



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	2-EOI Appendix-3A, SLC Injection U-2	
JPM NUMBER:	271A	REVISION:	0	

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):	U-000-EM-73 - Inject SLC in accordance with EOI Appendix 3A			
K/A RATINGS:	RO 4.0 SRO 4.1			
K/A STATEMENT:	211000 A3.06			
RELATED PRA INFORMATION:	N/A			
SAFETY FUNCTION:	1			

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: N/A TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) Y

Developed by:

\_\_\_\_\_  
*Developer* *Date*  
(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)  
(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by:

\_\_\_\_\_  
*Validator* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Management* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Program Owner* *Date*

*Rev'd  
12/1/14*



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_\_ SRO \_\_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: 2-EOI-Appendix 3A complete with SLC injecting to the RPV, isolate RWCU manually

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-EOI Appendix-3A

VALIDATION TIME: 5 Minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_\_ NO \_\_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_ (Retain entire JPM for records)

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	

Batch File or Pref file	
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Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch / Pref File(s):



## Job Performance Measure (JPM)

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**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.  
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### INITIAL CONDITIONS:

You are an operator on Unit 2. The reactor has scrammed and control rods failed to insert. 2-EOI-1 has been entered and followed to RC/Q-12. Reactor power is >5% and suppression pool temperature is >100°F and rising.

### INITIATING CUE:

The Unit Supervisor has directed you to perform 2-EOI Appendix-3A, SLC Injection.



## Job Performance Measure (JPM)

START TIME \_\_\_\_\_

STEP / STANDARD	SAT / UNSAT
<p><u>Step 1:</u></p> <p><b>2-EOI Appendix-3A</b></p> <p>[1] UNLOCK and PLACE 2-HS-63-6A, SLC PUMP 2A/2B, control switch in START PUMP 2A or START PUMP 2B position.</p> <p><u>Standard:</u></p> <p>Operator unlocks and places SLC pump control switch in <u>either</u> START-A or START-B position.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 2:</u></p> <p>[2] <b>CHECK</b> SLC System for injection by observing the following:</p> <ul style="list-style-type: none"><li>• Selected pump starts, as indicated by red light illuminate above pump control switch</li><li>• Squib valves fire, as indicated by SQUIB VALVE A and B CONTINUITY blue lights extinguished</li><li>• SLC SQUIB VALVE CONTINUITY LOST Annunciator in alarm on Panel 2-9-5 (2-XA-55-5B, Window 20)</li><li>• 2-PI-63-7A, SLC PUMP DISCH PRESS, indicates above RPV pressure.</li><li>• System flow, as indicated by 2-IL-63-11, SLC FLOW, red light illuminated on Panel 2-9-5</li><li>• SLC INJECTION FLOW TO REACTOR Annunciator in alarm on Panel 2-9-5 (2-XA-55-5B, Window 14).</li></ul> <p><u>Standard:</u></p> <p>Operator verifies the indications above.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 3:</u></p> <p>[3] <b>IF</b> Proper system operation <b>CANNOT</b> be verified, <b>THEN RETURN</b> to Step 1.0[1] and <b>START</b> other SLC pump.</p> <p><u>Standard:</u></p> <p>Operator does not return to step 1.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 4:</u></p> <p>[4]    <b>VERIFY</b> RWCU isolation by observing the following:</p> <ul style="list-style-type: none"><li>• RWCU Pumps 2A and 2B tripped</li><li>• 2-FCV-69-1, RWCU INBD SUCT ISOLATION VALVE closed</li><li>• 2-FCV-69-2, RWCU OUTBD SUCT ISOLATION VALVE closed</li><li>• 2-FCV-69-12, RWCU RETURN ISOLATION VALVE closed</li></ul> <p><u>Standard:</u></p> <p>Operator determines RWCU did not isolate and isolates RWCU by securing both RWCU pumps and shutting the 69-1, 2, and 12 valves.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 5:</u></p> <p>[5]    <b>VERIFY</b> ADS inhibited.</p> <p><u>Standard:</u></p> <p>Operator verifies 2-XS-1-159A and 2-XS-1-161A, Panel 2-9-3, in the INHIBIT position and verifies Alarm Panel 2-XA-55-3C, Window 18, "ADS LOGIC BUS A INHIBITED and 2-XA-55-3C, Window 31, "ADS LOGIC BUS B INHIBITED", in alarm.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 6:</u></p> <p>[6]    <b>MONITOR</b> reactor power for downward trend.</p> <p><u>Standard:</u></p> <p>Operator monitors all available APRMs/IRMs for downward reactor power trend.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 7:</u></p> <p>[7] <b>MONITOR</b> 2-LI-63-1A, SLC STORAGE TANK LEVEL, and <b>CHECK</b> that level is dropping approximately 1% per minute.</p> <p><u>Standard:</u></p> <p>Operator observes 2-LI-63-1A and verifies SLC storage tank level decreasing.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 8:</u></p> <p>[8] <b>WHEN</b> EITHER of the following exists:</p> <ul style="list-style-type: none"><li>• SLC tank level drops to 0%,</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>• As directed by SRO, <b>THEN</b></li></ul> <p><b>STOP</b> SLC Pump 2A or 2B.</p> <p><u>Standard:</u></p> <p>Operator monitors SLC tank level to determine when to secure SLC.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>

Cue: Another operator will secure SLC when necessary and complete the remainder of the task.

STOP TIME \_\_\_\_\_

END OF TASK



## Job Performance Measure (JPM)

### Provide to Applicant

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#### **INITIAL CONDITIONS:**

You are an operator on Unit 2. The reactor has scrammed and control rods failed to insert. 2-EOI-1 has been entered and followed to RC/Q-12. Reactor power is >5% and suppression pool temperature is >100°F and rising.

#### **INITIATING CUE:**

The Unit Supervisor has directed you to perform 2-EOI Appendix-3A, SLC Injection.





## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	2-EOI Appendix-11C, HPCI in Pressure Control / Respond to HPCI Steam Leak U-2	
JPM NUMBER:	627A	REVISION:	0	

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):	U-000-EM-55 / Lineup Alternate RPV Pressure Control Systems – HPCI Test Mode in Accordance with EOI Appendix 11C			
K/A RATINGS:	206000 A2.10 RO 4.0 SRO 4.1			
K/A STATEMENT:	Ability to predict the impacts of the following on the HPCI system and based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: System Isolation			
RELATED PRA INFORMATION:	N/A			
SAFETY FUNCTION:	3			

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: N/A TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) Y

Developed by:

\_\_\_\_\_  
*Developer* *Date*  
(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)  
(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by:

\_\_\_\_\_  
*Validator* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Management* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Program Owner* *Date*

Heid  
12/1/14



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: Perform control room operations for RPV pressure control IAW 2-EOI Appendix-11C, and respond to incomplete isolation on HPCI Steam Leak.

