

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM		
SYSTEM:	Reactor Coolant System		
TASK:	Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1		
TASK NUMBER:	N1150290501		
JPM NUMBER:	16-01 NRC Sim-d		
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	002 A2.04
APPLICABILITY:		IMPORTANCE FACTOR:	
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EVALUATION SETTING/METHOD:	Simulator / Perform		
REFERENCES:	2-EOP-FRHS-1, Rev 30 (checked 11-8-17) <i>34 11-13-17 R</i>		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	<u>8 min</u>		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	<u>N/A</u>		
Developed By:	R. Chan <i>Rudolph Chan</i> Instructor	Date:	11-8-17
Validated By:	<i>G. Olanoff</i> 11-8-17 SME or Instructor	Date:	
Approved By:	Training Department <i>W. H. H.</i>	Date:	11/13/17
Approved By:	Operations Department <i>J. Myers</i>	Date:	11/13/17
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE:	<input type="checkbox"/> SAT	<input type="checkbox"/> UNSAT	
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:			DATE:

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM		
SYSTEM:	Reactor Coolant System		
TASK:	Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1		
TASK NUMBER:	N1150290501		
JPM NUMBER:	16-01 NRC Sim-d		
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	002 A2.04
APPLICABILITY:		IMPORTANCE FACTOR:	
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
			RO <u>4.3</u> SRO <u>4.6</u>
EVALUATION SETTING/METHOD:	Simulator / Perform		
REFERENCES:	2-EOP-FRHS-1, Rev 33 (checked 11-8-17)		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	<u>8 min</u>		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	<u>N/A</u>		
Developed By:	R. Chan <i>Rudohal Chan</i>	Date: 11-8-17	
	Instructor		
Validated By:	SME or Instructor	Date:	
Approved By:	Training Department	Date:	
Approved By:	Operations Department	Date:	

ACTUAL JPM COMPLETION TIME:	
ACTUAL TIME CRITICAL COMPLETION TIME:	
PERFORMED BY:	
GRADE: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
REASON, IF UNSATISFACTORY:	<i>Ben Brand</i>
EVALUATOR'S SIGNATURE:	<i>[Signature]</i> DATE: 11/8-2017

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

REVISION HISTORY

JPM NUMBER: 16-01 NRC Sim-d

Rev #	Date	Description	Validation Required
00	9-29-17	Added revision history and simulator setup pages. Editorial comments from IP 71111.11 FASA.	Yes
01	11-13-17	Deleted malfunction for 2PR1 not opening in manual and changed initial conditions that three (3) SG WR levels are less than 32% for Bleed and Feed criteria IAW new revision to 2-EOP-FRHS-1 (Rev. 34).	Yes

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Reactor Coolant System

TASK: Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1

TASK NUMBER: N1150290501

SIMULATOR IC: IC-243

MALFUNCTIONS / REMOTES:

1. Reset the simulator to IC-243
2. Verify the following events on the Summary/ET Trigger Lists:
 - **MALF: AF0181B 22 AFW pump trip**
 - **MALF: AF0183 23 AFW pump trip**
 - **MALF: RP0247 False FW Isolation**
 - **21 AFW pump C/T.**
3. Ensure three (3) SG WR levels are less than 32% to meet Bleed and Feed criteria.
4. This completes the setup for this JPM.

OVERRIDES:

- B202 E DI 2PR2 Open PB Override OFF

SPECIAL INSTRUCTIONS:

- **ENSURE** four (4) Reactor Head Vent keys are available for the evaluator.
- Extra Instructor to respond to the alarms.
- Consider leaving the Rx Head Vent Keys in the key switch to prevent damage.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Reactor Coolant System

TASK: Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1

TASK NUMBER: N1150290501

INITIAL CONDITIONS:

- Unit 2 was manually tripped at 90% power due to elevated main turbine vibrations IAW S2.OP-AB.TL-0001.
- An inadvertent feedwater isolation actuation occurred resulting in the loss of all main feedwater.
- Loss of all AFW flow occurred when all AFW pumps tripped.
- The crew has entered 2-EOP-FRHS-1 due to valid RED Path on Heat Sink CFST based on all SG NR levels < 9% and AFW flow < 22E4 lbm/hr.
- Plant conditions have continued to deteriorate and three (3) steam generator Wide Range levels are now less than 32%.
- The CRS is implementing the CAS action to Initiate Bleed and Feed.

INITIATING CUE:

- You are the Reactor Operator.
- The CRS has directed you to Initiate Bleed and Feed starting at **Step 21** IAW 2-EOP-FRHS-1, Response to Loss of Secondary Heat Sink.
- Your evaluator will respond to all alarms not related to your task.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

Task Standard for Successful Completion:

