		NOTE	
For	Steps 6.3[2.2]	through [3.7], the black wire is positive (+) and white wire is ne	gative (-)
	[2.2]	LIFT the following wires:	
		 Black wire in Cable 2PM1551 from TB C2-7 (4K8) at Panel 2-M-4. (See drawing 45W2643-6, 2- 45N2655-1B) 	
			1st
			CV
		 White wire in Cable 2PM1551 from TB C2-7 (4K9) at Panel 2-M-4. 	
			1st
			CV
	[2.3]	INSTALL a process calibrator to simulate Test Signal 1 (SG Loop 3 MFW Flow) at Cable 2PM1551.	
		M&TE No	4-1
			1st
			CV
	[2.4]	ADJUST Test Signal 1 current source to 4mAdc.	
	[2.5]	LIFT the following wires:	

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6.3	Steam Ger	nerator Loop 3 Valves (continued)	
		 Black wire in Cable 2PM1552 from TB C2-7 (7R8) at Panel 2-M-4 (Dwg 45W2643-6, 2-45N2655-1B) 	
		att and 2 m 1 (Bwg 1002010 0, 2 40112000 1B)	1st
			CV
		 White wire in Cable 2PM1552 from TB C2-7 (7R9) at Panel 2-M-4 	
			1st
			CV
	[2.6]	INSTALL a process calibrator to simulate Test Signal 2 (SG Loop 3 MFW Flow) at Cable 2PM1552.	
		M&TE No	
			1st
			CV
	[2.7]	ADJUST Test Signal 2 current source to the same setting of Step 6.3[2.4]	
	[2.8]	Lift the following wires:	
		 Black wire in Cable 2PM1578 from TB C2-20 (4F7) at Panel 2-M-4 (See Dwg 45W2643-6, 2-45N2655- 1B) 	
		· - /	1st
			CV
		 White wire in Cable 2PM1578 from TB C2-20 (4F8) at Panel 2-M-4 	
			1st
			CV

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6.3	Steam Ger	nerator Loop 3 Valves (continued)	
	[2.9]	INSTALL a process calibrator to simulate Test Signal 3 (SG Loop 3 Steam Flow) at Cable 2PM1578.	
		M&TE No	404
			1st
			CV
	[2.10]	ADJUST Test Signal 3 current source to the same setting of Step 6.3[2.4]	
	[2.11]	LIFT the following wires:	
		 Black wire in Cable 2PM1576 from TB C2-20 (7G7) at Panel 2-M-4. (45W2643-6, 2-45N2655-1B) 	
			1st
			CV
			OV
		 White wire in Cable 2PM1576 from TB C2-20 (7G8) at Panel 2-M-4. 	
		at Fallet 2-IVI-4.	
	,		CV
			CV
	[2.12]	INSTALL a process calibrator to simulate Test Signal 4 (SG Loop 3 Steam Flow) at Cable 2PM1576.	
		M&TE No.	
		Ma 12 No	1st
			CV
			OV
	[2.13]	ADJUST Test Signal 4 current source to the same setting of Step 6.3[2.4]	
	[2.14]	VERIFY the following:	
		A. Red Light (2-FCV-3-90) OFF at 2-XX-3-35, MFW REG Status Light Box at 2-M-3.	
		B. Green Light (FCV-3-90) ON at 2-XX-3-35.	
		C. 2-FCV-3-90 is CLOSED (locally 739/C12P).	

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		Date	
6.3	Steam Ge	enerator Loop 3 Valves (continued)	
		TUP the 2-FCV-3-90A, STEAM GENERATOR 3 MFW REG LVE, control loop as follows:	
	[3.1]	VERIFY/PLACE 2-LIC-3-90A, SG 3 MFW BYPASS REG CONTROL at 2-M-3-in MANUAL.	
	[3.2]	LIFT the following wires:	
		 N40207 (T7 - black) in Cable 2PM552 from TB 25C at Panel 2-R-25. (See Drawing 45N2668-4, 45N2652-2) 	
		40142002-2)	1st
			CV
		 N40208 (T8 - white) in Cable 2PM552 from TB 25C at Panel 2-R-25. 	
			1st
			CV
	[3.3]	INSTALL a process calibrator to simulate Test Signal 5 (Simulates NIS Channel 3 Power) at Cable 2PM552.	
		M&TE No	
			1st
			CV
	[3.4]	ADJUST Test Signal 5 voltage source to 2V.	
	[3.5]	LIFT the following wires:	
		 24W7 (T7 - black) in Cable 2PM 8880 from TB24W at Panel 2-R-24. (See Drawing 45N2668-3, 2- 45W2668-3A) 	
		10112000 0/19	1st
			CV

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Stea	m Ger	nerator Loop 3 Valves (continued)	
•		 24W8 (T8 - white) in Cable 2PM 8880 from TB24W at Panel 2-R-24. 	
			1st
			CV
[3	3.6]	INSTALL a process calibrator to simulate Test Signal 6 (Simulates Validated NIS Power) at Cable 2PM8880.	
		M&TE No	
			1st
			CV
[3	3.7]	ADJUST Test Signal 6 current source to 4mAdc.	
[3	3.8]	VERIFY the following:	
		A. Red Light (FCV-3-90A) OFF at 2-XX-3-35A, BYPASS REG Status Light Box at 2-M-3.	
		B. Green Light (FCV-3-90A) ON at 2-XX-3-35A.	
		C. 2-FCV-3-90A is CLOSED (locally, 729/T14P).	
[4]	BUIL	ACE 2-HS-3-945A, HAND SWITCH FOR CONTROL LDING ISOLATION, to ON, located at 2-JB-292-82057/A12Q).	
[5]	PRE	ESS 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3 AND	
	VER	RIFY the indicator light at 2-HS-3-99A2 is OFF.	
[6]	PRE	ESS 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3 AND	
	VER	RIFY the indicator light at 2-HS-3-99B2 is OFF.	
[7]	PLA	ACE 2-HS-3-87A, SG #3 MFW ISOL VLV, at 2-M-3 to the EN position AND	
	VER	RIFY:	
[7	7.1]	2-FCV-3-87, SG #3 MFW ISOL VLV FULLY OPENS (locally 729/A15U).	- Delter

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6.3	Steam Ge	enerator Loop 3 Valves (continued)	
	[7.2]	Red Light ON at 2-HS-3-87A. (Acc Crit) 5.0[3.4]	
	[7.3]	Green Light OFF at 2-HS-3-87A. (Acc Crit) 5.0[3.4]	
	[7.4]	Red Light ON at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD-2A2-A, Compt. 4D, 2-BKR-3-87, SG 3. MFW ISOL (2-FCV-3-87, SG #3 MFW ISOL VLV-A).	
	[7.5]	Green Light OFF at 2-MCC-213-A2-A.	
	[7.6]	POWER ON, Red Light ON at 2-BKR-3-87, SG 3 MFW ISOL.	
	[7.7]	IPCS Computer Point FD2030, SG3 FEEDWATER ISOLATION VALVE, indicates OPEN. (Acc Crit) 5.0[3.4]	
	[7.8]	IPCS Computer Point FD2056, SG3 FEEDWATER ISOLATION VALVE, indicates PWR ON.	
		ACE 2-HS-3-87A, SG #3 MFW ISOL VLV, in the CLOSE sition AND	
	VE	RIFY:	
	[8.1]	2-FCV-3-87 is CLOSED, locally (729/A14X).	
	[8.2]	Red Light OFF at 2-HS-3-87A. (Acc Crit) 5.0[3.4]	
	[8.3]	Green Light ON at 2-HS-3-87A. (Acc Crit) 5.0[3.4]	
	[8.4]	Red Light OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D, 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87, SG #3 MFW ISOL VLV).	
	[8.5]	Green Light ON at 2-BKR-3-87, SG 3 MFW ISOL.	
	[8.6]	IPCS Computer Point FD2030, SG3 FEEDWATER ISOLATION VALVE, indicates NOT OPEN. (Acc Crit) 5.0[3.4]	
	[9] PL	ACE 2-HS-3-87A in the OPEN position AND	
	VE	RIFY:	
	[9.1]	2-FCV-3-87 is OPEN, locally (729/A15U).	

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			Γ)ate
6.3	Stear	m Gei	nerator Loop 3 Valves (continued)	
	[9	.2]	Red Light ON at 2-HS-3-87A.	
	[9	.3]	Green Light OFF at 2-HS-3-87A.	
	[10]		SURE 2-HS-3-45, MFW RECIRCULATION CONTROL ITCH, at 2-M-3, to NORMAL AND	
			RIFY using light indication at 2-HS-3-87A that 2-FCV-3-87 PEN.	
			NOTE	
			es valve stroke timing locally and remotely. The initiation of starting the next step will ensure equal recording times at a	
	[11]		ACE Jumper 10 from Step 4.3[4]B to the CLOSED/ON tion to simulate a Train A Feedwater Isolation Signal.	
[11.1]		1.1]	RECORD remote closing time at 2-HS-3-87A. (Acc Crit) 5.0[3.1]	
			Seconds (≤ 6.5 seconds)	
			M&TE No	
[11.2]		1.2]	RECORD local closing time at 2-FCV-3-87, SG #3 MFW ISOL VLV. (Acc Crit) 5.0[3.1]	
			Seconds (≤ 6.5 seconds)	
			M&TE No	
	[1	1.3]	VERIFY the indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	
	[12]		ACE Jumper 10 to the OPEN/OFF position (For ESFAS n A relay reset).	
	[13]		RIFY using light indication at 2-HS-3-87A that 2-FCV-3-87, #3 MFW ISOL VLV, remains CLOSED. (Acc Crit) 5.0[3.2]	

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6.3	Stea	n Ger	nerator Loop 3 Valves (continued)	
	[14]	PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISOI	_ AND
		VER	IFY the indicator light is OFF at 2-HS-3-99.	A2
			NOTE	
		•	es valve stroke timing locally and remotely. starting the next step will ensure equal reco	
	[15]	PRE	SS 2-HS-3-87A AND	
	[1	5.1]	RECORD remote opening time at 2-HS-3	-87A.
			Seconds	
			M&TE No	-
	[1	5.2]	RECORD local opening time at 2-FCV-3-MFW ISOL VLV.	87, SG #3
			Seconds	
			M&TE No	
	[16]		URE 2-HS-3-45, MFW RECIRCULATION (TCH, at 2-M-3 to NORMAL AND	CONTROL
			IFY using light indication at 2-HS-3-87A tha ♯3 MFW ISOL VLV, is OPEN.	at 2-FCV-3-87,
	[17]		CE 2-HS-3-45, MFW RECIRCULATION COTCH, to FORWARD FLUSH AND	ONTROL
			IFY using light indication at 2-HS-3-87A that #3 MFW ISOL VLV, CLOSES.	at 2-FCV-3-87,

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6.3	Stean	n Generator Loop 3 Valves (continued)	
	[18]	REMOVE Fuse 2-FU-275-R74/K5, at Panel 2-R-74 (to simulate opening of 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE by de-energizing Relay ZS3 (See DWG 2-45W600-57-33)).	
		4011000 01 00)).	1st
			CV
	[19]	PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, to BACK FLUSH AND	
		VERIFY using light indication at 2-HS-3-87A that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains CLOSED.	
	[20]	REPLACE Fuse 2-FU-275-R74/K5, at Panel 2-R-74 AND	
		VERIFY using light indication at 2-HS-3-87A that 2-FCV-3-87, SG #3 MFW ISOL VLV, OPENS. (Acc Crit) 5.0[3.4]	
			1st
			CV
	[21]	PLACE 2-HS-3-87C, SG #3 FW ISOL VLV SW, in the CLOSE position at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D AND	
		VERIFY by light indication that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains OPEN.	
	[22]	REMOVE Fuse 2-FU-213-A24/31N at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A (Dwg 45W760-3-7)	
			1st
			CV
	[23]	VERIFY the following:	
	[23	Red Light (VALVE OPEN) OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D, 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87, SG #3 MFW ISOL VLV).	

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			Dat	te
6.3	Stear	n Ger	nerator Loop 3 Valves (continued)	
	[2:	3.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D, 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87, SG #3 MFW ISOL VLV).	
	[2:	3.3]	Red Light for POWER ON is OFF at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D, 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87, SG #3 MFW ISOL VLV).	
	[2:	3.4]	Red Light OFF at 2-HS-3-87A.	
	[2	3.5]	Green Light OFF at 2-HS-3-87A.	
	[2	3.6]	IPCS Computer Point FD2056, SG3 FEEDWATER ISOLATION VALVE, indicates PWR OFF	
	[24]		CE 2-HS-3-87A, SG #1 FW ISOL VLV SW, in the CLOSE tion AND	
			IFY that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains N, locally (729/A14X).	
	[25]	posi	CE 2-HS-3-87C, SG #3 FW ISOL VLV SW, in the CLOSE tion at 2-MCC-213-A2-A, 480V REACTOR MOV ARD 2A2-A, Compt 4D AND	
			IFY that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains N (locally).	
	[26]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to NORMAL AND	
			IFY that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains N (locally).	
	[27]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to FORWARD FLUSH AND	
			IFY that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains IN (locally).	

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6.3	Stear	n Gen	erator Loop 3 Valves (continued)	
	[28]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL CH, to BACK FLUSH AND	
			I FY that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains N (locally).	
	[29]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to NORMAL AND	
			IFY that 2-FCV-3-87, SG #3 MFW ISOL VLV, remains N (locally).	
	[30]	NOR	URE 2-HS-3-87C, STM GEN #3 ISOL VLV SW, in the MAL position at 2-MCC-213-A2-A, 480V REACTOR MOV RD 2A2-A, Compt 4D.	
	[31]	posit	CE 2-XS-3-87, SG #3 FW ISOL VLV TRF SW, to the AUX ion at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, pt 4D.	
	[32]	VER	IFY the following:	
	[3:	2.1]	Red Light (VALVE OPEN) ON at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 4D, 2-BKR-3-87, SG #3 MFW ISOL (2-FCV-3-87).	
	[3:	2.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 4D, 2-BKR-3-87, SG #3 MFW ISOL (2-FCV-3-87).	
	[3:	2.3]	Red Light OFF at 2-HS-3-87A.	
	[3:	2.4]	Green Light OFF at 2-HS-3-87A.	
	[3:	2.5]	IPCS Computer Point FD2056, SG3 FEEDWATER ISOLATION VALVE, indicates PWR ON.	
	[3:	2.6]	Unit 2 Events Display Recorder indicates 149-C 480 RX MOV BD 2A1-A/2A2-A IN AUX is in ALARM (Red).	
	[3:	2.7]	Annuciator Panel 2-XA-55-6F, Window 149-C 480 RX MOV BD 2A1-A/2A2-A, ALARMS. (Acc Crit) 5.0[3.3]	

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6.3	Stean	n Generator Loop 3 Valves (continued)		
	[33]	REPLACE Fuse 2-FU-213-A24/31N at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A at Compt 4D, 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87, SG #3 MFW ISOVLV).)L	
		VLV).	_	1st
			_	CV
	[34]	PLACE 2-HS-3-87C, SG #3 FW ISOL VLV SW, in the CLOS position at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D AND	E	
		VERIFY by light indication at the breaker that 2-FCV-3-87 is CLOSED.	_	
	[35]	PLACE 2-HS-3-87A, STM GEN #3 FW ISOL VLV SW, in the OPEN position at 2-M-3 AND		
		VERIFY by light indication at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D that 2-FCV-3-87 remains CLOSED.	-	
	[36]	PLACE 2-HS-3-87C, SG #3 FW ISOL VLV SW, in the OPEN position at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D AND		
		VERIFY by light indication at the breaker that 2-FCV-3-87 is OPEN.	-	
	[37]	ENSURE 2-HS-3-87C, SG #3 FW ISOL VLV SW, in the NORMAL position at 2-MCC-213-A2-A, 480V REACTOR MO BOARD 2A2-A, Compt 4D.	V -	
	[38]	PLACE 2-HS-3-87A, STM GEN #3 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND		
		VERIFY by light indication at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 4D that 2-FCV-3-87 remains OPEN.	-	
	[39]	PLACE 2-XS-3-87, SG #3 FW ISOL VLV TRF SW, to the NORMAL position at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 4D.		