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-EOI Appendix-11C; 2-ARP-9-3F;  
2-AOI-64-2B

VALIDATION TIME: 15 Minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_ (Retain entire JPM  
for records)

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	28
Exam IC	109

Batch File or Pref file	
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Malfunctions	Description	Event	Severity	Delay	Initial set
hp09		Active	N/A	N/A	N/A
hp08		1	98	0	N/A

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch/Pref File(s):

Panel Setup:



## Job Performance Measure (JPM)

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### INITIAL CONDITIONS:

You are an Operator on Unit 2. Unit 2 has Scrammed. Current conditions are as follows:

- RFPs are controlling RPV water level +2 in. to +51 in.
- One Main Turbine Bypass valve is partially open
- EOI-1, RC/P has been followed to step RC/P 11

### INITIATING CUE:

The Unit Supervisor has directed you to augment RPV pressure control using HPCI, Appendix 11C.



## Job Performance Measure (JPM)

START TIME \_\_\_\_\_

STEP / STANDARD	SAT / UNSAT
<p><u>Step 1:</u></p> <p><b>2-EOI Appendix-11C,</b></p> <p style="text-align: center;"><b>CAUTION</b></p> <ul style="list-style-type: none"><li>• Operating HPCI Turbine below 2400 rpm may result in unstable system operation and equipment damage.</li><li>• Operating HPCI Turbine with suction temperatures above 140°F may result in equipment damage.</li></ul> <p>1. IF ..... Suppression Pool level drops below 12.75 ft, THEN ..... <b>TRIP</b> HPCI and <b>CONTROL</b> RPV pressure using other options.</p> <p><u>Standard:</u></p> <p>Verifies suppression pool water level &gt;12.75 ft and determines steps 1 is N/A.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 2:</u></p> <p>2. IF ..... Emergency RPV Depressurization is required, <b>OR</b> Steam Cooling is required, THEN ..... <b>EXECUTE</b> EOI Appendix 16C and 16D as necessary to bypass HPCI Low RPV pressure and Test Mode Isolation Interlocks.</p> <p><u>Standard:</u></p> <p>Determines step is N/A.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 3:</u></p> <p>3. IF ..... Suppression Pool level CANNOT be maintained below 5.25 in., THEN ..... <b>EXECUTE</b> EOI Appendix 16E concurrently with this procedure to bypass HPCI High Suppression Pool Level Suction Transfer Interlock.</p> <p><u>Standard:</u></p> <p>Verifies suppression pool water level is &gt;5.25 in and step is N/A.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 4:</u></p> <p>4. IF ..... HPCI Turbine is operating, THEN ..... <b>ALIGN</b> HPCI in test mode as follows:</p> <p>a. <b>OPEN</b> 2-FCV-73-35, HPCI PUMP CST TEST VLV. b. <b>OPEN</b> 2-FCV-73-36, HPCI/RCIC CST TEST VLV. c. <b>CLOSE</b> 2-FCV-73-44, HPCI PUMP INJECTION VALVE. d. <b>CONTINUE</b> in this procedure at Step 6..</p> <p><u>Standard:</u></p> <p>Determines that HPCI is not operating and step is N/A.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 5:</u></p> <p>5. IF ..... HPCI is in standby readiness, THEN ..... <b>START</b> HPCI as follows:</p> <p>a. <b>VERIFY</b> at least one SGTS Train in operation. b. <b>VERIFY</b> 2-FIC-73-33, HPCI SYSTEM FLOW/CONTROL, controller in AUTO and set for 5300 gpm.</p> <p><u>Standard:</u></p> <p>Verifies at least one SGTS train is in operation and that HPCI flow controller is in AUTO and set for 5300 gpm.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 6:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>HPCI Auxiliary Oil Pump will NOT start UNTIL 2-FCV-73-16, HPCI TURBINE STEAM SUPPLY VLV, starts to open.</p> <p>c. <b>PLACE</b> 2-HS-73-47A, HPCI AUXILIARY OIL PUMP handswitch in START.</p> <p><u>Standard:</u></p> <p>Places HPCI AUXILIARY OIL PUMP handswitch in START.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 7:</u></p> <p>d. <b>PLACE</b> 2-HS-73-10A, HPCI STEAM PACKING EXHAUSTER, in START.</p> <p><u>Standard:</u></p> <p>Places HPCI STEAM PACKING EXHAUSTER handswitch in START.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 8:</u></p> <p>e. <b>OPEN</b> the following valves:</p> <ul style="list-style-type: none"><li>• 2-FCV-73-36, HPCI/RCIC CST TEST VLV</li><li>• 2-FCV-73-35, HPCI PUMP CST TEST VLV</li><li>• 2-FCV-73-30, HPCI PUMP MIN FLOW VALVE.</li></ul> <p><u>Standard:</u></p> <p>Opens 2-FCV-73-36, 2-FCV-73-35, and 2-FCV-73.30.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 9:</u></p> <p>f. <b>OPEN</b> 2-FCV-73-16, HPCI TURBINE STEAM SUPPLY VLV, to start HPCI Turbine.</p> <p><u>Standard:</u></p> <p>Opens 2-FCV-73-16, HPCI TURBINE STEAM SUPPLY VLV.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 10:</u></p> <p>g. <b>VERIFY</b> HPCI Auxiliary Oil Pump starts and turbine accelerates above 2400 rpm.</p> <p><u>Standard:</u></p> <p>Verifies HPCI turbine speed accelerated above 2400 rpm.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 11:</u></p> <p>6. <b>VERIFY</b> proper HPCI minimum flow valve operation as follows:</p> <p>a. IF ..... HPCI flow is above 1200 gpm, THEN ..... <b>VERIFY CLOSED</b> 2-FCV-73-30, HPCI PUMP MIN FLOW VALVE.</p> <p>b IF ..... HPCI flow is below 600 gpm, THEN ..... <b>VERIFY OPEN</b> 2-FCV-73-30, HPCI PUMP MIN FLOW VALVE.</p> <p><u>Standard:</u></p> <p>Verifies that the HPCI minimum flow valve is closed.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 12:</u></p> <p>7. <b>THROTTLE</b> 2-FCV-73-35, HPCI PUMP CST TEST VLV, to control HPCI pump discharge pressure at or below 1100 psig.</p> <p>8. <b>ADJUST</b> 2-FIC-73-33, HPCI SYSTEM FLOW/CONTROL, controller to Control RPV pressure</p> <p><u>Standard:</u></p> <p>Throttles and adjusts CST test valve and HPCI flow controller as necessary to maintain pump discharge pressure at or below 1100 psig and control RPV pressure.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 13:</u></p> <p>[10] <b>WHEN</b> HPCI Auxiliary Oil Pump stops, <b>THEN PLACE</b> HPCI AUXILIARY OIL PUMP handswitch in AUTO</p> <p><u>Standard:</u></p> <p>Places HPCI AUXILIARY OIL PUMP handswitch in AUTO when HPCI Auxiliary Oil Pump stops</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b>DRIVER:</b> At direction of NRC- Insert Pref Key F5 - to initiate steam leak into HPCI Room</p> <p><b>NRC:</b> The candidate may choose to respond IAW the ARP or the AOI. ARP step is step 14 and AOI Step16</p>	
<p><b>NOTE: NEXT STEP STARTS ALTERNATE PATH</b></p>	





## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 14:</u></p> <p><b>2-ARP-9-3F (window 18), HPCI STEAM LINE FLOW EXCESSIVE 2-PDA-73-1</b></p> <p>Automatic Action:</p> <p>A. HPCI TURBINE STOP VALVE, 2-FCV-73-18, closes.</p> <p>B. HPCI PUMP MIN FLOW VALVE, 2-FCV-73-30, closes</p> <p>C. The following HPCI steam supply valves close:</p> <p>    *HPCI STEAM LINE INBD ISOL VALVE, 2-FCV-73-2</p> <p>    *HPCI STEAM LINE OUTBD ISOL VALVE, 2-FCV-73-3</p> <p>    HPCI STEAM LINE WARM-UP VALVE, 2-FCV-73-81</p> <p>D. The following HPCI Suppression Pool suction valves close:</p> <p>    HPCI SUPPR POOL INBD SUCT VLV, 2-FCV-73-26</p> <p>    HPCI SUPPR POOL OUTBD SUCT VLV, 2-FCV-73-27</p> <p>E. The following amber lights indicating auto isolation seal-in will illuminate:</p> <p>    HPCI AUTO ISOL LOGIC A, 2-IL-73-58A</p> <p>    HPCI AUTO ISOL LOGIC B, 2-IL-73-58B</p> <p><u>Standard:</u></p> <p>Verifies Automatic Actions occur.</p> <p>*Determines 2-FCV-73-2 did not close. Closes 2-FCV-73-2.</p> <p>*Determines 2-FCV-73-3 did not close. Closes 2-FCV-73-3</p>	<p><b>*Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>CUE: Another Operator will continue from here.</b>	



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 15:</u></p> <p><b>2-ARP-9-3F (window 18), HPCI STEAM LINE FLOW EXCESSIVE 2-PDA-73-1</b></p> <p><b>OPERATOR ACTION:</b></p> <p>A. IF annunciation is valid, <b>THEN REFER TO 2-AOI-64-2b.</b></p> <p>B. <b>REFER TO</b> Tech Spec 3.5.1, and 3.3.6.1</p> <p><u>Standard:</u></p> <p>Refers to 2-AOI-64-2b. Notifies US of TS 3.5.1 and 3.3.6.1.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 16:</u></p> <p><b>2-AOI-64-2B</b></p> <p><b>4.1 Immediate Actions</b></p> <p>[1] <b>VERIFY</b> automatic actions occur.</p> <p><u>Standard:</u></p> <p>Verifies Automatic Actions occur. TRIPS TURBINE, by depressing HPCI TRIP pushbutton *Determines 2-FCV-73-2 did not close. Closes 2-FCV-73-2. *Determines 2-FCV-73-3 did not close. Closes 2-FCV-73-3</p>	<p><b>*Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b>CUE: Another Operator will continue from here.</b></p>	

STOP TIME \_\_\_\_\_

END OF TASK



## Job Performance Measure (JPM)

### Provide to Applicant

\*\*\*\*\*  
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#### INITIAL CONDITIONS:

You are an Operator on Unit 2. Unit 2 has Scrammed. Current conditions are as follows:

- RFPs are controlling RPV water level +2 in. to +51 in.
- One Main Turbine Bypass valve is partially open
- EOI-1, RC/P has been followed to step RC/P 11

#### INITIATING CUE:

The Unit Supervisor has directed you to augment RPV pressure control using HPCI, Appendix 11C.



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	Operate the RHR System in Shutdown Cooling in accordance with 2-EOI Appendix 17D U-2
JPM NUMBER:	628	REVISION:	0

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):	U-000-EM-82 / Operate the RHR System in shutdown Cooling in accordance with EOI Appendix 17D			
K/A RATINGS:	205000 A2.10 K/A RATING: RO 2.9 SRO 2.9			
K/A STATEMENT:	Ability to (a) predict the impacts of the following on the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Valve operation			
RELATED PRA INFORMATION:	N/A			
SAFETY FUNCTION:	4			

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: NA TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) N

Developed by:

\_\_\_\_\_  
*Developer* *Date*  
(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)  
(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by:

\_\_\_\_\_  
*Validator* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Management* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Program Owner* *Date*

Rec'd  
12/1/14



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: Perform operations necessary to place RHR Loop I in Shutdown  
Cooling as directed by 2-EOI Appendix 17D

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-EOI Appendix 17D

VALIDATION TIME: 40 minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	102

Batch File or Pref file	
-------------------------------	--

Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set
AN:XA553E32	RHR SYS I/II DISCH OR SD CLG HDR PRESS HIGH	Active	NA	NA	OFF

Batch / Pref File(s):

Panel Setup: Ops SI 3.4.9.1.1 on one ICS Monitor



## Job Performance Measure (JPM)

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### INITIAL CONDITIONS:

You are an Operator. Unit 2 reactor has scrammed and EOI-1 has been followed to RC/P-15. The Shift Manager has directed the unit be brought to cold shutdown. RHR Loop flushing is NOT directed. Another operator is performing the cooldown log, 3.4.9.1(1).

### INITIATING CUE:

The Unit Supervisor directs you to initiate shutdown cooling on RHR Loop I in accordance with 2-EOI Appendix 17D, RHR System Operation Shutdown Cooling. RHR Loop flushing is NOT directed.