1. OPENS 2RC40 thru 2RC43 Reactor Head Vents IAW 2-EOP-FRHS-1.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

SYSTEM: Reactor Coolant System

TASK: Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	CUE	Fill in the JPM Start Time when the student acknowledges the Initiating Cue. START TIME: _____			
	CUE	The following are Steps from 2-EOP-FRHS-1, Response to Loss of Secondary Heat Sink.			
	Step 21	CAUTION To establish RCS Het Sink Removal by RCS Bleed and Feed , Steps 24 thru 29 Must Be Performed Quickly and Without Interruption.	Operator reads the Caution and continues on.		
	Step 21 Contd.	STOP ALL RCPs	Operator verifies that all RCPs are already Stopped. (Step 7 of FRHS-1 stopped RCPs)		
*	Step 22	Initiate SI	Operator initiates SI on both Trains by inserting key and turning switch clockwise until the SI Operate bezel illuminates and the SI Reset bezel extinguishes. Note: Operator only needs to initiate SI on one Train.		
	Step 23	Are SI Valves in Safeguards Position	YES. Operator checks that all SI valve bezels on 2RP4 are illuminated.		
	Step 23.1	Is 21 or 22 Charging Pump Running	YES. Operator reports that both Charging pumps are running as indicated by START bezels illuminated Red.		
	Step 23.1 Contd.	Is BIT Flow Established	YES. Operator reports BIT flow is established by indication of flow on Charging flowmeter. (During validations flow was about 150-160 gpm)		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

SYSTEM: Reactor Coolant System

TASK: Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	Step 23.2	Is any SI Running	YES. Operator reports that both SI pumps are running by START PBs illuminated Red.		
	Step 23.2 Contd.	Are Valves in Table C Open for At Least One Running SI Pump	YES. Operator verifies that all valves are OPEN in Table C for both running SI pumps as indicated by valve OPEN bezels illuminated.		
	Step 23.2 Contd.	Are All Charging and SI Pumps Running And Aligned to Deliver Flow	YES. Operator identifies that all Charging and SI Pumps are running and the valves are in the safeguards positions.		
	Step 24	Open Both PZR PORV Stop Valves	Operator reports that both PZR PORV Stop Valves are OPEN as indicated by 2PR6 and 2PR7 OPEN bezels illuminated.		
		[ALTERNATE PATH STARTS HERE:]			
	Step 24 Contd.	Open Both PZR PORVs	Operator places both PZR PORVs in Manual and depresses OPEN PBs for 2PR1 and 2PR2. Operator reports that 2PR2 will NOT OPEN. <u>Note:</u> The PZR PORVS may be cycling during this time. The operator should determine that both PORVs are required to be fully open in Manual and not credit auto operation.		
	Step 24.1	Are Both PZR PORV Stop Valves Open	YES. Operator reports both 2PR6 and 2PR7 are open as indicated by OPEN bezels illuminated.		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

SYSTEM: Reactor Coolant System

TASK: Initiate Feed and Bleed using Reactor Head Vents IAW EOP-FRHS-1

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	Step 24.1 Contd.	Are Both PZR PORVs Open	NO. Operator reports that 2PR2 will NOT OPEN.		
*	Step 24.1 Contd.	Open 2RC40 Thru 2RC43 (Reactor Head Vents)	<p>Cue: Lead Evaluator needs to provide the four (4) keys to the Operator.</p> <p>At the 2RP2 backpanel, Operator obtains keys and inserts key into each keyswitch one at a time and turns clockwise until the OPEN bezel illuminates.</p> <p>Terminate JPM when 2RC40 Thru 2RC43 are open.</p>		
	CUE:	<p>JPM is Complete</p> <p>RECORD the STOP TIME.</p> <p>STOP TIME: _____</p>	<p>Terminate the JPM when the operator OPENS 2RC40 Thru 2RC43.</p>		

OPERATIONS DEPARTMENT
JOB PERFORMANCE MEASURE

TQ-AA-106-0303

JPM: 16-01 NRC Sim-d

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 and 11 below.

- / 1. Task description and number, JPM description and number are identified.
- / 2. Knowledge and Abilities (K/A) references are included.
- / 3. Performance location specified. (in-plant, control room, or simulator)
- / 4. Initial setup conditions are identified.
- / 5. Initiating and terminating Cues are properly identified.
- / 6. Task standards identified and verified by SME review.
- / 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
- / 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure: Procedure Rev. _____ Date _____
- / 9. Pilot test the JPM:
 - a. verify Cues both verbal and visual are free of conflict, and
 - b. ensure performance time is accurate.
- / 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

SME/Instructor: Ben Bond Date: 11/8/2017
SME/Instructor: GUSTAVO OLIVIA Date: 11-3-2017
SME/Instructor: _____ Date: _____

**OPERATIONS DEPARTMENT
JOB PERFORMANCE MEASURE**

INITIAL CONDITIONS:

- Unit 2 was manually tripped at 90% power due to elevated main turbine vibrations IAW S2.OP-AB.TL-0001.
- An inadvertent feedwater isolation actuation occurred resulting in the loss of all main feedwater.
- Loss of all AFW flow occurred when all AFW pumps tripped.
- The crew has entered 2-EOP-FRHS-1 due to valid RED Path on Heat Sink CFST based on all SG NR levels < 9% and AFW flow < 22E4 lbm/hr.
- Plant conditions have continued to deteriorate and three (3) steam generator Wide Range levels are now less than 32%.
- The CRS is implementing the CAS action to Initiate Bleed and Feed.

INITIATING CUE:

- You are the Reactor Operator.
- The CRS has directed you to Initiate Bleed and Feed starting at **Step 21** IAW 2-EOP-FRHS-1, Response to Loss of Secondary Heat Sink.
- Your evaluator will respond to all alarms not related to your task.