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6.3	Stea	m Generator Loop 3 Valves (continued)	
	[40]	VERIFY Unit 2 Events Display Recorder indicates 149-C 480 RX MOV BD 2A1-A/2A2-A IN AUX is NORMAL (Blue).	
	[41]	VERIFY 2-XA-55-6F, 149-C 480 RX MOV BD 2A1-A/2A2-A, is CLEAR.	
	[42]	LIFT wire 2 from the T1 Thermal Overload contact to disconnect thermal overload circuitry from 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87), Compt 4D at 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A. (See DWG 2-45W760-3-7)	
			1st
			CV
	[43]	VERIFY Red Light is OFF at 2-MCC-213-A2-A, 480V Reactor MOV BD 2A2-A, Compt 6D.	
	[44]	PLACE 2-HS-3-87A, STM GEN #3 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication that 2-FCV-3-87 remains OPEN.	
	[45]	PRESS AND HOLD the armature of overload bypass Relay K2 in back of 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A, Compt 6D, to simulate an Overload Bypass.	
	[46]	PLACE 2-HS-3-87A, STM GEN #3 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication that 2-FCV-3-87 CLOSES.	
	[47]	RELEASE the armature of overload bypass Relay K2.	
	[48]	LAND wire 2 from the T1 Thermal Overload contact from Step 6.3[42] at 2-BKR-3-87, SG 3 MFW ISOL (2-FCV-3-87), Compt 4D at 480V REACTOR MOV BOARD 2A2-A.	
			1st
			CV
	[49]	PLACE 2-FIC-3-90, SG 3 MFW REG VLV at 2-M-3 in AUTO.	
	[50]	ADJUST Test Signal 3 from Step 6.3[2.9] (SG Loop 3 Steam Flow) to between 12 and 16 mAdc.	

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6.3	Steam Ger	nerator Loop 3 Valves (continued)	
	[51] VER	IFY the following:	
	[51.1]	Red Light (FCV-3-90) ON at 2-XX-3-35. (Acc Crit) 5.0[7.7]	
	[51.2]	Green Light (FCV-3-90) OFF at 2-XX-3-35. (Acc Crit) 5.0[7.7]	
	[51.3]	2-FCV-3-90 OPEN (locally, 740/T15N).	
	[51.4]	IPCS Computer Point FD2001, SG3 & SG2 FW FLOW CONTROL, indicates ENERG.	
	[51.5]	IPCS Computer Point FD2210, OPEN SG3 FW ISV 2-FCV-3-242, indicates ENERG.	
	[51.6]	IPCS Computer Point FD2003, SG3 & SG2 FW FLOW CONTROL, indicates ENERG.	
	[52] ADJ	UST Test Signal 3 to between 12 and 8 mAdc.	
	[53] VER	IFY the following:	
	[53.1]	Red Light (FCV-3-90) OFF at 2-XX-3-35. (Acc Crit) 5.0[7.7]	
	[53.2]	Green Light (FCV-3-90) ON at 2-XX-3-35. (Acc Crit) 5.0[7.7]	
	[53.3]	2-FCV-3-90 CLOSES (locally).	
		CE 2-FIC-3-90, SG 3 MFW REG VLV at 2-M-3 in IUAL.	

NOTE

Steps 6.3[55-56] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[55]	ADJUST output of 2-FIC-3-90, SG 3 MFW REG VLV at 2-M-3	
	to 100% (full open) using RAMP function for fast change.	

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6.3	Steam	Generator Loop 3 Valves (continued)	
	[55.	RECORD 2-FCV-3-90 remote opening time using light indication at 2-XX-3-35.	
		Seconds (≤ 20 seconds)	
		M&TE No	
	[55.	RECORD local opening time at 2-FCV-3-90.	
		Seconds (≤ 20 seconds)	
		M&TE No	
		ADJUST output of 2-FIC-3-90, SG 3 MFW REG VLV, at 2-M-3 to 0% (full closed) using RAMP function for fast change.	
	[56	RECORD 2-FCV-3-90 remote closing time using light indication at 2-XX-3-35.	
		Seconds (≤ 20 seconds)	
		M&TE No	
	[56	RECORD local closing time at 2-FCV-3-90.	
		Seconds (≤ 20 seconds)	
		M&TE No	·
		ADJUST output of 2-FIC-3-90, SG 3 MFW REG VLV at 2-M-3 to 100% (full open) using RAMP function for fast change.	,
		VERIFY using light indication at 2-XX-3-35, that 2-FCV-3-90 OPENS.	
		ENSURE 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, is in the OPEN position.	

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6.3 Steam Generator Loop 3 Valves (continued)

NOTE

Step 6.3[60] will cause 2-FCV-3-90A and 2-FCV-3-242 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations. 2-FCV-3-187 will also modulate throughout these next steps but is not tested for Acceptance Criteria until Step [89]

[60] PLA	ACE Jumper 11 from 4.3[4]C to the OPEN/OFF position.	
[60.1]	RECORD remote closing time at 2-FCV-3-90A, SG #3 INLET FLOW CONT VLV BYPASS VLV, using light indication at 2-XX-3-35A. (Acc Crit) 5.0[11.1]	
	Seconds (≤ 6.5 seconds)	
	M&TE No	
[60.2]	RECORD local closing time at 2-FCV-3-90A. (Acc Crit) 5.0[11.1]	
	Seconds (≤ 6.5 seconds)	
	M&TE No	
[60.3]	RECORD remote closing time at 2-FCV-3-242, STEAM GENERATOR 3 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[20.3], 5.0[20.6]	
	Seconds (≤ 6.5 seconds)	
	M&TE No	
[60.4]	RECORD local closing time at 2-FCV-3-242 (729/A15X) (Acc Crit) 5.0[20.3]	
	Seconds (≤ 6.5 seconds)	
	M&TE No	

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6.3	Steam	n Gen	nerator Loop 3 Valves (continued)	
	[60.5]		VERIFY 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
	[60	0.6]	VERIFY 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
	[60	0.7]	VERIFY IPCS Computer Point FD2210, OPEN SG3 FW ISV 2-FCV-3-242, indicates NOT ENER.	
	[60	[8.0	VERIFY Indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	
	[61]	PLA	CE Jumper 11 to the CLOSED/ON position.	<u></u>
	[62]		IFY using light indication at 2-XX-3-35A that CV-3-90A remains CLOSED. (Acc Crit) 5.0[11.2]	
	[63]	STE	IFY using light indication at 2-M-3 that 2-FCV-3-242, AM GENERATAOR 3 MFW BYPASS LINE ISOL, remains SED. (Acc Crit) 5.0[20.4]	
	[64]	PRE	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
	VER		IFY:	
	[64	4.1]	Using light indication at 2-XX-3-35A, that 2-FCV-3-90A OPENS.	
	[64	4.2]	Using light indication at 2-M-3 that 2-FCV-3-242, STEAM GENERATAOR 3 MFW BYPASS LINE ISOL, OPENS.	
	[64	4.3]	Indicator light is OFF at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	

NOTE

Step 6.3[65] will cause 2-FCV-3-239 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[65]	PLACE Jumper 5 from 4.3[3]A to the OPEN/OFF position.	

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		Date _	
5.3	Steam Ger	nerator Loop 3 Valves (continued)	
	[65.1]	RECORD remote closing time at 2-FCV-3-239, STEAM GENERATOR 2 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[19.3]	
		Seconds (≤ 6.5 seconds)	
		M&TE No	
	[65.2]	RECORD local closing time at 2-FCV-3-239 (Acc Crit) 5.0[19.3]	
		Seconds (≤ 6.5 seconds)	
		M&TE No	
	[65.3]	VERIFY IPCS Computer Point FD2033, OPEN SG2 FW ISV 2-FCV-3-239, indicates NOT ENE.	W75
	[65.4]	VERIFY 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
	[65.5]	VERIFY 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, remains OPEN using light indication at 2-XX-3-35.	
	[65.6]	VERIFY Indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	

NOTE

Step 6.1[66] requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations. Jumper 11 and Jumper 5 are both required to be OPEN/OFF to simulate the Train B Feedwater Isolation Signal.

[66] PLACE Jumper 11 from 4.3[4]C to the OPEN/OFF position to simulate a Train B Feedwater Isolation Signal.		solation Signal.	
	[66]	, , , , , , , , , , , , , , , , , , ,	

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6.3	.3 Steam Gene		nerator Loop 3 Valves (continued)		
	[6	6.1]	RECORD remote closing time for 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE using light indication at 2-XX-3-35. (Acc Crit) 5.0[7.3]	1	
			Seconds (≤ 6.5s)		
			M&TE No	_	
	[6	6.2]	RECORD local closing time at 2-FCV-3-90. (Acc Crit) 5.0[7.3]		
			Seconds (≤ 6.5s)		
			M&TE NO	_	
	[6	6.3]	RECORD remote closing time at 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE using light indication at 2-XX-3-35. (Acc Crit) 5.0[6.3]	า	
			Seconds (≤ 6.5 seconds)		
			M&TE No		
	[6	6.4]	RECORD local closing time at 2-FCV-3-48. (Acc Crit) 5.0[6.3]		
			Seconds (≤ 6.5 seconds)		
			M&TE No	_	
[66.5]		6.5]	VERIFY IPCS Computer Point FD2358, SG2 & SG3 FW FLOW CONTROL, indicates DE-ENER.	' —	
	[60	6.6]	VERIFY IPCS Computer Point FD2003, SG3 & SG2 FW FLOW CONTROL, indicates DE-ENER.	' —	. <u>.</u>
	[6	6.7]	VERIFY Indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	_	
	[67]		CE Jumper 11 to the CLOSED/ON position (for ESFAS B relay reset).	_	
	[68]		CE Jumper 5 to the CLOSED/ON position (for ESFAS B) B relay reset).		

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6.3	Steam	n Gen	erator Loop 3 Valves (continued)		
STE		STEA	FY using light indication at 2-XX-3-35 that 2-FCV-3-90, AM GENERATOR 3 MFW REG VALVE, remains SED. (Acc Crit) 5.0[7.4]		
	[70]	STEA	FY using light indication at 2-XX-3-35 that 2-FCV-3-48, AM GENERATOR 2 MFW REG VALVE, remains SED. (Acc Crit) 5.0[6.4]		
	[71]	STEA	FY using light indication at 2-M-3 that 2-FCV-3-239, AM GENERATAOR 2 MFW BYPASS LINE ISOL, remains SED. (Acc Crit) 5.0[19.4]		
	[72]	PRES	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND		
		VERI	FY:		
	[72	2.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, OPENS.		
	[72	2.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-48, STEAM GENERATOR 2 MFW REG VALVE, OPENS.		
[72.3]		2.3]	Using light indication at 2-M-3 that 2-FCV-3-239, STEAM GENERATAOR 2 MFW BYPASS LINE ISOL, OPENS.		
[72.4] Indicator light is OFF at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.					
			NOTE		
	Steps 6.3[xxxxx] will test the loss of Control Power. Using 2-HS-3-945A will also affect valves in other loops.				
	[73] PLACE 2-HS-3-945B, HAND SWITCH FOR CONTROL BUILDING ISOLATION, to OFF, located at 2-JB-292-8223 (757/A11Q) AND				
		VERI	FY:		
	[73.1] Using light indication at 2-XX-3-35 that 2-FCV-3-90 CLOSES. (Acc Crit) 5.0[7.5]				

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6.3	Steam Ge	nerator Loop 3 Valves (continued)	
	[73.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-48 CLOSES. (Acc Crit) 5.0[6.5]	
	[73.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-90A, CLOSES. (Acc Crit) 5.0[11.3]	
	[73.4]	Using light indication at 2-M-3 that 2-FCV-3-242 CLOSES. (Acc Crit) 5.0[20.5]	
		ACE 2-HS-3-945B, HAND SWITCH FOR CONTROL LDING ISOLATION, to ON AND	
	VER	RIFY:	
	[74.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-90 remains CLOSED.	
	[74.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-48, remains CLOSED.	
	[74.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-90A remains CLOSED.	
	[74.4]	Using light indication at 2-M-3 that 2-FCV-3-242 remains CLOSED.	
	[75] PRE	ESS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
	VER	RIFY:	
	[75.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-90 OPENS.	
	[75.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-48 OPENS.	
	[75.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-90A OPENS.	
	[75.4]	Using light indication at 2-M-3 that 2-FCV-3-242 OPENS.	
	[75.5]	Indicator light is OFF at 2-HS-3-99B2	

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			Date	
6.3	Stear	n Ge	enerator Loop 3 Valves (continued)	
	[76]		ACE 2-HS-3-87A, SG #3 FW ISOL VLV SW, in the OPEN sition at 2-M-3 AND	
		VEF	RIFY by light indication that 2-FCV-3-87 OPENS.	
			NOTE	
	following 3-3-45	step	os will test FORWARD FLUSH and BACK FLUSH capability via	
	[77]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL /ITCH, at 2-M-3 to FORWARD FLUSH AND	
		VEF	RIFY:	
	[7	7.1]	Using light indication at 2-HS-3-87A, SG #3 FW ISOL VLV SW, that 2-FCV-3-87 CLOSES. (Acc Crit) 5.0[3.5]	
	[7	7.2]	Using light indication at 2-XX-3-35, that 2-FCV-3-90 remains OPEN.	
	[7	7.3]	That 2-FCV-3-193, MFW DEAERATION LINE LOOP 4 ISOL VLV, OPENS.	
	[78]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL /ITCH, to BACK FLUSH AND	
		VEF	RIFY:	
	[7	8.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, CLOSES. (Acc Crit) 5.0[7.6]	
	[7	8.2]	Using light indication at 2-HS-3-87A, SG #3 FW ISOL VLV SW, that 2-FCV-3-87 OPENS when 2-FCV-3-90 is FULLY CLOSED. (Acc Crit) 5.0[3.6]	
	[7	8.3]	That 2-FCV-3-193, MFW DEAERATION LINE LOOP 4 ISOL VLV. remains OPEN.	

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Ste	eam	Gen	erator Loop 3 Valves (continued)	
[79]]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL FCH, to NORMAL AND	
		VER	IFY:	
	[79	.1]	Using light indication at 2-HS-3-87A, SG #3 FW ISOL VLV SW, that 2-FCV-3-87 remains OPEN.	
	[79	.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, OPENS.	
	[79	.3]	That 2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV, CLOSES. (Acc Crit) 5.0[24.6]	
[80]]		CE 2-LIC-3-90A, SG 3 MFW BYPASS REG CONTROL at 3 in AUTO.	
[81]		UST Test Signal 5 (from Step 6.3[3.3]) for a voltage output een 0 and 5V at Panel 2-R-25. (NIS)	
[82]	VER	IFY the following:	
	[82	2.1]	Red Light (FCV-3-90A) ON at 2-XX-3-35A.	
	[82	2]	Green Light (FCV-3-90A) OFF at 2-XX-3-35A.	
	[82	3]	2-FCV-3-90A is OPEN (locally).	
[83]]		UST Test Signal 4 current source (from Step 6.3[2.12]) to Adc. (Steam Flow)	
[84]]	ADJ	UST Test Signal 5 voltage output to 5V. (NIS)	
[85]]		UST Test Signal 6 current source (from Step 6.3[3.6]) to Adc. (Validated NIS)	
[86]]	VER	IFY the following:	
	[86	5.1]	Red Light (FCV-3-90A) OFF at 2-XX-3-35A.	
	[86	5.2]	Green Light (FCV-3-90A) ON at 2-XX-3-35A.	
	[86	5.3]	2-FCV-3-90A is CLOSED (locally).	
[87]]		CE 2-LIC-3-90A SG 3 MFW BYPASS REG CONTROL at 3 in MANUAL.	

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6.3 Steam Generator Loop 3 Valves (continued)

NOTE

Steps 6.3[88-89] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

s.			
[88]		JST output of 2-LIC-3-90A, SG 3 MFW BYPASS REG TROL at 2-M-3 to 100% (full open) by using the RAMP on.	
[88]	3.1]	RECORD 2-FCV-3-90A remote opening time using light indication at 2-XX-3-35A.	
		Seconds (≤ 20 seconds)	
		M&TE No	
[88]	3.2]	RECORD local opening time at 2-FCV-3-90A.	
		Seconds (≤ 20 seconds)	
		M&TE No	
[89]		JST output of 2-LIC-3-90A, SG 3 MFW BYPASS REG TROL at 2-M-3 to 0% (closed) by using the RAMP on.	
[89]	9.1]	RECORD 2-FCV-3-90A remote closing time using light indication at 2-XX-3-35A.	
		Seconds (≤ 20 seconds)	
		M&TE No	
[89	9.2]	RECORD local closing time at 2-FCV-3-90A.	
		Seconds (≤ 20 seconds)	
		M&TE No	
[90]	VERI CLOS	FY by light indication at 2-XX-3-35A that 2-FCV-3-90A is SED.	

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6.3	Stear	n Ger	nerator Loop 3 Valves (continued)	
	[91]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, at 2-M-3 to FORWARD FLUSH AND	
		VER	RIFY:	
	[9	1.1]	Using light indication at 2-XX-3-235, SG WATER HAMMER PREVENT, that 2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL, OPENS. (Acc Crit) 5.0[24.4]	
	[9	1.2]	Red light OFF (FCV-3-187 Closed) at 2-XX-3-235. (Acc Crit) 5.0[16.5]	
	. [9	1.3]	Green light ON (FCV-3-187 Closed) at 2-XX-3-235. (Acc Crit) 5.0[16.5]	
	[9	1.4]	2-FCV-3-187, STEAM GENERATOR 3 MFW BACKFLUSH WARMING, OPEN (locally 729/A14X)	
	[9	1.5]	Using light indication at 2-XX-3-35, that 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, is OPEN.	
	[92]		ACE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to BACK FLUSH AND	
	•	VER	RIFY:	
	[9	2.1]	Using light indication at 2-XX-3-235, that 2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL, remains OPEN. (Acc Crit) 5.0[24.5]	
	[9	2.2]	Red light ON (FCV-3-187 Open) at 2-XX-3-235. (Acc Crit) 5.0[16.5]	
	[9	2.3]	Green light OFF (FCV-3-187 Open) at 2-XX-3-235. (Acc Crit) 5.0[16.5]	
	[9	2.4]	2-FCV-3-187, STEAM GENERATOR #3 MFW BACKFLUSH WARMING, Opens (locally 729/A14X). (Acc Crit) 5.0[16.4]	
	[9	2.5]	Using light indication at 2-XX-3-35, that 2-FCV-3-90, STEAM GENERATOR 3 MFW REG VALVE, CLOSES.	