## Job Performance Measure (JPM)

START TIME \_\_\_\_\_

STEP / STANDARD	SAT / UNSAT
<p><u>Step 1:</u></p> <p><b>2-EOI APPENDIX-17D, RHR SYSTEM OPERATION SHUTDOWN COOLING</b></p> <p style="text-align: center;"><b>NOTE</b></p> <p>Due to ALARA or other circumstances, including time constraints, it may be necessary to place RHR in Shutdown Cooling without flush as determined by the Unit SRO.</p> <p>[1] <b>VERIFY</b> the following:</p> <ul style="list-style-type: none"><li>• RPV pressure below 100 psig</li></ul> <p>AND</p> <ul style="list-style-type: none"><li>• RPV water level above +2 in.</li></ul> <p>AND</p> <ul style="list-style-type: none"><li>• Drywell pressure below 2.4 psig</li></ul> <p><u>Standard:</u></p> <p>Verifies RPV pressure below 100 psig, RPV water level above +2 in., and Drywell pressure below 2.4 psig.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 2:</u></p> <p>[2] <b>PERFORM</b> the following for RHR System desired for Shutdown Cooling:</p> <p>[2.1] <b>VERIFY</b> RHR Pumps 2A and 2C NOT running.</p> <p><u>Standard:</u></p> <p>Verifies RHR Pumps 2A and 2C NOT RUNNING by illuminated GREEN lights above handswitches.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>





## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 3:</u></p> <p>[2.2] <b>VERIFY CLOSED</b> the following spray and test valves:</p> <ul style="list-style-type: none"><li>• 2-FCV-74-57, RHR SYS I SUPPR CHBR/POOL ISOL VLV</li><li>• 2-FCV-74-59, RHR SYS I SUPPR POOL CLG/TEST VLV.</li></ul> <p><u>Standard:</u></p> <p>Verifies 2-FCV-74-57 and 2-FCV-74-59 closed.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 4:</u></p> <p>[2.3] <b>VERIFY CLOSED</b> the following spray valves:</p> <ul style="list-style-type: none"><li>• 2-FCV-74-61, RHR SYS I DW SPRAY INBD VLV</li><li>• 2-FCV-74-60, RHR SYS I DW SPRAY OUTBD VLV</li><li>• 2-FCV-74-58, RHR SYS I SUPPR CHBR SPRAY VALVE</li></ul> <p><u>Standard:</u></p> <p>Verifies 2-FCV-74-61, 2-FCV-74-60, and 2-FCV-74-58 CLOSED.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 5:</u></p> <p>[2.4] <b>VERIFY CLOSED</b> the following injection valves:</p> <ul style="list-style-type: none"><li>• 2-FCV-74-52, RHR SYS I LPCI OUTBD INJECT VALVE</li><li>• 2-FCV-74-53, RHR SYS I LPCI INBD INJECT VALVE</li></ul> <p><u>Standard:</u></p> <p>Closes 2-FCV-74-52 and verifies 2-FCV-74-53 closed.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 6:</u></p> <p>[3] IF Unit SRO directs RHR System flush, <b>THEN PERFORM</b> the following:</p> <p>[3.1] <b>PERFORM ONLY</b> Section 8.7 of 2-OI-74.</p> <p>[3.2] <b>WHEN</b> Section 8.7 of 2-OI-74 is complete, <b>THEN CONTINUE</b> in this procedure.</p> <p><u>Standard:</u></p> <p>N/A, given in the initial conditions.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 7:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>When placing RHR System II in shutdown cooling, <u>BOTH</u> selector switches must be placed in SHDN.</p> <p>[4] <b>DISPATCH</b> personnel to <b>PLACE</b> 2-HS-74-157 MODE SELECTOR SWITCH, in SHDN (480V RMOV Board 2A, Compartment 5B).</p> <p><u>Standard:</u></p> <p>Dispatches AUO to place 2-HS-74-157 in SHUTDOWN position.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b><u>Driver:</u> When requested, INSERT MRF RH18 SHUTDOWN Report to control room that 2-HS-74-157 has been placed in the Shutdown position.</b></p>	
<p><u>Step 8:</u></p> <p>[5] <b>CLOSE</b> the following valves:</p> <ul style="list-style-type: none"><li>• 2-FCV-74-1, RHR PMP 2A SUPPR POOL SUCT VLV</li><li>• 2-FCV-74-12, RHR PMP 2C SUPPR POOL SUCT VLV</li></ul> <p><u>Standard:</u></p> <p>Closes 2-FCV-74-1 and 2-FCV-74-12.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<u>Step 9:</u>  [6] <b>PLACE</b> 2-HS-74-148, RHR SYS I MIN FLOW INHIBIT, in INHIBIT.  <u>Standard:</u>  Places 2-HS-74-148 in the INHIBIT position.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<b>NRC: The Operator is directed to align RHR Loop I if the operator disables RHR LPCI Mode by performing items in parenthesis (RHR Loop II) this would constitute a FAILURE.</b>	
<u>Step 10:</u>  [7] <b>VERIFY CLOSED</b> 2-FCV-74-7, RHR SYSTEM I MIN FLOW VALVE.  <u>Standard:</u>  Verifies 2-FCV-74-7 closed.	___ SAT  ___ UNSAT  ___ N/A
<u>Step 11:</u>  [8] <b>OPEN</b> at least <u>ONE</u> of the following valves to the desired RHR Pump:  • 2-FCV-74-2, RHR PUMP 2A SD COOLING SUCT VLV  • 2-FCV-74-13, RHR PUMP 2C SD COOLING SUCT VLV  <u>Standard:</u>  Opens either 2-FCV-74-2 or 2-FVC-74-13 OR BOTH.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 12:</u>  [9] <b>DISPATCH</b> personnel to <b>CLOSE</b> 250V breaker to 2-FCV-74-47, RHR SHUTDOWN COOLING SUCT OUTBD ISOL VLV (250V RMOV Board 2A, Compartment R1A).  <u>Standard:</u>  Dispatches AUO to close breaker for 2-FCV-74-47.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<b>DRIVER: When dispatched <u>DOR YPOVFCV7447</u> and report power is restored to 2-FCV-74-47</b>	



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 13:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>Establishing RPV water level above 40 inches before proceeding beyond Step 1.0[9] will reduce likelihood of shutdown cooling isolation on low RPV water level.</p> <p>[10] OPEN the following Shutdown Cooling Isolation Valves:</p> <ul style="list-style-type: none"><li>• 2-FCV-74-47, RHR SHUTDOWN COOLING SUCT OUTBD ISOL VLV</li><li>• 2-FCV-74-48, RHR SHUTDOWN COOLING SUCT INBD ISOL VLV.</li></ul> <p><u>Standard:</u></p> <p>Opens 2-FCV-74-47 and 48.</p>	<p style="text-align: center;"><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 14:</u></p> <p>[11] <b>VERIFY</b> at least <u>ONE</u> RHRSW pump supplying each EECW header.</p> <p><u>Standard:</u></p> <p>Verifies A3 or C3 and B3 or D3 EECW pumps running.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 15:</u></p> <p style="text-align: center;"><b>CAUTION</b></p> <p>Failure to dilute RHRSW discharge flow from any in-service RHR Heat Exchanger through the companion RHR Heat Exchanger could result in exceeding the qualification temperature limit (150°F) on RHRSW piping and components downstream of the Heat Exchanger.</p> <p>[12] <b>VERIFY</b> a RHRSW Pump OPERATING to establish flow through the companion RHR Heat Exchanger NOT being used for Shutdown Cooling.</p> <p><u>Standard:</u></p> <p>Starts RHRSW Pump A2 or C2.</p>	<p style="text-align: center;"><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>CUE: As other UO, acknowledge start of service water pump</b>	