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6.3	Stea	m Ger	nerator Loop 3 Valves (continued)	
	[93]	simu MFV	MOVE Fuse 2-FU-275-R77/K4, at Panel 2-R-77 (to alate opening of 2-FCV-3-90, STEAM GENERATOR 3 NREG VALVE by de-energizing Relay ZS8). (DWG 2692-1)	
				1st
				CV
	[94]		RIFY using light indication at 2-XX-3-235 that 2-FCV-3-187 OSES.	
	[95]	REP	PLACE Fuse 2-FU-275-R77/K4, at Panel 2-R-77.	
				1st
				CV
	[96]	VER OPE	RIFY using light indication at 2-XX-3-235 that 2-FCV-3-187 ENS.	
			NOTE	
seco			2] require valve stroke timing locally and remotely. The initiatio before starting the next step will ensure equal recording times	
	[97]		CE Jumper 11 to the OPEN/OFF position to simulate a n B Feedwater Isolation.	
	[9	7.1]	RECORD 2-FCV-3-187 remote closing time using light indication at 2-XX-3-235 at 2-M-3. (Acc Crit) 5.0[16.1]	
			Seconds (≤ 6.5 seconds)	
			M&TE NO	
	[9	7.2]	RECORD local closing time at 2-FCV-3-187. (Acc Crit) 5.0[16.1]	
			Seconds (≤ 6.5 seconds)	
			M&TE No.	

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6.3	Steam	n Gen	erator Loop 3 Valves (continued)	
	[9]	7.3]	VERIFY the indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.	
	[98]	PLA	CE Jumper 11 to the CLOSED/ON position.	
	[99]		IFY using light indication at 2-XX-3-235 that 2-FCV-3-187 ains CLOSED. (Acc Crit) 5.0[16.2]	
	[100]	PRE	SS 2-HS-3-99B2 AND	
		VER	IFY:	
	[10	00.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-187 OPENS.	
	[10	00.2]	Indicator light is OFF at 2-HS-3-99B2.	
, , , , , , , , , , , , , , , , , , ,			NOTE	
will C positi	LOSE a	nd the CV-3-1	utilizes the 2-HS-3-193 pushbutton. When it is pressed, 2-FCVe OPEN. At the same time, when 2-FCV-3-193 leaves the FUI 87 will CLOSE. 2-FCV-3-1857 will OPEN again when 2-FCV-PEN.	LL OPEN
	[101]	LINE	SS CLOSE Pushbutton 2-HS-3-193, MFW DEAERATION ELOOP 3 ISOL VLV at 2-JB-292-853, EL 729 Northeast e Room, outside.	
	[102]		IFY, using light indication at 2-XX-3-235, that CV-3-193 CLOSES and then OPENS.	
	[103]	WHE	EN 2-FCV-3-193 leaves the FULL OPEN position, THEN	
			IFY, using light indication at 2-XX-3-235, that V-3-187 CLOSES.	
	[104]	WHE	EN 2-FCV-3-193 returns to the FULL OPEN position,	
		VER OPE	IFY, using light indication at 2-XX-3-235 that 2-FCV-3-187 NS.	

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			ate
6.3	Steam	Generator Loop 3 Valves (continued)	
		PLACE Jumper 12 to the OPEN/OFF position to simulate a LO-LO Steam Generator level signal.	
	[10	5.1] RECORD 2-FCV-3-187 remote closing time using light indication at 2-XX-3-235 at 2-M-3.	
		Seconds (≤ 6.5s)	
		M&TE NO	
	[105	5.2] RECORD local closing time at 2-FCV-3-187.	
		Seconds (≤ 6.5s)	
		M&TE No	
	[106]	PLACE Jumper 12 to the CLOSED/ON position.	·
		VERIFY Using light indication at 2-XX-3-235 that 2-FCV-3-187 OPENS.	
		NOTE	
	6.3[108-1 s in other	09] will test the loss of Control Power. Using 2-HS-3-945B will loops.	also affect
		PLACE 2-HS-3-945B, HAND SWITCH FOR CONTROL BUILDING ISOLATION, to OFF, located at 2-JB-292-8223.	
		VERIFY, using light indication at 2-XX-3-235 that 2-FCV-3-187 CLOSES. (Acc Crit) 5.0[16.3]	
		PLACE 2-HS-3-945B, HAND SWITCH FOR CONTROL BUILDING ISOLATION, to ON, located at 2-JB-292-8223.	
		VERIFY , using light indication at 2-XX-3-235 that 2-FCV-3-187 remains CLOSED.	

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6.3	Stean	n Gen	erator Loop 3 Valves (continued)	
	[112]	PRE	SS 2-HS-3-99B2, RESET TR-B MFW ISOL AND	
			IFY, using light indication at 2-XX-3-235 that V-3-187 OPENS.	
	[113]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL FCH, at 2-M-3 to NORMAL AND	
		VER	IFY:	
	[11	13.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-187 CLOSES.	
	[11	13.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-90 OPENS.	
	[114]	RES [®]	TORE the 2-FCV-3-90 control loop as follows:	
	[11	14.1]	ENSURE 2-FIC-3-90, SG 3 MFW REG VLV at 2-M-3 in MANUAL.	
	[11	14.2]	REMOVE Test Signal 1 (SG Loop 3 MFW Flow) at Cable 2PM1551 from TB C2-7 at Panel 2-M-4.	
				1st
				CV
	[11	14.3]	LAND the following wires:	
			 Black wire in Cable 2PM1551 to TB C2-7 (4K8), at Panel 2-M-4. (45W2643-6) 	
				1st
				CV
			 White wire in Cable 2PM1551 to TB C2-7 (4K9), at Panel 2-M-4. 	
				1st
				CV

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6.3	Steam Gen	nerator Loop 3 Valves (continued)	
	[114.4]	REMOVE Test Signal 2 (SG Loop 3 MFW Flow) at Cable 2PM1552 from TB C2-7 at Panel 2-M-4.	
			1st
			CV
	[114.5]	LAND the following wires:	
		 Black wire in Cable 2PM1552 to TB C2-7 (7R8), at Panel 2-M-4. (45W2643-6) 	
		,	1st
			CV
		 White wire in Cable 2PM1552 to TB C2-7 (7R9), at Panel 2-M-4. 	
			1st
			CV
	[114.6]	REMOVE Test Signal 3 (SG Loop 3 Steam Flow) at Cable 2PM1578 from TB C2-20 at Panel 2-M-4.	
			1st
			CV
	[114.7]	LAND the following wires:	
		 Black wire in Cable 2PM1578 to TB C2-20 (4F7) at Panel 2-M-4. (45W2643-6) 	
			1st
			CV
		 White wire in Cable 2PM1578 to TB C2-20 (4F8) at Panel 2-M-4. 	
			1st
			CV

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6.3	Steam Ger	nerator Loop 3 Valves (continued)	
	[114.8]	REMOVE Test Signal 4 (SG Loop 3 Steam Flow) at Cable 2PM1576 from TB C2-20 at Panel 2-M-4.	
			1st
			CV
	[114.9]	LAND the following wires:	
		 Black wire in Cable 2PM1576 to TB C2-20 (7G7) at Panel 2-M-4. (45W2643-6) 	
			1st
			CV
		 White wire in Cable 2PM1576 to TB C2-20 (7G8) at Panel 2-M-4. 	
			1st
			CV
	[115] RES	TORE the 2-FCV-3-90A control loop as follows:	
	[115.1]	VERIFY/PLACE 2-LIC-3-90A, SG 3 MFW BYPASS REG CONTROL at 2-M-3 in MANUAL.	
	[115.2]	REMOVE Test Signal 5 (NIS Channel 3 Power) at Cable 2PM552 from TB 25C at Panel 2-R-25. (45N2668-4)	
			1st
			CV
	[115.3]	LAND the following wires:	
		 N40207 in Cable 2PM552 to TB 25C, Terminal 7, at Panel 2-R-25. 	
			1st
			CV
		 N40208 in Cable 2PM552 to TB 25C, Terminal 8, at Panel 2-R-25. 	
			1st
			CV

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6.3	Steam Gen	nerator Loop 3 Valves (continued)	
	[115.4]	REMOVE Test Signal 6 (Validated NIS Power) at Cable 2PM8880 from TB 24W at Panel 2-R-24. (45N2668-3)	
			1st
			CV
	[115.5]	LAND the following wires:	
		 24W7 in Cable 2PM8880 to TB 24W, Terminal 7, at Panel 2-R-24. 	
			1st
			CV
		 24W8 in Cable 2PM8880 to TB 24W, Terminal 8, at Panel 2-R-24. 	
			1st
		·	CV
		TORE the Steam Generator 3 Feedwater Isolation Signals Illows:	
	[116.1]	REMOVE Jumper 9 (Step 4.3[4]A) AND	
		LAND the black wire (3AP) in Cable 2SG111A to TB648-1 at 2-R-48.	
			1st
			CV
	[116.2]	REMOVE Jumper 10 (Step 4.3[4]B) AND	
		LAND the black wire (4DCT) in Cable 2V2993A to TB622-7 at 2-R-48.	
			1st
			CV

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6.3

		Date _	
Steam Gen	erator Loop 3 Valves (continued)		
[116.3]	REMOVE Jumper 11 (Step 4.3[4]C) AND		
	LAND the black wire (3BP) in Cable 2SG131B to TB648-1 at 2-R-51.		
			1st
			CV
[116.4]	REMOVE Jumper 12 (Step 4.3[4]D) AND		
	LAND the green wire (4B5) in Cable 2SG135B to TB633-3 at 2-R-51.	_	
			1st
			CV

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		D	ate			
6.4	Steam G	enerator Loop 4 Valves				
	[1] VE	RIFY prerequisites for this Subsection have been satisfied.				
		SETUP the 2-FCV-3-103 STEAM GENERATOR 4 MFW REG VALVE, control loop as follows:				
	[2.1]	ENSURE 2-FIC-3-103, SG 4-MFW REG VLV controller at 2-M-3 in MANUAL AND				
		ADJUST for 0 demand (no demand for MFW flow).				
For S	Steps 6.4[2.2	NOTE] through [3.7], the black wire is positive (+) and white wire is	negative (-)			
_	[2.2]	LIFT the following wires:				
		 Black wire in Cable 2PM1670 from TB C2-8 (4R8) at Panel 2-M-4. (See drawing 45W2643-6, 2- 45N2655-1B) 				
		,	1st			
			CV			
		 White wire in Cable 2PM1670 from TB C2-8 (4R9) at Panel 2-M-4. 				
			1st 			
			CV			
	[2.3]	INSTALL a process calibrator to simulate Test Signal 1 (SG Loop 4 MFW Flow) at Cable 2PM1670.				
		M&TE No				
			1st			
			CV			
	[2.4]	ADJUST Test Signal 1 current source to 4mAdc.				

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6.4

	Date	
Steam Ge	nerator Loop 4 Valves (continued)	
[2.5]	LIFT the following wires:	
	 Black wire in Cable 2PM1671 from TB C2-8 (8R8) at Panel 2-M-4. (Dwg 45W2643-6, 2-45N2655-1B) 	
		1st
		CV
	 White wire in Cable 2PM1671 from TB C2-8 (8R9) at Panel 2-M-4. 	
		1st
		CV
[2.6]	INSTALL a process calibrator to simulate Test Signal 2 (SG Loop 4 MFW Flow) at Cable 2PM1670.	
	M&TE No	4-4
		1st
•		CV
[2.7]	ADJUST Test Signal 2 current source to the same setting of Step 6.4[2.4].	
[2.8]	Lift the following wires:	
	 Black wire in Cable 2PM1698 from TB C2-21 (4G7) at Panel 2-M-4. (See Dwg 45W2643-6, 2-45N2655- 1B) 	
	.5,	1st
		CV
	 White wire in Cable 2PM1698 from TB C2-21 (4G8) at Panel 2-M-4. 	
		1st
		CV

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		Date	
6.4	Steam Ger	nerator Loop 4 Valves (continued)	
	[2.9]	INSTALL a process calibrator to simulate Test Signal 3 (SG Loop 4 Steam Flow) at Cable 2PM1698.	
		M&TE No.	
			1st
			CV
	[2.10]	ADJUST Test Signal 3 current source to the same setting of Step 6.4[2.4].	
	[2.11]	LIFT the following wires:	
		 Black wire in Cable 2PM1697 from TB C2-21 (8G7) at Panel 2-M-4. (45W2643-6, 2-45N2655-1B) 	
		· ·	1st
			CV
		 White wire in Cable 2PM1697 from TB C2-21 (8G8) at Panel 2-M-4. 	
		2.7 2.00 2 1.	1st
			CV
	[2.12]	INSTALL a process calibrator to simulate Test Signal 4 (SG Loop 4 Steam Flow) at Cable 2PM1697.	
		M&TE No.	
			1st
			CV
	[2.13]	ADJUST Test Signal 4 current source to the same setting of Step 6.4[2.4].	
	[2.14]	VERIFY the following:	
		A. Red Light (2-FCV-3-103) OFF at 2-XX-3-35, MFW	
		REG Status Light Box at 2-M-3.	
		B Green Light (ECV-3-103) ON at 2-XX-3-35	

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	Dat	e
Steam G	Generator Loop 4 Valves (continued)	
	C. 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE is CLOSED (locally 739/C12P).	
	ETUP the 2-FCV-3-103A, STEAM GENERATOR 4 MFW EG VALVE, control loop as follows:	
[3.1]	VERIFY/PLACE 2-LIC-3-103A, SG 4 MFW BYPASS REG CONTROL at 2-M-3-in MANUAL.	
[3.2]	LIFT the following wires:	
	 N40210 (T10 - black) in Cable 2PM553 from TB 25C at Panel 2-R-25. (See Drawing 45N2668-4, 45N2652-2) 	
	10142002 Zy	1st
		CV
	 N40211 (T11 - white) in Cable 2PM553 from TB 25C at Panel 2-R-25. 	
		1st
		CV
[3.3]	INSTALL a process calibrator to simulate Test Signal 5 (Simulates NIS Channel 4 Power) at Cable 2PM553.	
r		1st
		CV
[3.4]	ADJUST Test Signal 5 voltage source to 2V.	
[3.5]	LIFT the following wires:	
	 24W10 (T10 - black) in Cable 2PM 8990 from TB24W at Panel 2-R-24. (See Drawing 45N2668-3, 2-45W2668-3A) 	
	2 40112000 071)	1st
		CV

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			Date	
6.4	Stea	m Ger	nerator Loop 4 Valves (continued)	
			 24W11 (T11 - white) in Cable 2PM 8990 from TB24W at Panel 2-R-24. 	
				1st
				CV
	[3	3.6]	INSTALL a process calibrator to simulate Test Signal 6 (Simulates Validated NIS Power) at Cable 2PM8990.	
			M&TE No	
				1st
				CV
	[3	3.7]	ADJUST Test Signal 6 current source to 4mAdc.	
	[3	3.8]	VERIFY the following:	
			A. Red Light (FCV-3-103A) OFF at 2-XX-3-35A, BYPASS REG Status Light Box at 2-M-3.	
			B. Green Light (FCV-3-103A) ON at 2-XX-3-35A.	
			C. 2-FCV-3-103A, STEAM GENERATOR 4 MFW REG VALVE is CLOSED (locally, 729/T15P).	
	[4]	BUIL	ACE 2-HS-3-945A, HAND SWITCH FOR CONTROL LDING ISOLATION, to ON, located at 2-JB-292-8205 (7/A12Q).	
	[5]	PRE	ESS 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3 AND	
		VER	RIFY the indicator light at 2-HS-3-99A2 is OFF.	
	[6]	PRE	ESS 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3 AND	
			RIFY the indicator light at 2-HS-3-99B2 is OFF.	
	[7]		•	
	[7]		ACE 2-HS-3-100A, SG #4 MFW ISOL VLV at 2-M-3 to the EN position AND	
		VER	RIFY:	
	[7	7.1]	2-FCV-3-100, SG #4 MFW ISOL VLV FULLY OPENS (locally 729/A15X).	