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 16:</u></p> <p>[13] <b>THROTTLE OPEN</b> companion RHR HX RHRSW outlet valve to obtain a flow of between 3,000 gpm to 4,000 gpm.</p> <p><u>Standard:</u></p> <p>Places 2-HS-23-34A for RHRSW Pump A2 flow OR 2-HS-23-40A for RHRSW Pump C2 flow in the OPEN position and throttles to obtain 3000 to 4000 gpm flow through the RHR companion heat exchanger.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 17:</u></p> <p>[14] <b>START</b> RHRSW pump to supply desired RHR Heat Exchanger(s).</p> <p><u>Standard:</u></p> <p>Starts RHRSW Pump A2 or C2 (Whichever RHRSW Pump that was not started in Step 15).</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>CUE: As other UO, acknowledge direction to carry minimum flow for RHRSW</b>	
<p><u>Step 18:</u></p> <p>[15] <b>VERIFY</b> RHR System discharge pressure above 45 psig as indicated on 2-PI-74-51, RHR SYS I DISCH PRESS.</p> <p><u>Standard:</u></p> <p>Verifies RHR System I discharge pressure greater than 45 psig as indicated on 2-PI-74-51.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 19:</u></p> <p>[16] <b>VERIFY</b> Reactor Recirc Pump 2B stopped.</p> <p><u>Standard:</u></p> <p>Verifies Recirc Pump 2B not running.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<u>Step 20:</u>  [17] <b>VERIFY CLOSED</b> 2-FCV-68-79, RECIRC PUMP 2B DISCHARGE VALVE.  <u>Standard:</u>  Verifies 2-FCV-68-79, Recirc Pump 2B Discharge valve closed.	  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 21:</u>  [18] <b>START</b> RHR Pump 2A or 2C to the desired RHR Heat Exchanger.  <u>Standard:</u>  Starts RHR Pump 2A or 2C.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 22:</u>  [19] <b>OPEN</b> 2-FCV-74-53, RHR SYS I LPCI INBD INJECT VALVE.  <u>Standard:</u>  Opens 2-FCV-74-53.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 23:</u>  [20] <b>THROTTLE OPEN</b> 2-FCV-74-52, RHR SYS I LPCI OUTBD INJECT VALVE, to maintain EITHER of the following as indicated on 2-FI-74-50, RHR SYS I FLOW:  • 7,000 to 10,000 gpm for one-pump operation  <b>OR</b>  • 14,000 to 20,000 gpm for two-pump operation  <u>Standard:</u>  Places 2-HS-74-52 in the OPEN position and throttles OPEN 2-FCV-74-52 to obtain 7000 to 10000 gpm flow as indicated on 2-FI-74-50.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A

STEP / STANDARD	SAT / UNSAT
<p><u>Step 24:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>RHRSW flow through another unit's associated heat exchanger may be necessary to prevent operating RHRSW pump below minimum flow of 1,350 gpm.</p> <p style="text-align: center;"><b>CAUTIONS</b></p> <ol style="list-style-type: none"> <li>1) Failure to throttle RHR Heat Exchanger RHRSW Valves when little decay heat is present could result in excessive cooldown rates.</li> <li>2) Exceeding 4,500 gpm RHRSW flow through ANY RHR Heat Exchanger may cause system damage.</li> <li>3) Cooldown rates above 90°F/hr may exceed established RPV metal ductility limits.</li> </ol> <p>[21] <b>SLOWLY THROTTLE OPEN</b> the following in-service RHRSW Outlet valves to obtain the desired cool down rate:</p> <ul style="list-style-type: none"> <li>• 2-FCV-23-34, RHR HX 2A RHRSW OUTLET VLV</li> <li>• 2-FCV-23-40, RHR HX 2C RHRSW OUTLET VLV</li> </ul> <p><u>Standard:</u></p> <p>Throttles open 2-FCV-23-34 or 40 to greater than 1350 gpm as indicated on 2-FI-23-36. Less flow is acceptable if applicant arranged for another unit to set flow through their heat exchanger.</p>	<p style="text-align: center;"><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 25:</u></p> <p>22] <b>MAINTAIN</b> RHR HX A/C COM DISCH temperature less than 140°F (2-TR-74-80, Panel 9-21) by throttling the companion RHR Heat Exchanger RHRSW Outlet Valve.</p> <p><u>Standard:</u></p> <p>Throttles 2-FCV-23-40 or 34, RHR HX 2C or 2A RHRSW OUTLET VLV as necessary to maintain temperature less than 140°F on 2-TR-74-80.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<u>Step 26:</u>  [23] <b>NOTIFY</b> Chemistry that RHRSW is aligned to in-service RHR Heat Exchangers.  <u>Standard:</u>  Notified Chemistry that RHRSW is aligned to 2A and 2C RHR heat exchangers.	          ___ SAT ___ UNSAT ___ N/A
<b>CUE: Chemistry repeats back "RHRSW is aligned to 2A &amp; 2C RHR HXs".</b>	
<b>CUE: No additional shutdown cooling flow will be necessary at this time</b>	

**END OF TASK**

**STOP TIME: \_\_\_\_\_**





## Job Performance Measure (JPM)

### Provide to Applicant

#### **INITIAL CONDITIONS:**

You are an Operator. Unit 2 reactor has scrammed and EOI-1 has been followed to RC/P-15. The Shift Manager has directed the unit be brought to cold shutdown. RHR Loop flushing is NOT directed. Another operator is performing the cooldown log, 3.4.9.1(1).

#### **INITIATING CUE:**

The Unit Supervisor directs you to initiate shutdown cooling on RHR Loop I in accordance with 2-EOI Appendix 17D, RHR System Operation Shutdown Cooling. RHR Loop flushing is NOT directed.



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	Startup Rod Worth Minimizer U-2	
JPM NUMBER:	399	REVISION:	0	

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):	U-085-NO-02 / Startup the RWM			
K/A RATINGS:	201006 A3.01		RO 3.2	SRO 3.1
K/A STATEMENT:	Ability to monitor automatic operations of the RWM system including: System window and light indication.			
RELATED PRA INFORMATION:	N/A			
SAFETY FUNCTION:	7			

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: NA TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) N

Developed by:

\_\_\_\_\_  
*Developer* *Date*  
(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)  
(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by:

\_\_\_\_\_  
*Validator* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Management* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Program Owner* *Date*

*Mei D*  
*12/1/14*



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_\_ SRO \_\_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: Performs startup of Rod Worth Minimizer

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-OI-85

VALIDATION TIME: 10 Minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_\_ NO \_\_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_ (Retain entire JPM  
for records)

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	

Batch File or Pref file	
-------------------------------	--

Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch / Pref File(s):



## Job Performance Measure (JPM)

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### INITIAL CONDITIONS:

You are an Operator on Unit 2.

### INITIATING CUE:

Unit Supervisor directs you to perform Rod Worth Minimizer startup in accordance with 2-OI-85.

NOTE: A Control Rod Pattern and sequence has been loaded into the Rod Worth Minimizer.



## Job Performance Measure (JPM)

### START TIME

STEP / STANDARD	SAT / UNSAT
<p><u>Step 1:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>Immediately contact Reactor Engineering if any of the steps for RWM startup do not work correctly.</p> <p>[1] <b>VERIFY</b> the following initial conditions are satisfied:</p> <ul style="list-style-type: none"><li>• Rod Worth Minimizer is in Prestartup/Standby Readiness alignment. Refer to Section 4.0.</li><li>• The Integrated Computer System is in service and available to support the Rod Worth Minimizer.</li><li>• A control rod pattern and sequence has been loaded into the Rod Worth Minimizer. Refer to Reactor Engineer's instructions.</li></ul> <p><u>Standard:</u></p> <p>Determines that bullet one and two are met and bullet three is given in the initial conditions.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 2:</u></p> <p>[2] <b>SELECT</b> RWM main screen display.</p> <p><u>Standard:</u></p> <p>Operator displays RWM main screen.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 3:</u></p> <p>[3] <b>VERIFY</b> the ROD WORTH MINIMIZER Normal/Bypass switch in NORMAL and <b>REMOVE</b> key.</p> <p><u>Standard:</u></p> <p>Places RWM Normal/Bypass switch in NORMAL.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 4:</u></p> <p>[4]     <b>CHECK</b> the Manual/Auto Bypass lights extinguished.</p> <p><u>Standard:</u></p> <p>Checks manual/auto bypass lights extinguish.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 5:</u></p> <p>[5]     <b>DEPRESS</b> the SYSTEM INITIALIZE pushbutton and <b>CHECK</b> light extinguishes when pushbutton is released.</p> <p><u>Standard:</u></p> <p>*Depresses the System Initialize pushbutton. Checks light extinguishes when pushbutton released.</p>	<p><b>*Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 6:</u></p> <p>[6]     <b>DEPRESS</b> RWM SYSTEM DIAGNOSTIC pushbutton.</p> <p><u>Standard:</u></p> <p>Depresses RWM System Diagnostic pushbutton.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 7:</u></p> <p>[7]     <b>CHECK</b> INSERT BLOCK and WITHDRAW status indicators and status blocks TURN ON and OFF sequentially.</p> <p><u>Standard:</u></p> <p>Checks status indicators and lights for Insert and Withdraw Block turn on and off.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<u>Step 8:</u>  [8] <b>DEPRESS</b> RWM SYSTEM DIAGNOSTIC pushbutton to deselect diagnostic routine.  <u>Standard:</u>  Depresses RWM System Diagnostic pushbutton.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 9:</u>  [9] <b>DEPRESS</b> and <b>HOLD</b> RWM/COMP/PROG/BUFF pushbutton (INOP/RESET) to verify alarm lights illuminate.  <u>Standard:</u>  Depresses and Holds RWM/COMP/PROG/BUFF pushbutton and verifies alarm lights illuminate.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 10:</u>  [10] <b>RELEASE</b> RWM/COMP/PROG/BUFF pushbutton (INOP/RESET) and <b>CHECK</b> alarm lights reset.  <u>Standard:</u>  Releases RWM/COMP/PROG/BUFF pushbutton and verifies alarm lights extinguish or reset.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A





## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<u>Step 11:</u>  [11] <b>VERIFY</b> SEQ CR operation as follows:  [11.1] <b>IF</b> SEQ CR is functional, <b>THEN CHECK</b> SEQ CR is ON unless Step 5.2[11.2] applies.  [11.2] <b>IF</b> SEQ CR is functional but it is desired to have RWM SEQ CR in off, <b>THEN</b> with Unit Supervisor permission and concurrence of Reactor Engineer, <b>PLACE</b> RWM SEQ CR in OFF.  [11.3] <b>IF</b> SEQ CR is not functional, <b>THEN</b> with Unit Supervisor permission and concurrence of Reactor Engineer, <b>PLACE</b> RWM SEQ CR in OFF.  <u>Standard:</u>  Verifies SEQ CR is functional by verifying SEQ CR ON.	  ___ SAT  ___ UNSAT  ___ N/A
<b>CUE: It is NOT desired to place RWM SEQ CR in OFF.</b>	

STOP TIME \_\_\_\_\_

END OF TASK



## Job Performance Measure (JPM)

### Provide to Applicant

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

#### **INITIAL CONDITIONS:**

You are an Operator on Unit 2.

#### **INITIATING CUE:**

Unit Supervisor directs you to perform Rod Worth Minimizer startup in accordance with 2-OI-85.

NOTE: A Control Rod Pattern and sequence has been loaded into the Rod Worth Minimizer.



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	2-EOI-Appendix 13 Emergency Venting Primary Containment U-2	
JPM NUMBER:	55A	REVISION:	0	

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):		U-000-EM-63 / Emergency Vent Primary Containment in Accordance with EOI Appendix 13		
K/A RATINGS:	295024EA2.01	K/A RATING: RO 4.2 SRO 4.4		
K/A STATEMENT:	Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Drywell Pressure			
RELATED PRA INFORMATION:		N/A		
SAFETY FUNCTION:		5		

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: NA TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) Y

Developed by:

\_\_\_\_\_  
*Developer* *Date*

(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)

(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by:

\_\_\_\_\_  
*Validator* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Management* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Program Owner* *Date*

Rec'd  
12/1/14



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_\_ SRO \_\_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: 2-EOI-Appendix-13 complete with Drywell Pressure restored and maintained below 55 psig.