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Date _____ **Steam Generator Loop 4 Valves (continued)** 6.4 [7.2] Red Light ON at 2-HS-3-100A. (Acc Crit) 5.0[4.4] [7.3] Green Light OFF at 2-HS-3-100A. (Acc Crit) 5.0[4.4] [7.4] Red Light ON at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD-2B2-B, Compt. 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). [7.5] Green Light OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt. 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). [7.6] POWER ON Red Light ON at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt. 4D. 2-BKR-3-100 SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). IPCS Computer Point FD2031, SG4 FEEDWATER [7.7] ISOLATION VALVE, indicates OPEN. (Acc Crit) 5.0[4.4] [7.8] IPCS Computer Point FD2200, SG4 FEEDWATER ISOLATION VALVE, indicates PWR ON. [8] PLACE 2-HS-3-100A in the CLOSE position AND **VERIFY**: [8.1] 2-FCV-3-100 is CLOSED, locally (729/A14U). [8.2] Red Light OFF at 2-HS-3-100A. (Acc Crit) 5.0[4.4] [8.3] Green Light ON at 2-HS-3-100A. (Acc Crit) 5.0[4.4] [8.4] Red Light OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). [8.5] Green Light ON at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). [8.6] IPCS Computer Point FD2031, SG4 FEEDWATER ISOLATION VALVE, indicates NOT OPEN. (Acc Crit) 5.0[4.4]

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				Date	
6.4	Stear	m Gei	nerator Loop 4 Valves (continued)		
	[9]	PLA	CE 2-HS-3-100A in the OPEN position AN)	
		VEF	RIFY:		
	[9	.1]	2-FCV-3-100 is OPEN, locally (729/A15U)	
	[9	.2]	Red Light ON at 2-HS-3-100A.		
	[9	.3]	Green Light OFF at 2-HS-3-100A.		
	[10]		CE 2-HS-3-45, MFW RECIRCULATION COTCH, at 2-M-3, to NORMAL AND	ONTROL	
			RIFY using light indication at 2-HS-3-100A the SG #4 MFW ISOL VLV, is OPEN.	nat 2-FCV-3- 	
			NOTE	<u> </u>	
			re valve stroke timing locally and remotely. starting the next step will ensure equal reco		
	[11]		CE Jumper 14 from 4.3[5]B to the CLOSED mulate a Train B Feedwater Isolation Signa	•	
	[1	1.1]	RECORD remote closing time at 2-HS-3-(Acc Crit) 5.0[4.1]	100A.	
			Seconds (≤ 6.5 seconds)		
			M&TE No		
	[1	1.2]	RECORD local closing time at 2-FCV-3-1 MFW ISOL VLV,. (Acc Crit) 5.0[4.1]	00, SG #4	
			Seconds (≤ 6.5 seconds)		
			M&TE No		

VERIFY the indicator light is ON at 2-HS-3-99B2, RESET TR-B MFW ISOL at 2-M-3.

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[11.3]

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6.4	Stea	m Ge	nerator Loop 4 Valves (continued)	
	[12]		ACE Jumper 14 to the OPEN/OFF position relay reset).	for ESFAS Train
	[13] VERIFY using light indication at 2-HS-3-100A that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains CLOSED. (Acc Crit) 5.0[4.2]			
	[14]	PR	ESS 2-HS-3-99B2, RESET TR-B MFW ISO	L AND
		VE	RIFY the indicator light is OFF at 2-HS-3-99	B2
			NOTE res valve stroke timing locally and remotely, starting the next step will ensure equal reco	
	[15] PRESS 2-HS-3-100A AND			
	[1	5.1]	RECORD remote opening time at 2-HS-3	3-100A.
			Seconds	
			M&TE No	
	[15.2]		RECORD local opening time at 2-FCV-3-MFW ISOL VLV.	-100, SG #4
			Seconds	
			M&TE No	
	[16]		SURE 2-HS-3-45, MFW RECIRCULATION ITCH, at 2-M-3 to NORMAL AND	CONTROL
			RIFY using light indication at 2-HS-3-100A, CV-3-100, SG #4 MFW ISOL VLV, is OPEN	
	[17]		ACE 2-HS-3-45, MFW RECIRCULATION C TITCH, to FORWARD FLUSH AND	ONTROL
			RIFY using light indication at 2-HS-3-100A t CV-3-100. SG #4 MFW ISOL VLV. CLOSE:	

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			ate
6.4	Steam	m Generator Loop 4 Valves (continued)	
	[18]	REMOVE Fuse 2-FU-275-R77/N1, at Panel 2-R-77 (to simulate opening of 2-FCV-3-103, STEAM GENERATOR 1 MFW REG VALVE by de-energizing Relay ZS4 (See DWG 2-45W600-57-33).	
			1st
			CV
	[19]	PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, to BACK FLUSH AND	
		VERIFY using light indication at 2-HS-3-100A that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains CLOSED.	
	[20]	REPLACE Fuse 2-FU-275-R77/N1, at Panel 2-R-77 AND	
		VERIFY using light indication at 2-HS-3-100A, SG #4 MFW ISOL VLV, that 2-FCV-3-100 OPENS. (Acc Crit) 5.0[4.4]	
		100E VEV, that 2-1 0V-0-100 Of ENO. (ACC ONE) 5.5[4.4]	1st
			CV
	[21]	PLACE 2-HS-3-100C, SG #4 FW ISOL VLV SW, in the CLOSE position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D AND	
		VERIFY by light indication that 2-FCV-3-100, SG #4 MFW ISOL VLV remains OPEN.	
	[22]	REMOVE Fuse 2-FU-213-B24/31N at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B at Compt. 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV) (45W760-3-7)	
			1st
		•	CV
	[23]	VERIFY the following:	
	[2:	Red Light (VALVE OPEN) OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV).	

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Date ____ 6.4 **Steam Generator Loop 4 Valves (continued)** [23.2] Green Light (VALVE CLOSED) OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). [23.3] Red Light for POWER ON is OFF at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV). [23.4] Red Light OFF at 2-HS-3-100A. Green Light OFF at 2-HS-3-100A. [23.5] [23.6] IPCS Computer Point FD2200, SG4 FEEDWATER ISOLATION VALVE, indicates PWR OFF. PLACE 2-HS-3-100A, SG #4 FW ISOL VLV SW, in the [24] **CLOSE** position AND **VERIFY** that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains OPEN, locally (729/A14U). PLACE 2-HS-3-100C, SG #4 FW ISOL VLV SW, in the [25] CLOSE position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D AND **VERIFY** that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains OPEN (locally). PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL [26] SWITCH, at 2-M-3 to NORMAL AND **VERIFY** that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains OPEN (locally). PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL [27] SWITCH, to FORWARD FLUSH AND VERIFY that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains OPEN (locally).

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6.4	Stean	n Gen	erator Loop 4 Valves (continued)	
	[28]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL CH, at 2-M-3 to BACK FLUSH AND	
			FY that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains N (locally).	
	[29]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL CCH, at 2-M-3 to NORMAL AND	
			FY that 2-FCV-3-100, SG #4 MFW ISOL VLV, remains N (locally).	
	[30]	NOR	URE 2-HS-3-100C, STM GEN #4 ISOL VLV SW, in the MAL position at 2-MCC-213-B2-B, 480V REACTOR MOV RD 2B2-B, Compt 4D.	
	[31]	AUX	CE 2-XS-3-100, SG #4 FW ISOL VLV TRF SW, to the position at 2-MCC-213-B2-B, 480V Reactor MOV B2-B, Compt 4D.	
	[32]	VER	FY the following:	
	[32	2.1]	Red Light (VALVE OPEN) ON at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV).	
	[32	2.2]	Green Light (VALVE CLOSED) OFF at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV).).	
	[32	2.3]	Red Light OFF at 2-HS-3-100A.	
	[32	2.4]	Green Light OFF at 2-HS-3-100A.	
	[32	2.5]	IPCS Computer Point FD2200, SG4 FEEDWATER ISOLATION VALVE, indicates PWR ON.	
	[32	2.6]	Unit 2 Events Display Recorder indicates 150-C 480 RX MOV BD 2B1-B/2B2-B IN AUX is in ALARM (Red).	
	[32	2.7]	2-XA-55-6F, 150-C 480 RX MOV BD 2B1-B/2B2-B, ALARMS. (Acc Crit) 5.0[4.3]	

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6.4	Stea	m Generator Loop 4 Valves (continued)	
	[33]	REPLACE Fuse 2-FU-213-B24/31N at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B at Compt 4D, 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100, SG #4 MFW ISOL VLV).	
		1002 424).	1st
			CV
	[34]	PLACE 2-HS-3-100C, SG #4 FW ISOL VLV SW, in the CLOSE position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D AND	
		VERIFY by light indication at the breaker that 2-FCV-3-100 is CLOSED.	
	[35]	PLACE 2-HS-3-100A, STM GEN #4 FW ISOL VLV SW, in the OPEN position at 2-M-3 AND	
		VERIFY by light indication at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D that 2-FCV-3-100 remains CLOSED.	
	[36]	PLACE 2-HS-3-100C, SG #4 FW ISOL VLV SW, in the OPEN position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D AND	
		VERIFY by light indication at the breaker that 2-FCV-3-100 is OPEN.	
	[37]	ENSURE 2-HS-3-100C, SG #4 FW ISOL VLV SW, in the NORMAL position at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D.	
	[38]	PLACE 2-HS-3-100A, STM GEN #4 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 4D that 2-FCV-3-100 remains OPEN.	
	[39]	PLACE 2-XS-3-100, SG #4 FW ISOL VLV TRF SW, to the NORMAL position at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 4D.	

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6.4	Stea	m Generator Loop 4 Valves (continued)	
	[40]	VERIFY Unit 2 Events Display Recorder indicates 150-C 480 RX MOV BD 2B1-B/2B2-B IN AUX is NORMAL (Blue).	
	[41]	VERIFY 2-XA-55-6F, 150-C 480 RX MOV BD 2B1-B/2B2-B, is CLEAR.	
	[42]	LIFT wire 2 from the T1 Thermal Overload contact to disconnect thermal overload circuitry from 2-BKR-3-100, SG #4 MFW ISOL (2-FCV-3-100), Compt 4D at 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B. (See DWG 2-45W760-3-7)	
		(655 2116 2 1611165 6 1)	1st
			CV
	[43]	VERIFY Red Light is OFF at 2-MCC-213-B2-B, 480V Reactor MOV BD 2B2-B, Compt 6F.	
	[44]	PLACE 2-HS-3-100A, STM GEN #4 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication that 2-FCV-3-100 remains OPEN.	
	[45]	PRESS AND HOLD the armature of overload bypass Relay K1 in back of 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B, Compt 6F, to simulate an Overload Bypass.	
	[46]	PLACE 2-HS-3-100A, STM GEN #4 FW ISOL VLV SW, in the CLOSE position at 2-M-3 AND	
		VERIFY by light indication that 2-FCV-3-100 CLOSES.	
	[47]	RELEASE the armature of overload bypass Relay K1.	
	[48]	LAND wire 2 from the T1 Thermal Overload contact from Step 6.4[42] at 2-BKR-3-100, SG 4 MFW ISOL (2-FCV-3-100), Compt 4D at 480V REACTOR MOV BOARD 2B2-B.	
		•	1st
			CV
	[49]	PLACE 2-FIC-3-103 SG 4 MFW REG VLV at 2-M-3 in AUTO.	
	[50]	ADJUST Test Signal 3 from Step 6.4[2.9] (SG Loop 4 Steam Flow) to between 12 and 16 mAdc.	

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Steam Gei	nerator Loop 4 Valves (continued)
[51] VER	RIFY the following:
[51.1]	Red Light (FCV-3-103) ON at 2-XX-3-35. (Acc Crit) 5.0[8.7]
[51.2]	Green Light (FCV-3-103) OFF at 2-XX-3-35. (Acc Crit) 5.0[8.7]
[51.3]	2-FCV-3-103 OPEN (locally, 740/T15P).
[51.4]	IPCS Computer Point FD2005, SG4 & SG1FW FLOW CONTROL VLV, indicates ENERG.
[51.5]	IPCS Computer Point FD2062, OPEN SG4 FW ISOV 2-FCV-3-245, indicates ENERG.
[51.6]	IPCS Computer Point FD1999, SG4 & SG1 FW FLOW CONTROL, indicates ENERG.
[52] AD J	UST Test Signal 3 to between 12 and 8 mAdc.
[53] VEF	RIFY the following:
[53.1]	Red Light (FCV-3-103) OFF at 2-XX-3-35. (Acc Crit) 5.0[8.7]
[53.2]	Green Light (FCV-3-103) ON at 2-XX-3-35. (Acc Crit) 5.0[8.7]
[53.3]	2-FCV-3-103 CLOSES (locally).
	CE 2-FIC-3-103, SG 4 MFW REG VLV at 2-M-3 in

NOTE

Steps 6.4[55-56] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[55] **ADJUST** output of 2-FIC-3-103, SG 4 MFW REG VLV at 2-M-3 to 100% (full open) using RAMP function for fast change.

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6.4	Steam	n Gen	nerator Loop 4 Valves (continued)	
	[5	5.1]	RECORD 2-FCV-3-103 remote opening time using light indication at 2-XX-3-35.	
			Seconds (≤ 20 seconds)	
			M&TE No	
	[5	5.2]	RECORD local opening time at 2-FCV-3-103.	
			Seconds (≤ 20 seconds)	
			M&TE No	
	[56]		UST output of 2-FIC-3-103 to 0% (closed) using RAMP tion for fast change.	
	[50	6.1]	RECORD 2-FCV-3-103 remote closing time using light indication at 2-XX-3-35.	
			Seconds (≤ 20 seconds)	
			M&TE No	
	[56	6.2]	RECORD local closing time at 2-FCV-3-103.	
			Seconds (≤ 20 seconds)	
			M&TE No	
	[57]		UST output of 2-FIC-3-103 to 100% (full open) using IP function for fast change.	
	[58]	VER OPE	IFY using light indication at 2-XX-3-35 that 2-FCV-3-103	
	[59]		URE 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VE, is in the OPEN position.	

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NOTE

Step 6.4[60] will cause 2-FCV-3-103A and 2-FCV-3-245 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations. 2-FCV-3-188 will also modulate throughout these next steps but is not tested for Acceptance Criteria until Step [89]

[60] PLA	CE Jumper 15 from 4.3[5]C to the OPEN/OFF position.	
[60.1]	RECORD remote closing time at 2-FCV-3-103A, SG #4 INLET FLOW CONT VLV BYPASS VLV, using light indication at 2-XX-3-35A. (Acc Crit) 5.0[12.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.2]	RECORD local closing time at 2-FCV-3-103A. (Acc Crit) 5.0[12.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.3]	RECORD remote closing time at 2-FCV-3-245, STEAM GENERATOR 4 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[21.1], 5.0[21.6]	
	Seconds (≤ 6.5s)	
	M&TE No	
[60.4]	RECORD local closing time at 2-FCV-3-245 (729/A15U). (Acc Crit) 5.0[21.1]	
	Seconds (≤ 6.5s)	
	M&TE No.	

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6.4	Stear	m Ger	nerator Loop 4 Valves (continued)	
	[6	0.5]	VERIFY 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, remains OPEN, using light indication at 2-XX-3-35.	
	[6	0.6]	VERIFY 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, remains OPEN, using light indication at 2-XX-3-35.	
	[6	0.7]	VERIFY IPCS Computer Point FD2062, OPEN SG4 FW ISV 2-FCV-3-245, indicates NOT ENER.	
	[6	[8.0	VERIFY indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	
	[61]	PLA	CE Jumper 15 to the CLOSED/ON position.	
	[62]	2-FC	RIFY using light indication at 2-XX-3-35A that CV-3-103A, SG #4 INLET FLOW CONT VLV BYPASS, remains CLOSED. (Acc Crit) 5.0[12.2]	
	[63]	STE	RIFY using light indication at 2-M-3 that 2-FCV-3-245, AM GENERATOR 4 MFW BYPASS LINE ISOL, remains USED. (Acc Crit) 5.0[21.2]	
	[64]	PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISOL AND	
	VER		RIFY:	
	[6	4.1]	Using light indication at 2-XX-3-35A that 2-FCV-3-103A, STEAM GENERATOR 4 MFW BYPASS REG VALVE, OPENS.	
	[6	4.2]	Using light indication at 2-M-3 that 2-FCV-3-245, STEAM GENERATOR 4 MFW BYPASS LINE ISOL OPENS.	
	[6	4.3]	Indicator light is OFF at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	

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NOTE

Step 6.4[65] will cause 2-FCV-3-236 to fail CLOSE and requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

[65]	PLAC	CE Jumper 1 from 4.3[2]A to the OPEN/OFF position.	
[65	5.1]	RECORD remote closing time at 2-FCV-3-236, STEAM GENERATOR 1 MFW BYPASS LINE ISOL using light indication at 2-M-3. (Acc Crit) 5.0[18.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
[65	5.2]	RECORD local closing time at 2-FCV-3-236 (279/A15U). (Acc Crit) 5.0[18.1]	
		Seconds (≤ 6.5s)	
		M&TE No	
[65	5.3]	VERIFY IPCS Computer Point FD2208, OPEN SG1 FW ISV 2-FCV-3-236, indicates NOT ENER.	
[65	5.4]	VERIFY 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, remains OPEN, using light indication at 2-XX-3-35.	
[65	5.5]	VERIFY 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, remains OPEN, using light indication at 2-XX-3-35.	
[65	5.6]	VERIFY Indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3	

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NOTE

Step 6.4[66] requires valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations. Jumper 15 and Jumper 1 are both required to be OPEN/OFF to simulate the Train A Feedwater Isolation Signal.

ater isolatio	on olgital.	
	ACE Jumper 15 to the OPEN/OFF position to simulate a in A Feedwater Isolation Signal.	
[66.1]	RECORD remote closing time at 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, using light indication at 2-XX-3-35. (Acc Crit) 5.0[8.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[66.2]	RECORD local closing time at 2-FCV-3-103. (Acc Crit) 5.0[8.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[66.3]	RECORD remote closing time at 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, using light indication at 2-XX-3-35. (Acc Crit) 5.0[5.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[66.4]	RECORD local closing time at 2-FCV-3-35 (729/T15P). (Acc Crit) 5.0[5.1]	
	Seconds (≤ 6.5s)	
	M&TE No	
[66.5]	VERIFY IPCS Computer Point FD1999, SG4 &SG1FW FLOW CONTROL, indicates DE-ENER.	

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Stean	n Ger	nerator Loop 4 Valves (continued)	
[66	6.6]	VERIFY IPCS Computer Point FD2010, SG1 & SG4 FW FLOW CONTROL, indicates DE-ENER.	
[66	6.7]	VERIFY Indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	
[67]		CE Jumper 15 to the CLOSED/ON position (for ESFAS A Relay reset).	
[68]		CE Jumper 1 to the CLOSED/ON position (for ESFAS A relay reset).	
[69]	STE	RIFY using light indication at 2-XX-3-35 that 2-FCV-3-103, AM GENERATOR 4 MFW REG VALVE, remains OSED. (Acc Crit) 5.0[8.2]	
[70]	STE	RIFY using light indication at 2-XX-3-35 that 2-FCV-3-35, AM GENERATOR 1 MFW REG VALVE, remains OSED. (Acc Crit) 5.0[5.2]	
[71]	STE	RIFY using light indication at 2-M-3 that 2-FCV-3-236, AM GENERATOR 1 MFW BYPASS LINE ISOL, remains OSED. (Acc Crit) 5.0[18.2]	
[72]	PRE	SS 2-HS-3-99A2, RESET TR-A MFW ISOL AND	
	VER	RIFY:	
[72	2.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, OPENS.	
[72	2.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-35, STEAM GENERATOR 1 MFW REG VALVE, OPENS.	
[72	2.3]	Using light indication at 2-M-3 that 2-FCV-3-236, STEAM GENERATOR 1 MFW BYPASS LINE ISOL, OPENS.	
[72	2.4]	Indicator light is OFF at 2-HS-3-99A2 RESET TR-A MEW ISOL at 2-M-3.	

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5.4 Steam Generator Loop 4 Valves (continued)				
			NOTE	
Step 6.4 valves in			will test the loss of Control Power. Using 2-HS-3-945B will also s.	affect
[73]		CE 2-HS-3-945A, HAND SWITCH FOR CONTROL DING ISOLATION, to OFF, located at 2-JB-292-8205,	
		VER	IFY:	
	[73	3.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-103 CLOSES. (Acc Crit) 5.0[8.5]	
	[73	3.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-35 CLOSES. (Acc Crit) 5.0[5.5]	
	[73	3.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-103A, CLOSES. (Acc Crit) 5.0[12.3]	
	[73	3.4]	Using light indication at 2-M-3 that 2-FCV-3-245 CLOSES. (Acc Crit) 5.0[21.5]	
[74]		CE 2-HS-3-945A, HAND SWITCH FOR CONTROL DING ISOLATION, to ON AND	
		VER	IFY:	
	[74	l.1]	Using light indication at 2-XX-3-35 that 2-FCV-3-103 remains CLOSED.	
	[74	1.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-35 remains CLOSED.	
	[74	1.3]	Using light indication at 2-XX-3-35A that 2-FCV-3-103A remains CLOSED.	
	[74	1.4]	Using light indication at 2-M-3 that 2-FCV-3-245 remains CLOSED.	

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6.4	Steam	Generator I	Loop 4 Valves (continued)		
	[75] I	PRESS 2-HS	S-3-99A2, RESET TR-A MFW ISO	L AND	
	•	/ERIFY:			
	[75.		Using light indication at 2-XX-3-35 that 2-FCV-3-103 OPENS.		
	[75.	2] Using OPEN	light indication at 2-XX-3-35 that 2- S.	FCV-3-35	
	[75.	3] Using OPEN	light indication at 2-XX-3-35A that : S.	2-FCV-3-103A	<u></u>
	[75.4]		Using light indication at 2-M-3 that 2-FCV-3-245 OPENS.		
	[75.5]		tor light is OFF at 2-HS-3-99A2.		
			S-3-100A, SG #4 FW ISOL VLV SV -M-3 AND	V, in the OPEN	
	•	VERIFY by I	ight indication that 2-FCV-3-100 O	PENS.	
		.	NOTE		
1	following s 3-3-45	teps will test	t FORWARD FLUSH and BACK FL	USH capability via	
			S-3-45, MFW RECIRCULATION C 2-M-3 to FORWARD FLUSH AND		
	•	VERIFY:			
	[77.		light indication at 2-HS-3-100A, S0 W, that 2-FCV-3-100 CLOSES. (A		
	[77.	-	light indication at 2-XX-3-35, that 2 M GENERATOR 4 MFW REG VAL		
	[77.	-	-FCV-3-194, MFW DEAERATION VLV. OPENS.	LINE LOOP 4	

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Stea	m Ger	nerator Loop 4 Valves (continued)	
[78]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to BACK FLUSH AND	
	VER	RIFY:	
[7	8.1]	Using light indication at 2-XX-3-35, that 2-FCV-3-103,STEAM GENERATOR 2 MFW REG VALVE, CLOSES. (Acc Crit) 5.0[8.6]	
[7	8.2]	Using light indication at 2-HS-3-100A, SG #4 FW ISOL VLV SW, that 2-FCV-3-100 OPENS when 2-FCV-3-103 STEAM GENERATOR 4 MFW REG VALVE, CLOSES. (Acc Crit) 5.0[4.6]	•
[7	8.3]	That 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV, remains OPEN.	
[79]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to NORMAL AND	
	VER	RIFY:	
[7	9.1]	Using light indication at 2-HS-3-100A, SG #4 FW ISOL VLV SW, that 2-FCV-3-100 remains OPEN.	
[7	9.2]	Using light indication at 2-XX-3-35 that 2-FCV-3-103,STEAM GENERATOR 4 MFW REG VALVE, remains OPEN.	·
[7	9.3]	That 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV, CLOSES. (Acc Crit) 5.0[25.6]	
[80]		.CE 2-LIC-3-103A, SG 4 MFW BYPASS REG CONTROL -M-3 in AUTO.	
[81]		IUST Test Signal 5 (from Step 6.4[3.3]) for a voltage outp ween 0 and 5V at Panel 2-R-25. (NIS)	ut
[82]	VER	RIFY the following:	
8]	2.1]	Red Light (FCV-3-103A) ON at 2-XX-3-35A	
[8]	2.2]	Green Light (FCV-3-103A) OFF at 2-XX-3-35A.	
[8]	2.3]	2-FCV-3-103A is OPEN (locally).	

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.4	Stear	n Ge	nerator Loop 4 Valves (continued)	
	[83]		JUST Test Signal 4 current source (from Ste nAdc. (Steam Flow)	ep 6.4[2.12]) to
	[84]	AD.	JUST Test Signal 5 voltage output to 5V. (N	IS)
	[85]		JUST Test Signal 6 current source (from StenAdc. (Validated NIS)	ep 6.4[3.6]) to
	[86]	VEF	RIFY the following:	
	[8]	6.1]	Red Light (FCV-3-103A) OFF at 2-XX-3-3	B5A,
	[8]	6.2]	Green Light (FCV-3-103A) ON at 2-XX-3-	-35A
	[8]	6.3]	2-FCV-3-103A is CLOSED (locally).	
[87] PLACE 2-LIC-3-103A, SG 4 MFW BYPASS REG CONTROL at 2-M-3 in MANUAL.			EG CONTROL	
		——————————————————————————————————————	NOTE	
	nd count		equire valve stroke timing locally and remote before starting the next step will ensure eq	
	[88]		JUST output of 2-LIC-3-103A to 100% (full of RAMP function.	open) by using
	8]	8.1]	RECORD 2-FCV-3-103A remote opening light indication at 2-XX-3-35A.	time using
			Seconds (≤ 20 seconds)	
			M&TE No	
	[8]	8.2]	RECORD local opening time at 2-FCV-3-	103A.
			Seconds (≤ 20 seconds)	
			M&TE No	
	[89]		JUST output of 2-LIC-3-103A to 0% (closed MP function.) by using the

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Date ____ 6.4 **Steam Generator Loop 4 Valves (continued)** [89.1] **RECORD** 2-FCV-3-103A remote closing time using light indication at 2-XX-3-35A. Seconds _____ (≤ 20 seconds) M&TE No. _____ [89.2] **RECORD** local closing time at 2-FCV-3-103A. Seconds ____ (≤ 20 seconds) M&TE No. _____ VERIFY by light indication at 2-XX-3-35A that 2-FCV-3-103A is [90] CLOSED. [91] PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH to FORWARD FLUSH AND **VERIFY:** [91.1] Using light indication at 2-XX-3-235, SG WATER HAMMER PREVENT STATUS LIGHT BOX that 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, OPENS. (Acc Crit) 5.0[25.4] Red light OFF (FCV-3-188 Closed) at 2-XX-3-235. (Acc [91.2] **Crit**) 5.0[17.5] Green light ON (FCV-3-188 Closed) at 2-XX-3-235. (Acc [91.3] **Crit**) 5.0[17.5] 2-FCV-3-188, STEAM GENERATOR 4 MFW [91.4] BACKFLUSH WARMING, CLOSED (locally 729/A14U). (Acc Crit) 5.0[17.4] Using light indication at 2-XX-3-35, that 2-FCV-3-103, [91.5] STEAM GENERATOR 4 MFW REG VALVE, is OPEN.

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6.4	Stea	m Gen	nerator Loop 4 Valves (continued)	
	[92]		CE 2-HS-3-45, MFW RECIRCULATION CONTROL TCH, to BACK FLUSH AND	
		VER	IFY:	
	[9	2.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, remains OPEN. (Acc Crit) 5.0[25.5]	
	[9	2.2]	Red light ON (FCV-3-188 Open) at 2-XX-3-235. (Acc Crit) 5.0[17.5]	
	[9	2.3]	Green light OFF (FCV-3-188 Open) at 2-XX-3-235. (Acc Crit) 5.0[17.5]	
	[9	2.4]	2-FCV-3-188, STEAM GENERATOR #4 MFW BACKFLUSH WARMING, OPENS (locally 729/A14U). (Acc Crit) 5.0[17.4]	
	[9	2.5]	Using light indication at 2-XX-3-35, that 2-FCV-3-103, STEAM GENERATOR 4 MFW REG VALVE, CLOSES.	
	[93]	simu	IOVE Fuse 2-FU-275-R74/K14, at Panel 2-R-74 (to late opening of 2-FCV-3-103 by de-energizing Relay	
		231,). (DWG 45N2689-1)	1st
				CV
	[94]		IFY using light indication at 2-XX-3-235 that 2-FCV-3-188 SES.	
	[95]	REP	LACE Fuse 2-FU-275-R74/K14, at Panel 2-R-74.	
				1st
				CV
	[96]	VER OPE	IFY using light indication at 2-XX-3-235 that 2-FCV-3-188 NS.	

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NOTE

Steps 6.4[97.1-97.2] require valve stroke timing locally and remotely. The initiation of a 10 second countdown before starting the next step will ensure equal recording times at all locations.

	ACE Jumper 15 to the OPEN/OFF position to simulate a in A Feedwater Isolation.	
[97.1]	RECORD 2-FCV-3-188 remote closing time using light indication at 2-XX-3-235. (Acc Crit) 5.0[17.1]	
	Seconds (≤ 6.5 seconds)	
	M&TE NO	~
[97.2]	RECORD local closing time at 2-FCV-3-188. (Acc Crit) 5.0[17.1]	
	Seconds (≤ 6.5 seconds)	
	M&TE No	
[97.3]	VERIFY the indicator light is ON at 2-HS-3-99A2, RESET TR-A MFW ISOL at 2-M-3.	
98] PL	ACE Jumper 15 to the CLOSED/ON position.	·
•	RIFY using light indication at 2-XX-3-235, that 2-FCV-3-188 nains CLOSED. (Acc Crit) 5.0[17.2]	
100] PR I	E SS 2-HS-3-99A2, RESET TR-A MFW ISOL AND	
VEI	RIFY:	
[100.1]	Using light indication at 2-XX-3-235 that 2-FCV-3-188 OPENS.	
[100.2]	Indicator light is OFF at 2-HS-3-99A2.	

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IV		

The following step utilizes the 2-HS-3-194 pushbutton. When it is pressed, 2-FCV-3-194 will CLOSE and the OPEN. At the same time, when 2-FCV-3-194 leaves the FULL OPEN position, 2-FCV-3-188 will CLOSE. 2-FCV-3-188 will OPEN again when 2-FCV-3-194 returns to FULL OPEN.

[101]	LINE	SS CLOSE Pushbutton 2-HS-3-194, MFW DEAERATION LOOP 4 ISOL VLV at 2-JB-292-851, EL 729 Southeast Room, outside.	
[102]		IFY, using light indication at 2-XX-3-235, that V-3-194 CLOSES then OPENS.	
[103]	WHE	N 2-FCV-3-194 leaves the FULL OPEN position, THEN	
		IFY, using light indication at 2-XX-3-235, that V-3-188 CLOSES.	
[104]	WHE	EN 2-FCV-3-194 returns to the FULL OPEN position,	
	VER OPE	IFY, using light indication at 2-XX-3-235 that 2-FCV-3-188 NS.	
[105]		CE Jumper 16 to the OPEN/OFF position to simulate a .O Steam Generator level signal.	
[10	05.1]	RECORD 2-FCV-3-188 remote closing time using light indication at 2-XX-3-235 at 2-M-3.	
		Seconds (≤ 6.5s)	
		M&TE NO	
[10	05.2]	RECORD local closing time at 2-FCV-3-188.	
		Seconds (≤ 6.5s)	
		M&TE No	
[106]	PLA	CE Jumper 16 to the CLOSED/ON position.	

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6.4	Stean	n Generator Loop 4 Valves (continu	ıed)	
	[107]	VERIFY Using light indication at 2-X OPENS.	X-3-235 that 2	-FCV-3-188, ————
	_	NOTE		
		r-109] will test the loss of Control Pow	er. Using 2-H	S-3-945A will also affect
	[108]	PLACE 2-HS-3-945A, HAND SWITCH BUILDING ISOLATION, to OFF, local (757/A10Q).		
	[109]	VERIFY using light indication at 2-X. CLOSES. (Acc Crit) 5.0[17.3]	X-3-35 that 2-F	FCV-3-188
	[110]	PLACE 2-HS-3-945A, HAND SWITCH BUILDING ISOLATION, to ON, local (757/A10Q).		
	[111]	VERIFY using light indication at 2-X remains CLOSED.	K-3-35 that 2-F	FCV-3-188
	[112]	PRESS 2-HS-3-99A2, RESET TR-A	MFW ISOL A	ND
		VERIFY using light indication at 2-X OPENS.	K-3-235 that 2-	-FCV-3-188
	[113]	PLACE 2-HS-3-45, MFW RECIRCU SWITCH, at 2-M-3 to NORMAL AND		TROL

VERIFY:

- [113.1] Using light indication at 2-XX-3-235 that 2-FCV-3-188 CLOSES.
- [113.2] Using light indication at 2-XX-3-35 that 2-FCV-3-103 OPENS.
- [114] **RESTORE** the 2-FCV-3-103 control loop as follows:
 - [114.1] **ENSURE** 2-FIC-3-103, SG 4 MFW REG VLV at 2-M-3 in MANUAL.