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-EOI Appendix-13

VALIDATION TIME: 10 minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_\_ NO \_\_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	108

Batch File or Pref file	bat NRC/appendix13
-------------------------------	--------------------

Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch / Pref File(s): nrcjpmc

ior zdihs64221a[1] null

ior zdihs64222a[1] null

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

#### **INITIAL CONDITIONS:**

You are an operator. A large leak inside Primary Containment has developed on Unit 2. The Reactor has been scrammed and several control rods are not fully inserted. Primary containment pressure has exceeded the PSP curve (curve 6) and is approaching 55 psig and rising.

#### **INITIATING CUE:**

The Unit Supervisor directs you to emergency vent Primary Containment as directed by 2-EOI-Appendix 13 and maintain Primary Containment pressure below 55 psig.



## Job Performance Measure (JPM)

START TIME \_\_\_\_\_

DRIVER: This JPM may require RHR injection for level control	
STEP / STANDARD	SAT / UNSAT
<u>Step 1:</u>	
1. <b>NOTIFY</b> Shift Manager / SED of the following: <ul style="list-style-type: none"><li>• Emergency Venting of Primary Containment is in progress.</li><li>• Off-Gas Release Rate Limits will be exceeded.</li></ul> <u>Standard:</u>  Operator notifies Shift Manager/SED.	___ SAT ___ UNSAT ___ N/A
<b>CUE: As Shift Manager/SED acknowledge report that Emergency Primary Containment Venting is in progress and Off-Gas release limits will be exceeded</b>	
<u>Step 2:</u>	
2. <b>VENT</b> the Suppression Chamber as follows (Panel 9-3):  a. IF EITHER of the following exists: <ul style="list-style-type: none"><li>• Suppression Pool water level CANNOT be determined to be below 20 ft,</li></ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"><li>• Suppression Chamber CANNOT be vented,</li></ul> <p>THEN <b>CONTINUE</b> in this procedure at Step 3.</p> <u>Standard:</u>  Operator verifies Suppression Pool level below 20 ft using 2-LI-64-159A and does NOT continue to step 3.	___ SAT ___ UNSAT ___ N/A

<p><u>Step 3:</u></p> <p>b. <b>PLACE</b> keylock switch 2-HS-64-222B, HARDENED SUPPR CHBR VENT OUTBD PERMISSIVE, in PERM.</p> <p><u>Standard:</u></p> <p>Operator places 2-HS-64-222B in the PERM position.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 4:</u></p> <p>c. <b>CHECK</b> blue indicating light above 2-HS-64-222B, HARDENED SUPPR CHBR VENT OUTBD PERMISSIVE, illuminated.</p> <p><u>Standard:</u></p> <p>Operator verifies BLUE indicating lamp above 2-HS-64-222B illuminated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b><u>NOTE:</u> ALTERNATE PATH STARTS ON THE NEXT STEP</b></p>	
<p><u>Step 5:</u></p> <p>d. <b>OPEN</b> 2-FCV-64-222, HARDENED SUPPR CHBR VENT OUTBD ISOL VLV.</p> <p><u>Standard:</u></p> <p>Operator places 2-HS-64-222A in the OPEN position and determines valve cannot be opened. Operator proceeds to step 3 by direction of step 2.a.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b>CUE: As US, acknowledge that FCV-64-222 cannot be opened and the operator is continuing to step 3.</b></p>	





## Job Performance Measure (JPM)

<p><u>Step 6:</u></p> <p>3. IF Suppression Chamber vent path is NOT available, THEN <b>VENT</b> the Drywell as follows:</p> <ul style="list-style-type: none"><li>a. <b>NOTIFY</b> Shift Manager / SED that Secondary Containment integrity failure is possible.</li><li>b. <b>NOTIFY</b> Radiation Protection that Reactor Building is being evacuated due to imminent failure of Primary Containment vent ducts.</li><li>c. <b>EVACUATE</b> ALL Reactor Buildings using P.A. System.</li></ul> <p><u>Standard:</u></p> <p>Operator notifies the SM/SED that containment integrity failure is possible, notifies RP that the Reactor Building will be evacuated due to imminent failure of Primary Containment vent ducts, and makes P.A. announcement to evacuate Reactor Building.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b><u>CUE:</u> As SM/SED acknowledge report of possible containment integrity failure, As RP acknowledge report of Reactor Building evacuation due to imminent failure of Primary Containment vent ducts.</b></p>	
<p><u>Step 7:</u></p> <p>d. <b>START</b> ALL available SGTS trains.</p> <p><u>Standard:</u></p> <p>Operator determines that all trains of SGTS are already in service by observing SGT OPERATING lights on 2-9-20.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 8:</u></p> <p>e. <b>VERIFY CLOSED</b> 2-FCV-64-36, DW/SUPPR CHBR VENT TO SGT (Panel 9-3).</p> <p><u>Standard:</u></p> <p>Operator verifies 2-FCV-64-36 is closed on Panel 9-3.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>

<p><u>Step 9:</u></p> <p>f. <b>VERIFY OPEN</b> the following dampers (Panel 9-25):</p> <ul style="list-style-type: none"> <li>• 2-FCO-64-40, REACTOR ZONE EXH TO SGTS</li> <li>• 2-FCO-64-41, REACTOR ZONE EXH TO SGTS</li> </ul> <p><u>Standard:</u></p> <p>Operator verifies dampers 2-FCO-64-40 and 2-FCO-64-41 are open on Panel 9-25.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 10:</u></p> <p>g. <b>VERIFY CLOSED</b> 2-FCV-64-29, DRYWELL VENT INBD ISOL VALVE (Panel 9-3 or Panel 9-54).</p> <p><u>Standard:</u></p> <p>Operator verifies 2-FCV-64-29 is closed on Panel 9-3 or Panel 9-54.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 11:</u></p> <p>h. <b>DISPATCH</b> personnel to Unit 2 Auxiliary Instrument Room to perform the following:</p> <ol style="list-style-type: none"> <li>1) <b>REFER TO</b> Attachment 1 and <b>OBTAIN</b> one 12-in. banana jack jumper from EOI Equipment Storage Box.</li> <li>2) <b>LOCATE</b> terminal strip DD in Panel 9-43, Front.</li> <li>3) <b>JUMPER</b> DD-76 to DD-77 (Panel 9-43).</li> <li>4) <b>NOTIFY</b> Unit Operator that jumper for 2-FCV-64-30, DRYWELL VENT OUTBD ISOLATION VLV, is in place.</li> </ol> <p><u>Standard:</u></p> <p>Operator contacts an AUO or an extra operator to perform step h.1) thru h.4).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