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			ate
6.4	Steam Gen	nerator Loop 4 Valves (continued)	
	[114.2]	REMOVE Test Signal 1 (SG Loop 4 MFW Flow) at Cable 2PM1670 from TB C2-8 at Panel 2-M-4.	
			1st
			CV
	[114.3]	LAND the following wires:	
		 Black wire in Cable 2PM1670 to TB C2-8 (4R8) at Panel 2-M-4. (45W2643-6) 	
		,	1st
			CV
		 White wire in Cable 2PM1670 to TB C2-8 (4R9) at Panel 2-M-4. 	
			1st
			CV
	[114.4]	REMOVE Test Signal 2 (SG Loop 4 MFW Flow) at Cable 2PM1671 from TB C2-8 at Panel 2-M-4.	
			1st
			CV
	[114.5]	LAND the following wires:	
		 Black wire in Cable 2PM1671 to TB C2-8 (8R8) at Panel 2-M-4. (45W2643-6) 	
		,	1st
			CV
		 White wire in Cable 2PM1671 to TB C2-8 (8R9) at Panel 2-M-4. 	
			1st

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Steem Con	norotor Loop A Volvos (nontinued)	
Steam Ger	nerator Loop 4 Valves (continued)	
[114.6]	REMOVE Test Signal 3 (SG Loop 4 Steam Flow) at Cable 2PM1698 from TB C2-21 at Panel 2-M-4.	
		(
[114.7]	LAND the following wires:	
	 Black wire in Cable 2PM1698 to TB C2-21 (4G7) at Panel 2-M-4. (45W2643-6) 	
		1
	 White wire in Cable 2PM1698 to TB C2-21 (4G8) at Panel 2-M-4. 	
[114.8]	REMOVE Test Signal 4 (SG Loop 4 Steam Flow) at Cable 2PM1697 from TB C2-21 at Panel 2-M-4.	
		1
		(
[114.9]	LAND the following wires:	
	 Black wire in Cable 2PM1697 to TB C2-21 (8G7) at Panel 2-M-4. (45W2643-6) 	
	,	1
	 White wire in Cable 2PM1697 to TB C2-21 (8G8) at Panel 2-M-4. 	
		1
[115] RES	TORE the 2-FCV-3-90A control loop as follows:	
[115.1]	VERIFY/PLACE 2-LIC-3-48A, SG 4 MFW BYPASS	

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		Date	·
6.4	Steam Ger	nerator Loop 4 Valves (continued)	
	[115.2]	REMOVE Test Signal 5 (NIS Channel 4 Power) at Cable 2PM553 from TB 25C at Panel 2-R-25. (45N2668-4)	
			1st
			CV
	[115.3]	LAND the following wires:	
		 N40210 in Cable 2PM553 to TB 25C, Terminal 10, at Panel 2-R-25. 	
			1st
			CV
		 N40211 in Cable 2PM553 to TB 25C, Terminal 11, at Panel 2-R-25. 	
			1st
			CV
	[115.4]	REMOVE Test Signal 6 (Validated NIS Power) at Cable 2PM8990 from TB 24W at Panel 2-R-24. (45N2668-3)	
			1st
			CV
	[115.5]	LAND the following wires:	
		 24W10 in Cable 2PM8990 to TB 24W, Terminal 10, at Panel 2-R-24. 	
			1st
			CV
		 24W11 in Cable 2PM8990 to TB 24W, Terminal 11, at Panel 2-R-24. 	
			1st
			CV

[116] **RESTORE** the Steam Generator 4 Feedwater Isolation Signals as follows:

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6.4

		Date
Steam Gen	erator Loop 4 Valves (continued)	
[116.1]	REMOVE Jumper 13 (Step 4.3[5]A) AND	
	LAND the black wire (4BP) in Cable 2SG135B to TB649-1 at 2-R-51.	
		1st
		CV
[116.2]	REMOVE Jumper 14 (Step 4.3[5]B) AND	
	LAND the black wire (4DCT) in Cable 2V3013B to TB622-7 at 2-R-51.	
		1st
		CV
[116.3]	REMOVE Jumper 15 (Step 4.3[5]C) AND	
	LAND the black wire (4AP) in Cable 2SG115A to TB649-1 at 2-R-48.	
		1st
		CV
[116.4]	REMOVE Jumper 16 (Step 4.3[5]D) AND	
	LAND the green wire (3A5) in Cable 2SG111A from TB633-3 at 2-R-48.	
		1st
		CV

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6.5 Steam Generator Feedwater Regulating Isolation Valves

	NOTE				
Section	Sections 6.5.1 through 6.5.4 may be performed in any order.				
6.5.1	2-FC' Valve		250: Steam Generator 1 Feedwater Regulating Isolation		
	[1]		RIFY that the prerequisites and field preparations plicable to this subsection have been completed.		
	[2]	MF	PRESS 2-HS-3-250B [T15M/729], STEAM GENERATOR 1 W REG VALVE ISOLATION, OPEN pushbutton to verify eration locally and		
		VE	RIFY the following:		
		A.	2-FCV-3-250, STEAM GENERATOR 1 FW REG VALVE ISOLATION, is OPEN. (Acc Crit) 5.0[27.1]		
		B.	Red light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]		
		C.	Green light OFF at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]	<u> </u>	
	[3]	VA	PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, CLOSE pushbutton to verify operation ally and		
		VE	RIFY the following:		
	٠	A.	2-FCV-3-250, STEAM GENERATOR 1 FW REG VALVE ISOLATION, is CLOSED. (Acc Crit) 5.0[27.1]		
		B.	Red light OFF at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]		
		C.	Green light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]		

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6.5.1 2-FCV-3-250: Steam Generator 1 Feedwater Regulating Isolation Valve (continued)

		NOTE	
Steps 6.5.1[4 mid-position.	-5] m	nust be performed in close succession so that the valve can be s	topped in
[4]		PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, OPEN pushbutton.	
[5]	VAI STE	PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, STOP pushbutton before 2-FCV-3-250, EAM GENERATOR 1 FW REG VALVE ISOLATION, ches the OPEN position and	
	VEI	RIFY the following:	
	A.	2-FCV-3-250, STEAM GENERATOR 1 FW REG VALVE ISOLATION, stops in mid-position. (Acc Crit) 5.0[27.3]	
	B.	Red light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]	
	C.	Green light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]	
[6]		PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, OPEN pushbutton and	
	VEI	RIFY the following:	
	A.	2-FCV-3-250, STEAM GENERATOR 1 FW REG VALVE ISOLATION, is OPEN.	
	В.	Red light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION.	
	C.	Green light OFF at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION.	

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6.5.1 2-FCV-3-250: Steam Generator 1 Feedwater Regulating Isolation Valve (continued)

		NOTE	_
Steps 6.5.1[mid-position		nust be performed in close succession so that the valve can be stopped i	n
[7]		PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, CLOSE pushbutton.	
[8]	VAI STI	PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, STOP pushbutton before 2-FCV-3-250, EAM GENERATOR 1 FW REG VALVE ISOLATION, ches the CLOSED position and	
	VE	RIFY the following:	
	A.	2-FCV-3-250, STEAM GENERATOR 1 FW REG VALVE ISOLATION, stops in mid-position. (Acc Crit) 5.0[27.3]	
	В.	Red light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]	
	C.	Green light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[27.2]	
[9]		PRESS 2-HS-3-250B, STEAM GENERATOR 1 MFW REG LVE ISOLATION, CLOSE pushbutton and	
	VE	RIFY the following:	
	A.	2-FCV-3-250, STEAM GENERATOR 1 FW REG VALVE ISOLATION, is CLOSED.	
	В.	Red light OFF at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION.	
	C.	Green light ON at 2-HS-3-250B, STEAM GENERATOR 1 MFW REG VALVE ISOLATION.	

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Date 6.5.2 2-FCV-3-251: Steam Generator 2 Feedwater Regulating Isolation Valve [1] **VERIFY** that the prerequisites and field preparations applicable to this subsection have been completed. [2] **DEPRESS** 2-HS-3-251B [T15M/729], STEAM GENERATOR 2 MFW REG VALVE ISOLATION, OPEN pushbutton to verify operation locally and **VERIFY** the following: A. 2-FCV-3-251, STEAM GENERATOR 2 FW REG VALVE ISOLATION, is OPEN. (Acc Crit) 5.0[28.1] Red light ON at 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[28.2] C. Green light OFF at 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[28.2] **DEPRESS 2-HS-3-251B. STEAM GENERATOR 2 MFW REG** [3] VALVE ISOLATION, CLOSE pushbutton to verify operation locally and **VERIFY** the following: 2-FCV-3-251, STEAM GENERATOR 2 FW REG VALVE ISOLATION, is CLOSED. (Acc Crit) 5.0[28.1] Red light OFF at 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[28.2] C. Green light ON at 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[28.2]

NOTE

Steps 6.5.2[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4] **DEPRESS** 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION, OPEN pushbutton.

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6.5.2	2-FCV-3-251: Steam Generator 2 Feedwater Regulating Isolation Valve (continued)			ating Isolation		
	[5]	VAI Ste	DEPRESS 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION, STOP pushbutton before 2-FCV-3-251, STEAM GENERATOR 2 FW REG VALVE ISOLATION, reaches the OPEN position and			
		VEI	VERIFY the following:			
		A.	2-FCV-3-251, STEAM GENERATOR 2 FV ISOLATION, stops in mid-position. (Acc C			
		B.	Red light ON at 2-HS-3-251B, STEAM GE MFW REG VALVE ISOLATION. (Acc Crit			
		C.	Green light ON at 2-HS-3-251B, STEAM OMFW REG VALVE ISOLATION. (Acc Crit			
	[6]		PRESS 2-HS-3-251B, STEAM GENERATO LVE ISOLATION, OPEN pushbutton and	R 2 MFW REG		
	VERIFY the following:					
		A.	2-FCV-3-251, STEAM GENERATOR 2 FV ISOLATION, is OPEN.	V REG VALVE	, 	
		B.	Red light ON at 2-HS-3-251B, STEAM GE MFW REG VALVE ISOLATION.	NERATOR 2		
		C.	Green light OFF at 2-HS-3-251B, STEAM 2 MFW REG VALVE ISOLATION.	GENERATOR		
			NOTE	,		
	s 6.5.2[7 id-positio		must be performed in close succession so th	nat the valve can be stopped		

DEPRESS 2-HS-3-251B, STEAM GENERATOR 2 MFW REG

VALVE ISOLATION, CLOSE pushbutton.

[7]

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				Date
6.5.2			251: Steam Generator 2 Feedwater Regulating Isolation ntinued)	1
	[8]	VAI Ste	PRESS 2-HS-3-251B, STEAM GENERATOR 2 MFW REG LVE ISOLATION, STOP pushbutton before 2-FCV-3-251, EAM GENERATOR 2 FW REG VALVE ISOLATION, ches the CLOSED position and	3
		VE	RIFY the following:	
		A.	2-FCV-3-251, STEAM GENERATOR 2 FW REG VALVE ISOLATION, stops in mid-position. (Acc Crit) 5.0[28.3]	<u></u>
		B.	Red light ON at 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[28.2]	
		C.	Green light ON at 2-HS-3-251B, STEAM GENERATOR MFW REG VALVE ISOLATION.(Acc Crit) 5.0[28.2]	2
	[9]		PRESS 2-HS-3-251B, STEAM GENERATOR 2 MFW REG LVE ISOLATION, CLOSE pushbutton and	3
		VEI	RIFY the following:	
		A.	2-FCV-3-251, STEAM GENERATOR 2 FW REG VALVE ISOLATION, is CLOSED.	<u></u>
		B.	Red light OFF at 2-HS-3-251B, STEAM GENERATOR 2 MFW REG VALVE ISOLATION.	
		C.	Green light ON at 2-HS-3-251B, STEAM GENERATOR MFW REG VALVE ISOLATION.	2

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				Date _	
6.5.3	2-FC' Valve		252: Steam Generator 3 Feedwater Regulating Isolatio	n	
	[1]		RIFY that the prerequisites and field preparations plicable to this subsection have been completed.	_	
	[2]	MF	PRESS 2-HS-3-252B [T15M/729], STEAM GENERATOR W REG VALVE ISOLATION, OPEN pushbutton to verify eration locally and	23	
		VE	RIFY the following:		
		A.	2-FCV-3-252, STEAM GENERATOR 3 FW REG VALVE ISOLATION, is OPEN. (Acc Crit) 5.0[29.1]	≣ -	
		B.	Red light ON at 2-HS-3-252B, STEAM GENERATOR 3 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]	 -	
		C.	Green light OFF at 2-HS-3-252B, STEAM GENERATOR 3 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]	₹ _	
	[3]	VA	PRESS 2-HS-3-252B, STEAM GENERATOR 3 MFW RE LVE ISOLATION, CLOSE pushbutton to verify operation ally and	G	
		VE	RIFY the following:		
		A.	2-FCV-3-252, STEAM GENERATOR 3 FW REG VALVE ISOLATION, is CLOSED. (Acc Crit) 5.0[29.1]	≣ -	
		В.	Red light OFF at 2-HS-3-252B, STEAM GENERATOR 3 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]	3 -	
		C.	Green light ON at 2-HS-3-252B, STEAM GENERATOR MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]	3	

NOTE

Steps 6.5.3[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4] **DEPRESS** 2-HS-3-252B, STEAM GENERATOR 3 MFW REG VALVE ISOLATION, OPEN pushbutton.

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6.5.3			252: Steam Generator 3 Feedwater Reguntinued)	lating Isolation
	[5]	VAI STI	PRESS 2-HS-3-252B, STEAM GENERATO LVE ISOLATION, STOP pushbutton before EAM GENERATOR 1 FW REG VALVE ISO ches the OPEN position and	e 2-FCV-3-252,
		VE	RIFY the following:	
		A.	2-FCV-3-252, STEAM GENERATOR 3 I ISOLATION, stops in mid-position. (Acc	
		B.	Red light ON at 2-HS-3-252B, STEAM G MFW REG VALVE ISOLATION. (Acc Cr	
		C.	Green light ON at 2-HS-3-252B, STEAM	GENERATOR 3

MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]

DEPRESS 2-HS-3-252B, STEAM GENERATOR 3 MFW REG

A. 2-FCV-3-252, STEAM GENERATOR 3 FW REG VALVE

C. Green light OFF at 2-HS-3-252B, STEAM GENERATOR

NOTE

Steps 6.5.3[7-8] must be performed in close succession so that the valve can be stopped in

DEPRESS 2-HS-3-252B, STEAM GENERATOR 3 MFW REG

Red light ON at 2-HS-3-252B, STEAM GENERATOR 3

VALVE ISOLATION, OPEN pushbutton and

MFW REG VALVE ISOLATION.

3 MFW REG VALVE ISOLATION.

VALVE ISOLATION, CLOSE pushbutton.

VERIFY the following:

ISOLATION, is OPEN.

[6]

mid-position.

[7]

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				Date
6.5.3			252: Steam Generator 3 Feedwater Regulating Isolation ntinued)	n
	[8]	VAI STI	PRESS 2-HS-3-252B, STEAM GENERATOR 3 MFW REG LVE ISOLATION, STOP pushbutton before 2-FCV-3-252, EAM GENERATOR 3 FW REG VALVE ISOLATION, ches the CLOSED position and	3
		VE	RIFY the following:	
		A.	2-FCV-3-252, STEAM GENERATOR 3 FW REG VALVI ISOLATION, stops in mid-position. (Acc Crit) 5.0[29.3]	Ξ
		В.	Red light ON at 2-HS-3-252B, STEAM GENERATOR 3 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]	
		C.	Green light ON at 2-HS-3-252B, STEAM GENERATOR MFW REG VALVE ISOLATION. (Acc Crit) 5.0[29.2]	3
	[9]		PRESS 2-HS-3-252B, STEAM GENERATOR 3 MFW REG LVE ISOLATION, CLOSE pushbutton and	G
		VE	RIFY the following:	
		A.	2-FCV-3-252 STEAM GENERATOR 3 FW REG VALVE ISOLATION, is CLOSED.	
		B.	Red light OFF at 2-HS-3-252B, STEAM GENERATOR 3MFW REG VALVE ISOLATION.	
		C.	Green light ON at 2-HS-3-252B, STEAM GENERATOR MFW REG VALVE ISOLATION.	3

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Date ___ 6.5.4 2-FCV-3-253: Steam Generator 3 Feedwater Regulating Isolation Valve [1] **VERIFY** that the prerequisites and field preparations applicable to this subsection have been completed. **DEPRESS** 2-HS-3-253B [T15M/729], STEAM GENERATOR 4 [2] MFW REG VALVE ISOLATION, OPEN pushbutton to verify operation locally and **VERIFY** the following: 2-FCV-3-253, STEAM GENERATOR 4 FW REG VALVE ISOLATION, is OPEN. (Acc Crit) 5.0[30.1] Red light ON at 2-HS-3-253B, STEAM GENERATOR 4 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[30.2] C. Green light OFF at 2-HS-3-253B, STEAM GENERATOR 4 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[30.2] [3] **DEPRESS** 2-HS-3-253B, STEAM GENERATOR 4 MFW REG VALVE ISOLATION, CLOSE pushbutton to verify operation locally and **VERIFY** the following: 2-FCV-3-253, STEAM GENERATOR 4 FW REG VALVE ISOLATION, is CLOSED. (Acc Crit) 5.0[30.1] Red light OFF at 2-HS-3-253B, STEAM GENERATOR 4 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[30.2] C. Green light ON at 2-HS-3-253B, STEAM GENERATOR 4

NOTE

MFW REG VALVE ISOLATION. (Acc Crit) 5.0[30.2]

Steps 6.5.3[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4]	DEPRESS 2-HS-3-253B, STEAM GENERATOR 4 MFW REG
	VALVE ISOLATION, OPEN pushbutton.

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6.5.4			253: Steam Generator 3 Feedwater Reguntinued)	lating Isolation
	[5]	VAI STI	PRESS 2-HS-3-253B, STEAM GENERATO LVE ISOLATION, STOP pushbutton before EAM GENERATOR 4 FW REG VALVE ISO ches the OPEN position and	2-FCV-3-253,
		VE	RIFY the following:	
		A.	2-FCV-3-253, STEAM GENERATOR 4 FISOLATION, stops in mid-position. (Acc	
		B.	Red light ON at 2-HS-3-253B, STEAM GI MFW REG VALVE ISOLATION. (Acc Cri	
		C.	Green light ON at 2-HS-3-253B, STEAM MFW REG VALVE ISOLATION. (Acc Cri	
	[6]		PRESS 2-HS-3-253B, STEAM GENERATO LVE ISOLATION, OPEN pushbutton and	OR 4 MFW REG
		VE	RIFY the following:	
		A.	2-FCV-3-253, STEAM GENERATOR 4 FISOLATION, is OPEN.	W REG VALVE
		B.	Red light ON at 2-HS-3-253B, STEAM GI MFW REG VALVE ISOLATION.	ENERATOR 4
		C.	Green light OFF at 2-HS-3-253B, STEAM 4 MFW REG VALVE ISOLATION.	I GENERATOR
			NOTE	

Steps 6.5.4[7-8] must be performed in close succession so that the valve can be stopped in mid-position.

DEPRESS 2-HS-3-253B, STEAM GENERATOR 4 MFW REG

VALVE ISOLATION, CLOSE pushbutton.

[7]

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6.5.4			253: Steam Generator 3 Feedwater Regulating Isolation ntinued)	1-
	[8]	VAI STI	PRESS 2-HS-3-253B, STEAM GENERATOR 4 MFW REG LVE ISOLATION, STOP pushbutton before 2-FCV-3-253, EAM GENERATOR 4 FW REG VALVE ISOLATION, ches the CLOSED position and	3
		VE	RIFY the following:	
		A.	2-FCV-3-253, STEAM GENERATOR 4 FW REG VALVI ISOLATION, stops in mid-position. (Acc Crit) 5.0[30.3]	<u> </u>
		В.	Red light ON at 2-HS-3-253B, STEAM GENERATOR 4 MFW REG VALVE ISOLATION. (Acc Crit) 5.0[30.2]	
		C.	Green light ON at 2-HS-3-250B, STEAM GENERATOR MFW REG VALVE ISOLATION. (Acc Crit) 5.0[30.2]	4
	[9]		PRESS 2-HS-3-253B, STEAM GENERATOR 4 MFW REG	3
		VE	RIFY the following:	
		A.	2-FCV-3-253, STEAM GENERATOR 4 FW REG VALVE ISOLATION, is CLOSED.	<u> </u>
		В.	Red light OFF at 2-HS-3-253B, STEAM GENERATOR 4 MFW REG VALVE ISOLATION.	
		C.	Green light ON at 2-HS-3-253B, STEAM GENERATOR MFW REG VALVE ISOLATION.	4

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6.6	MFW Deaeration Line Control Valves			
6.6.1	2-FC	V-3- 1	191: MFW Deaeration Line Control	
	[1]		RIFY that the prerequisites and field preparations plicable to this subsection have been completed.	
	[2]	LIN	PRESS 2-HS-3-191 [YARD/729], MFW DEAERATION IE LOOP 1 ISOL VLV, OPEN pushbutton to verify operation ally and	
		VE	RIFY the following:	
		A.	2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, is OPEN. (Acc Crit) 5.0[22.1]	
		В.	Red light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]	
		C.	Green light OFF at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]	
	[3]		PRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 DL VLV, CLOSE pushbutton to verify operation locally and	
		VE	RIFY the following:	
		A.	2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, is CLOSED. (Acc Crit) 5.0[22.1]	
		В.	Red light OFF at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]	
		C.	Green light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]	

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6.6.1 2-FCV-3-191: MFW Deaeration Line Control (continued)

	NOTE	
Steps 6.6.1[4 mid-position.	4-5] must be performed in close succession so that the valve can be stopped.	ed in
[4]	DEPRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, OPEN pushbutton.	··
[5]	DEPRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, STOP pushbutton before 2-FCV-3-191, MFW DEAERATION LINE LOOP 2 ISOL, reaches the OPEN position and	
	VERIFY the following:	
	A. 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, stops in mid-position. (Acc Crit) 5.0[22.3]	
	B. Red light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]	-
	C. Green light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]	
[6]	DEPRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, OPEN pushbutton and	
	VERIFY the following:	
	A. 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, is OPEN.	
	B. Red light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV.	
	C. Green light OFF at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV.	

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6.6.1 2-FCV-3-191: MFW Deaeration Line Control (continued)

NOTE				
Steps 6.6.1[7 mid-position.	-8] must be performed in close succession so that the valve can be stopped in			
[7]	DEPRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, CLOSE pushbutton.			
[8]	DEPRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, STOP pushbutton before 2-FCV-3-191, MFW DEAERATION LINE CONTROL, reaches the CLOSED position and			
	VERIFY the following:			
	A. 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, stops in mid-position. (Acc Crit) 5.0[22.3]			
	B. Red light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]			
	C. Green light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV. (Acc Crit) 5.0[22.2]			
[9]	DEPRESS 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV, CLOSE pushbutton and			
	VERIFY the following:			
	A. 2-FCV-3-191, MFW DEAERATION LINE LOOP 1 ISOL, is CLOSED.			
	B. Red light OFF at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV.			
	C. Green light ON at 2-HS-3-191, MFW DEAERATION LINE LOOP 1 ISOL VLV.			

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			Da	te
6.6.2	2-FC	V-3-1	92: MFW Deaeration Line Control	
	[1]		RIFY that the prerequisites and field preparations blicable to this subsection have been completed.	
	[2]	LIN	PRESS 2-HS-3-192 [YARD/729], MFW DEAERATION IE LOOP 2 ISOL VLV, OPEN pushbutton to verify operation ally and	
		VE	RIFY the following:	
		A.	2-FCV-3-192, MFW DEAERATION LINE LOOP 2 ISOL, is OPEN. (Acc Crit) 5.0[23.1]	
		B.	Red light ON at 2-HS-3-192, MFW DEAERATION LINE LOOP 2 ISOL VLV. (Acc Crit) 5.0[23.2]	
		C.	Green light OFF at 2-HS-3-192, MFW DEAERATION LINE LOOP 2 ISOL VLV. (Acc Crit) 5.0[23.2]	
	[3]		PRESS 2-HS-3-192, MFW DEAERATION LINE LOOP 2 DL VLV, CLOSE pushbutton to verify operation locally and	
		VE	RIFY the following:	
		A.	2-FCV-3-192, MFW DEAERATION LINE LOOP 2 ISOL, is CLOSED. (Acc Crit) 5.0[23.1]	
		В.	Red light OFF at 2-HS-3-192, MFW DEAERATION LINE LOOP 2 ISOL VLV. (Acc Crit) 5.0[23.2]	
		C.	Green light ON at 2-HS-3-192, MFW DEAERATION LINE LOOP 2 ISOL VLV. (Acc Crit) 5.0[23.2]	

NOTE

Steps 6.6.2[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4]	DEPRESS 2-HS-3-192, MFW DEAERATION LINE LOOP 2	
	ISOL VLV, OPEN pushbutton.	

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6.6.2	2-FC	V-3-1	192: MFW Deaeration Line Control (contin	nued)
	[5]	ISC DE	PRESS 2-HS-3-192, MFW DEAERATION LOL VLV, STOP pushbutton before 2-FCV-3-4 AERATION LINE LOOP 2 ISOL, reaches the sition and	192, MFW
		VE	RIFY the following:	
		A.	2-FCV-3-192, MFW DEAERATION LINE stops in mid-position. (Acc Crit) 5.0[23.3]	•
		B.	Red light ON at 2-HS-3-192, MFW DEAER LOOP 2 ISOL VLV. (Acc Crit) 5.0[23.2]	RATION LINE
		C.	Green light ON at 2-HS-3-192, MFW DEA LOOP 2 ISOL VLV. (Acc Crit) 5.0[23.2]	ERATION LINE
	[6]		PRESS 2-HS-3-192, MFW DEAERATION LDL VLV, OPEN pushbutton and	INE LOOP 2
		VE	RIFY the following:	
		A.	2-FCV-3-192, MFW DEAERATION LINE I OPEN.	LOOP 2 ISOL, is
		B.	Red light ON at 2-HS-3-192, MFW DEAEF LOOP 2 ISOL VLV.	RATION LINE
		C.	Green light OFF at 2-HS-3-192, MFW DEALINE LOOP 2 ISOL VLV.	AERATION
			NOTE	
	s 6.6.2[7 position.	-	nust be performed in close succession so th	at the valve can be stopped in

DEPRESS 2-HS-3-192, MFW DEAERATION LINE LOOP 2 ISOL VLV, CLOSE pushbutton.

[7]

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			0	ate
6.6.2	2-FC	-3-192: MFW Deaeration	n Line Control (continued)	
	[8]	ISOL VLV, STOP pushb	MFW DEAERATION LINE LOOP 2 utton before 2-FCV-3-192, MFW NTROL, reaches the CLOSED	
		VERIFY the following:		
		•	/ DEAERATION LINE LOOP 2 ISOL, n. (Acc Crit) 5.0[23.3]	
		•	S-3-192, MFW DEAERATION LINE (Acc Crit) 5.0[23.2]	·
			-HS-3-192, MFW DEAERATION LINE (Acc Crit) 5.0[23.2]	
	[9]	DEPRESS 2-HS-3-192, ISOL VLV, CLOSE push	MFW DEAERATION LINE LOOP 2 button and	
		VERIFY the following:		
		A. 2-FCV-3-192, MFW CLOSED.	DEAERATION LINE LOOP 2 ISOL, is	
		B. Red light OFF at 2-l LOOP 2 ISOL VLV.	HS-3-192, MFW DEAERATION LINE	
		C. Green light ON at 2- LOOP 2 ISOL VLV.	-HS-3-192, MFW DEAERATION LINE	

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6.6.3	2-FC	V-3-1	93: MFW Deaeration Line Control	
	[1]		RIFY that the prerequisites and field preparations blicable to this subsection have been completed.	
	[2]	LIN	PRESS 2-HS-3-193 [YARD/729], MFW DEAERATION IE LOOP 3 ISOL VLV, OPEN pushbutton to verify operation ally and	ı
		VEI	RIFY the following:	
		A.	2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL, i OPEN. (Acc Crit) 5.0[24.1]	s
		B.	Red light ON at 2-HS-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	
		C.	Green light OFF at 2-HS-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	
	[3]		PRESS 2-HS-3-193, MFW DEAERATION LINE LOOP 3 DL VLV, CLOSE pushbutton to verify operation locally and	
		VEI	RIFY the following:	
		A.	2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL, i CLOSED: (Acc Crit) 5.0[24.1]	s
		В.	Red light OFF at 2-HS-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	
		C.	Green light ON at 2-HS-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	<u> </u>

NOTE

Steps 6.6.3[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4]	DEPRESS 2-HS-3-193, MFW DEAERATION LINE LOOP 3
	ISOL VLV, OPEN pushbutton.

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				Date	
6.6.3	2-FC	V-3- 1	93: MFW Deaeration Line Control (contin	nued)	
	[5]	ISC DE	PRESS 2-HS-3-193, MFW DEAERATION LDL VLV, STOP pushbutton before 2-FCV-3-1 AERATION LINE LOOP 3 ISOL, reaches the sition and	193, MFW	
		VE	RIFY the following:		
		A.	2-FCV-3-193, MFW DEAERATION LINE I stops in mid-position. (Acc Crit) 5.0[24.3]	LOOP 3 ISOL,	
		B.	Red light ON at 2-HS-3-193, MFW DEAER LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	RATION LINE	
		C.	Green light ON at 2-HS-3-193, MFW DEALLOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	ERATION LINE —	
	[6]		PRESS 2-HS-3-193, MFW DEAERATION L DL VLV, OPEN pushbutton and	INE LOOP 3	
		VE	RIFY the following:		
		A.	2-FCV-3-193, MFW DEAERATION LINE L OPEN.	.OOP 3 ISOL, is	
		B.	Red light ON at 2-HS-3-193, MFW DEAER LOOP 3 ISOL VLV.	RATION LINE	
		C.	Green light OFF at 2-HS-3-193, MFW DEALINE LOOP 3 ISOL VLV.	AERATION —	
			NOTE		
	6.6.3[7 osition.	'-8] m	nust be performed in close succession so the	at the valve can be stop	ped in
	[7]		PRESS 2-HS-3-193, MFW DEAERATION L DL VLV, CLOSE pushbutton.	INE LOOP 3	

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			Da	te
6.6.3	2-FC	V-3- 1	193: MFW Deaeration Line Control (continued)	
	[8]	ISC DE	PRESS 2-HS-3-193, MFW DEAERATION LINE LOOP 3 DL VLV, STOP pushbutton before 2-FCV-3-193, MFW AERATION LINE LOOP 3 ISOL, reaches the CLOSED sition and	
		VE	RIFY the following:	
		A.	2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL, stops in mid-position. (Acc Crit) 5.0[24.3]	
		B.	Red light ON at 2-HS-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	
		C.	Green light ON at 2-HS-3-193, MFW DEAERATION LINE LOOP 3 ISOL VLV. (Acc Crit) 5.0[24.2]	· · · · · · · · · · · · · · · · · · ·
	[9]		PRESS 2-HS-3-193, MFW DEAERATION LINE LOOP 3 DL VLV, CLOSE pushbutton and	
		VE	RIFY the following:	
		Á.	2-FCV-3-193, MFW DEAERATION LINE LOOP 3 ISOL, is CLOSED.	
		B.	Red light OFF at 2-HS-3-193, MFW DEAERATION LINE LOOP 2 ISOL VLV.	
		C.	Green light ON at 2-HS-3-193, MFW DEAERATION LINE LOOP 2 ISOL VLV.	

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			Da	te
6.6.4	2-FC	V-3-1	94: MFW Deaeration Line Control	
	[1]		RIFY that the prerequisites and field preparations plicable to this subsection have been completed.	
	[2]	LIN	PRESS 2-HS-3-194 [YARD/729], MFW DEAERATION E LOOP 4 ISOL VLV, OPEN pushbutton to verify operation ally and	
		VE	RIFY the following:	
		A.	2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, is OPEN. (Acc Crit) 5.0[25.1]	
		B.	Red light ON at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]	
		C.	Green light OFF at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]	
	[3]		PRESS 2-HS-3-194, MFW DEAERATION LINE LOOP 4 DL VLV, CLOSE pushbutton to verify operation locally and	
		VE	RIFY the following:	
		A.	2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, is CLOSED. (Acc Crit) 5.0[25.1]	
		B.	Red light OFF at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]	
		C.	Green light ON at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]	<u> </u>

NOTE

Steps 6.6.4[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4]	DEPRESS 2-HS-3-194, MFW DEAERATION LINE LOOP 4
	ISOL VLV, OPEN pushbutton.

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				Date
6.6.4	2-FC\	/-3-1	94: MFW Deaeration Line Control (contin	nued)
	[5]	ISC DE	PRESS 2-HS-3-194, MFW DEAERATION LOLVLV, STOP pushbutton before 2-FCV-3-4 AERATION LINE LOOP 4 ISOL, reaches the ition and	94, MFW
		VEI	RIFY the following:	
		A.	2-FCV-3-194, MFW DEAERATION LINE stops in mid-position. (Acc Crit) 5.0[25.3]	LOOP 4 ISOL,
		B.	Red light ON at 2-HS-3-194, MFW DEAER LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]	RATION LINE
		C.	Green light ON at 2-HS-3-194, MFW DEA LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]	ERATION LINE
	[6]		PRESS 2-HS-3-194, MFW DEAERATION L DL VLV, OPEN pushbutton and	INE LOOP 4
		VE	RIFY the following:	
		A.	2-FCV-3-194, MFW DEAERATION LINE LOPEN.	.OOP 4 ISOL, is
		B.	Red light ON at 2-HS-3-194, MFW DEAEF LOOP 4 ISOL VLV.	RATION LINE
		C.	Green light OFF at 2-HS-3-194, MFW DEALINE LOOP 4 ISOL VLV.	AERATION
			NOTE	
	s 6.6.4[7 position.	-8] m	nust be performed in close succession so th	at the valve can be stopped in
	[7]		PRESS 2-HS-3-194, MFW DEAERATION L	INE LOOP 4

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			Date	e
6.6.4	2-FCV-3-	194: MFW Deaeration Line Control (cont	inued)	

[8] **DEPRESS 2-HS-3-194, MFW DEAERATION LINE LOOP 4** ISOL VLV, STOP pushbutton before 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, reaches the CLOSED position and

VERIFY the following:

- 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, stops in mid-position. (Acc Crit) 5.0[25.3]
- Red light ON at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]
- C. Green light ON at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV. (Acc Crit) 5.0[25.2]
- [9] **DEPRESS 2-HS-3-194, MFW DEAERATION LINE LOOP 4** ISOL VLV, CLOSE pushbutton and

VERIFY the following:

- 2-FCV-3-194, MFW DEAERATION LINE LOOP 4 ISOL, is CLOSED.
- B. Red light OFF at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV.
- C. Green light ON at 2-HS-3-194, MFW DEAERATION LINE LOOP 4 ISOL VLV.

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				Date		_
6.6.5	2-FC	V-3-1	195: MFW Deaeration Line Control			
	[1]		RIFY that the prerequisites and field preparations blicable to this subsection have been completed.			_
	[2]		PRESS 2-HS-3-195B [T13J/708], MAIN FW DEAERATION IPPRESS 2-HS-195B [T15J/708], MAIN FW DEAERATION IPPRESS 2-			
		VE	RIFY the following:			
		A.	2-FCV-3-195, MFW DEAERATION LINE CONTROL, is OPEN. (Acc Crit) 5.0[26.1]			_
		B.	Red light ON at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV. (Acc Crit) 5.0[26.2]			_
		C.	Green light OFF at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV. (Acc Crit) 5.0[26.2]			_
	[3]		PRESS 2-HS-3-195B, MAIN FW DEAERATION LINE ONT VLV, CLOSE pushbutton to verify operation locally ar	nd		
		VE	RIFY the following:			
		A.	2-FCV-3-195, MFW DEAERATION LINE CONTROL, is CLOSED. (Acc Crit) 5.0[26.1]			_
		B.	Red light OFF at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV. (Acc Crit) 5.0[26.2]	N		_
		C.	Green light ON at 2-HS-3-195B, MAIN FW DEAERATIC LINE CONT VLV. (Acc Crit) 5.0[26.2])N	±	_

- 1		•
	•	

Steps 6.6.5[4-5] must be performed in close succession so that the valve can be stopped in mid-position.

[4]	DEPRESS 2-HS-3-195B, MAIN FW DEAERATION LINE
	CONT VLV, OPEN pushbutton.

				•	
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				Dat	te
6.6.5	2-FC	V-3-1	95: MFW Deaeration Line Control (cont	inued)	
	[5]	CO	PRESS 2-HS-3-195B, MAIN FW DEAERA NT VLV, STOP pushbutton before 2-FCV-3 AERATION LINE CONTROL, reaches the	3-195, MFW	
		VE	RIFY the following:		
		A.	2-FCV-3-195, MFW DEAERATION LINE stops in mid-position. (Acc Crit) 5.0[26.3]	•	
		B.	Red light ON at 2-HS-3-195B, MAIN FW LINE CONT VLV. (Acc Crit) 5.0[26.2]	DEAERATION	
		C.	C. Green light ON at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV. (Acc Crit) 5.0[26.2]		
	[6] DEPRESS 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV, OPEN pushbutton and		TION LINE		
		VE	RIFY the following:		
		A.	2-FCV-3-195, MFW DEAERATION LINE OPEN.	CONTROL, is	
		В.	Red light ON at 2-HS-3-195B, MAIN FW LINE CONT VLV.	DEAERATION	·
		C.	Green light OFF at 2-HS-3-195B, MAIN F DEAERATION LINE CONT VLV.	FW .	

NOTE

Steps 6.6.5[7-8] must be performed in close succession so that the valve can be stopped in mid-position.

[7] **DEPRESS** 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV, CLOSE pushbutton.

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6.6.5	2-FC	V-3-1	95: MFW Deaeration Line Control (continued)	
	[8]	CO DE	PRESS 2-HS-3-195B, MAIN FW DEAERATION LINE NT VLV, STOP pushbutton before 2-FCV-3-195, MFW AERATION LINE CONTROL, reaches the CLOSED sition and	
		VE	RIFY the following:	
		A.	2-FCV-3-195, MFW DEAERATION LINE CONTROL, stops in mid-position. (Acc Crit) 5.0[26.3]	
		B.	Red light ON at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV. (Acc Crit) 5.0[26.2]	
		C.	Green light ON at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV. (Acc Crit) 5.0[26.2]	
	[9]		PRESS 2-HS-3-195B, MAIN FW DEAERATION LINE NT VLV, CLOSE pushbutton and	
		VE	RIFY the following:	
		A.	2-FCV-3-195, MFW DEAERATION LINE CONTROL, is CLOSED.	
		В.	Red light OFF at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV.	
		C.	Green light ON at 2-HS-3-195B, MAIN FW DEAERATION LINE CONT VLV.	

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Date		
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7.0	POS	T PERFORMANCE ACTIVITY	
	[1]	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.	
	[2]	VERIFY that Post-test calibration of permanent plant instruments used to record quantitative acceptance criteria has been satisfactorily performed AND	
		RECORD on Appendix C, Permanent Plant Instrumentation Log.	
	[3]	PLACE 2-HS-3-45, MFW RECIRCULATION CONTROL SWITCH, at 2-M-3 to NORMAL.	
	[4]	VERIFY overload bypass relay has been RESET at 2-MCC-213-B2-B, 480V REACTOR MOV BD 2B2-B, Compt. 6F.	
	[5]	VERIFY overload bypass relay has been RESET at 2-MCC-213-A2-A, 480V REACTOR MOV BD 2A2-A, Compt. 6D.	
	[6]	NOTIFY the Unit 2 US/SRO of the test completion and system	

8.0 RECORDS

A. QA Records

Completed Test Package

B. Non-QA Records

None

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TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW

Da	4_		
112	10		

Additional copies of this table may be made as necessary.

PROCEDURE/ INSTRUCTION	REVISION/CHANGES	INITIAL AND DATE. (N/A for no change)
SMP-4.0	0000	
SMP-6.0	0000	
SMP-7.0	0000	
SMP-9.0	0000	
FSAR Section 10.4.7 Table 14.2-1 Shts 65, 67 of 89 Technical Specification 3.7.3	Amendment 111	
2-TSD-3A-1	Rev 1	
2-TSD-3A-3	Rev 3	
WBN2-3A-4002	Rev 1	
VTM-W120-2062	Rev 13	
VTM-W120-2780	Rev 3	

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Appendix B (Page 1 of 1) TEMPORARY CONDITION LOG

	Date
Additional copies of this table may be made as necessary.	

ITEM	TEMPORARY CONDITION		PERFORMED		RETURNED TO NORMAL	
No.	lo. DESCRIPTION		Performed By/Date CV By/Date	Step No.	Returned By/Date CV By/Date	
		 		1		
			·	-		
						
				-		
				1		

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PERMANENT PLANT INSTRUMENTATION LOG

Date _____

INSTRUMENT OR INSTRUMENT	FILLED AND VENTED ¹	PLACED IN SERVICE ¹	USED FOR QUANTITATIVE ACC CRIT		QUANTITATIVE		POST-TEST CAL DATE ²	POST-TEST CALIBRATION ACCEPTABLE ²
LOOP#	INIT/DATE	INIT/DATE	YES	NO		INITIAL/DATE		
								

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

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

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Appendix D (Page 1 of 1) Background Calculations

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Appendix E (Page 1 of 1)

STEAM GENERATOR LOOP 1 FEEDWATER SWITCH LINEUP

Date _____

SWITCH NUMBER	SWITCH LOCATION	NOMENCLATURE	POSITION	VERIFIED BY INITIAL/DATE
2-HS-3-33A	2-M-3	SG #1 MFW ISOL VLV	A-P AUTO	
2-HS-3-45	2-M-3	FW SYSTEM RECIRCULATION CONTROL SWITCH	NORMAL	
2-HS-3-945B	2-JB-292-8223 (757/A11Q)	HAND SWITCH FOR CONTROL BUILDING ISOLATION	OFF	
2-HS-2-33C	480V REACTOR MOV BOARD 2A2-A, 2-MCC-213-A2-A, CMPT 3D (772/A11S)	SG #1 MFW ISOL VLV SW	NORMAL	
2-XS-3-33	480V REACTOR MOV BOARD 2A2-A, 2-MCC-213-A2-A, CMPT 3D (772/A11S)	SG #1 MFW ISOL VLV TRF SW	NORMAL	

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STEAM GENERATOR LOOP 2 FEEDWATER SWITCH LINEUP

SWITCH NUMBER	SWITCH LOCATION	NOMENCLATURE	POSITION	VERIFIED BY INITIAL/DATE
2-HS-3-47A	2-M-3	SG #2 MFW ISOL VLV	A-P AUTO	
2-HS-3-45	2-M-3	FW SYSTEM RECIRCULATION CONTROL SWITCH	NORMAL	
2-HS-3-945A	2-JB-292-8205 (757/A10Q)	HAND SWITCH FOR CONTROL BUILDING ISOLATION	OFF	
2-HS-2-47C	480V REACTOR MOV BOARD 2B2-B, 2-MCC-213-B2-B, CMPT 3D (772/A12R)	SG #2 FW ISOL VLV SW	NORMAL	
2-XS-3-87	480V REACTOR MOV BOARD 2B2-B, 2-MCC-213-B2-B, CMPT 3D (772/A12R)	SG #2 FW ISOL VLV TRF SW	NORMAL	

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STEAM GENERATOR LOOP 3 FEEDWATER SWITCH LINEUP

Date

SWITCH NUMBER	SWITCH LOCATION	NOMENCLATURE	POSITION	VERIFIED BY INITIAL/DATE
2-HS-3-87A	2-M-3	SG #3 MFW ISOL VLV	A-P AUTO	
2-HS-3-45	2-M-3	FW SYSTEM RECIRCULATION CONTROL SWITCH	NORMAL	
2-HS-3-945B	2-JB-292-8223 (757/A11Q)	HAND SWITCH FOR CONTROL BUILDING ISOLATION	OFF	
2-HS-2-87C	480V REACTOR MOV BOARD 2A2-A, 2-MCC-213-A2-A, CMPT 4D (772/A11S)	SG #3 FW ISOL VLV SW	NORMAL	
2-XS-3-87	480V REACTOR MOV BOARD 2A2-A, 2-MCC-213-A2-A, CMPT 4D (772/A11S)	SG #3 FW ISOL VLV TRF SW	NORMAL	

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STEAM GENERATOR LOOP 4 FEEDWATER SWITCH LINEUP

Date
Date

SWITCH NUMBER	SWITCH LOCATION	NOMENCLATURE	POSITION	VERIFIED BY INITIAL/DATE
2-HS-3-100A	2-M-3	SG #4 MFW ISOL VLV	A-P AUTO	
2-HS-3-45	2-M-3	FW SYSTEM RECIRCULATION CONTROL SWITCH	NORMAL	
2-HS-3-945A	2-JB-292-8205 (757/A10Q)	HAND SWITCH FOR CONTROL BUILDING ISOLATION	OFF	
2-HS-2-100C	480V REACTOR MOV BOARD 2B2-B, 2-MCC-213-B2-B, CMPT 4D (772/A12R)	SG #4 FW ISOL VLV SW	NORMAL	
2-XS-3-100	480V REACTOR MOV BOARD 2B2-B, 2-MCC-213-B2-B, CMPT 4D (772/A12R)	SG #4 FW ISOL VLV TRF SW	NORMAL	

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STEAM GENERATOR LOOP 1 FEEDWATER BREAKER LINEUP

Date			

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	TEST POSITION	INITIAL/DATE
2-BKR-213-A2/6D 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A	THERMAL OVERLOAD BYPASS 2A-2	772/A11S, 6D	ON	
2-BKR-3-33, SG 1 MFW ISOL 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A	SG 1 MFW ISOL (2-FCV-3-33)	772/A11S, 3D	ON	
2-BKR-3-191 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A	MFW DEARATION LINE LP1 ISOL (2-FCV-3-191)	772/A11S, 4A	ON	

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STEAM GENERATOR LOOP 2 FEEDWATER BREAKER LINEUP

Date ____

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	TEST POSITION	INITIAL/DATE
2-BKR-213-B2/6F 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B	THERMAL OVERLOAD BYPASS 2B-2	772/A12R, 6F	ON	
2-BKR-3-47 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B	SG 2 MFW ISOL (2-FCV-3-47)	772/A12R, 3D	ON	
2-BKR-3-192 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A	MFW DEARATION LINE LP2 ISOL (2-FCV-3-192)	772/A11S, 4B	ON	

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STEAM GENERATOR LOOP 3 FEEDWATER BREAKER LINEUP

Date	
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BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	TEST POSITION	INITIAL/DATE
2-BKR-213-A2/6D 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A	THERMAL OVERLOAD BYPASS 2A-2	772/A11S, 6D	ON	
2-BKR-3-87 2-MCC-213-A2-A, 480V REACTOR MOV BOARD 2A2-A	SG 3 MFW ISOL (2-FCV-3-87)	772/A11S, 4D	ON	
2-BKR-3-193 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B	MFW DEARATION LINE LP3 ISOL (2-FCV-3-193)	772/A12R, 4A	ON	

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STEAM GENERATOR LOOP 4 FEEDWATER BREAKER LINEUP

Date _____

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	TEST POSITION	INITIAL/DATE
2-BKR-213-B2/6F 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B	THERMAL OVERLOAD BYPASS 2B-2	772/A12R, 6F	ON	
2-BKR-3-100 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B	SG 4 MFW ISOL (2-FCV-3-100)	772/A12R, 4D	ON	
2-BKR-3-194 2-MCC-213-B2-B, 480V REACTOR MOV BOARD 2B2-B	MFW DEARATION LINE LP4 ISOL (2-FCV-3-194)	772/A12R, 4B	ON	

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Appendix M (Page 1 of 2) Valve Lineup

VALVE NUMBER	NOMENCLATURE	LOCATION EL/COL	POSITION	INITIAL/DATE
2-FCV-3-33	STEAM GENERATOR 1 MFW ISOL	729/A15U	CLOSED	
2-FCV-3-35	STEAM GENERATOR 1 MFW REG VALVE	729/T15P	CLOSED	
2-FCV-3-35A	STEAM GENERATOR 1 MFW BYPASS REG VALVE	729/T15P	CLOSED	
2-FCV-3-236	STEAM GENERATOR 1 MFW BYPASS LINE ISOL	729/A15U	CLOSED	
2-FCV-3-185	STEAM GENERATOR 1 MFW BACKFLUSH WARMING	729/A15U	CLOSED	
2-FCV-3-191	MFW DEARATION LINE LOOP 1 ISOL	YARD/729	CLOSED	
2-FCV-3-47	STEAM GENERATOR 2 MFW ISOL	729/T15P	CLOSED	
2-FCV-3-48	STEAM GENERATOR 2 MFW REG VALVE	729/T15P	CLOSED	
2-FCV-3-48A	STEAM GENERATOR 2 MFW BYPASS REG VALVE	729/C12P	CLOSED	
2-FCV-3-239	STEAM GENERATOR 2 MFW BYPASS LINE ISOL	729/A15X	CLOSED	
2-FCV-3-186	STEAM GENERATOR 2 MFW BACKFLUSH WARMING	729/A15X	CLOSED	
2-FCV-3-192	MFW DEARATION LINE LOOP 2 ISOL	YARD/729	CLOSED	
2-FCV-3-87	STEAM GENERATOR 3 MFW ISOL	729/A15X	CLOSED	
2-FCV-3-90	STEAM GENERATOR 3 MFW REG VALVE	729/T15N	CLOSED	
2-FCV-3-90A	STEAM GENERATOR 3 MFW BYPASS REG VALVE	729/T14P	CLOSED	

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Appendix M (Page 2 of 2) Valve Lineup

2-FCV-3-242	STEAM GENERATOR 3 MFW BYPASS LINE ISOL	729/A15X	CLOSED
2-FCV-3-187	STEAM GENERATOR 3 MFW BACKFLUSH WARMING	729/A15X	CLOSED
2-FCV-3-193	MFW DEARATION LINE LOOP 3 ISOL	YARD/729	CLOSED
2-FCV-3-100	STEAM GENERATOR 4 MFW ISOL	729/A15X	CLOSED
2-FCV-3-103	STEAM GENERATOR 4 MFW REG VALVE	729/T15P	CLOSED
2-FCV-3-103A	STEAM GENERATOR 4 MFW BYPASS REG VALVE	729/T15P	CLOSED
2-FCV-3-245	STEAM GENERATOR 4 MFW BYPASS LINE ISOL	729/A15U	CLOSED
2-FCV-3-188	STEAM GENERATOR 4 MFW BACKFLUSH WARMING	729/A15U	CLOSED
2-FCV-3-194	MFW DEARATION LINE LOOP 4 ISOL	YARD/729	CLOSED