<b>DRIVER: When called to install jumper for 2-FCV-64-30, insert MRF PC04 BYPASS, then call operator and report that the jumper for 2-FCV-64-30 is in place.</b>	
<u>Step 12:</u>  i. <b>VERIFY OPEN 2-FCV-64-30, DRYWELL VENT OUTBD ISOLATION VLV (Panel 9-3).</b>  <u>Standard:</u>  Operator verifies open 2-FCV-64-30 on panel 9-3.	  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 13:</u>  <b>CAUTION</b>  1.     The following step will fail ductwork inside Secondary Containment and may fail Secondary Containment Integrity.  2.     Off-Gas Release Rate Limits will be exceeded.  j. <b>PLACE</b> keylock switch 2-HS-84-36, SUPPR CHBR/DW VENT ISOL BYP SELECT, to DRYWELL (Panel 9-54).  <u>Standard:</u>  Operator places keylock switch 2-HS-84-36 to the DRYWELL position.	<b>Critical Step</b>  ___ SAT  ___ UNSAT  ___ N/A
<u>Step 14:</u>  k. <b>VERIFY OPEN 2-FCV-64-29, DRYWELL VENT INBD ISOL VALVE (Panel 9-54).</b>  <u>Standard:</u>  Operator verifies that 2-FCV-64-29 opens on Panel 9-54.	  ___ SAT  ___ UNSAT  ___ N/A



## Job Performance Measure (JPM)

### Step 15:

- l. **CHECK** Drywell and Suppression Chamber pressure lowering.
- m. **MAINTAIN** Primary Containment pressure below 55 psig using 2-FCV-64-29, DRYWELL VENT INBD ISOL VALVE, as directed by SRO.

\_\_\_ SAT  
\_\_\_ UNSAT  
\_\_\_ N/A

### Standard:

Operator checks that Drywell and Suppression Chamber pressure are lowering and informs SRO that Emergency Venting of the Drywell is in progress.

**CUE:** As SRO, acknowledge report of emergency venting of Drywell in progress.  
Another operator will control Primary Containment pressure.

**END OF TASK**

**STOP TIME:** \_\_\_\_\_



## Job Performance Measure (JPM)

### Provide to Applicant

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### **INITIAL CONDITIONS:**

You are an operator. A large leak inside Primary Containment has developed on Unit 2. The Reactor has been scrammed and several control rods are not fully inserted. Primary containment pressure has exceeded the PSP curve (curve 6) and is approaching 55 psig and rising.

### **INITIATING CUE:**

The Unit Supervisor directs you to emergency vent Primary Containment as directed by 2-EOI-Appendix 13 and maintain Primary Containment pressure below 55 psig.



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	Restore Offsite Power to 4KV shutdown board at PNL 9-23 U-2	
JPM NUMBER:	631	REVISION:	0	

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):		U-082-NO-09 / Restore Offsite Power to 4KV shutdown board at PNL 9-23		
K/A RATINGS:	RO 3.5 SRO 3.6			
K/A STATEMENT:	264000 A2.01 Ability to (a) predict the impacts of the following on the EMERGENCY GENERATORS (DIESEL/JET); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Parallel operation of emergency generator			
RELATED PRA INFORMATION:		N/A		
SAFETY FUNCTION:	6			

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: NA TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) N

Developed by:	_____ <i>Developer</i> (Ensure validator is briefed on exam security per NPG-SPP-17.8.1) (See JPM Validation Checklist in NPG-SPP-17.8.2)		_____ <i>Date</i>
Validated by:	_____ <i>Validator</i>		_____ <i>Date</i>
Approved by:	_____ <i>Site Training Management</i>		_____ <i>Date</i>
Approved by:	_____ <i>Site Training Program Owner</i>		_____ <i>Date</i>

Rec'd  
12/1/14



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_\_ SRO \_\_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: Perform operations necessary to restore offsite power to 4KV SD BD  
A from 4KV SD BUS 1.

PRA: NA

REFERENCES/PROCEDURES NEEDED: Procedure 0-OI-82

VERIFICATION TIME: 15 Min

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_\_ NO \_\_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_ (Retain entire JPM  
for records)

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	103

Batch File or Pref file	
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Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch / Pref File(s):





## Job Performance Measure (JPM)

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**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### INITIAL CONDITIONS:

You are an Operator on Unit 2.

- No Inclement weather currently exists in the area
- One hour ago, 4 KV Shutdown Board A was separated from Offsite Power in accordance with 0-OI-82, Standby Diesel Generator System.

### INITIATING CUE:

The Unit Supervisor has directed you to restore offsite power to 4KV Shutdown Board A using the normal feeder breaker and remove DG A from parallel operation in accordance with 0-OI-82.



## Job Performance Measure (JPM)

### START TIME

STEP / STANDARD	SAT / UNSAT															
<p><u>Step 1:</u></p> <p><b>0-OI-82 Standby Diesel Generator System</b></p> <p><b>Section 8.3 Restoring Offsite Power to 4-kV Shutdown Board at Panel 9-23</b></p> <p><b>NOTE</b> The following list of 4-kV shutdown board normal and alternate feeder breakers may be useful when performing this section:</p> <table border="1"><thead><tr><th>Shutdown Board</th><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>Norm Feed Bkr</td><td>1614</td><td>1616</td><td>1718</td><td>1724</td></tr><tr><td>Alt Feed Bkr</td><td>1716</td><td>1714</td><td>1624</td><td>1618</td></tr></tbody></table> <p>[1] <b>VERIFY</b> 4-kV Shutdown Board A is being supplied power by its respective Diesel Generator as the only source of power.</p> <p><u>Standard:</u></p> <p>Verifies 4-kV Shutdown Board A is being supplied by DG A.</p>	Shutdown Board	A	B	C	D	Norm Feed Bkr	1614	1616	1718	1724	Alt Feed Bkr	1716	1714	1624	1618	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Shutdown Board	A	B	C	D												
Norm Feed Bkr	1614	1616	1718	1724												
Alt Feed Bkr	1716	1714	1624	1618												
<p><u>Step 2:</u></p> <p>[2] <b>VERIFY</b> the associated 4kV shutdown board auto transfer lockout relay is tripped to MANUAL.</p> <table border="1"><thead><tr><th>Diesel</th><th>Handswitch Name</th><th>Handswitch No.</th><th>Panel</th></tr></thead><tbody><tr><td>A</td><td>4KV SD BD A AUTO/LOCKOUT RESET</td><td>0-211-3EA</td><td>0-9-23-7</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Verifies 4KV SD BD A AUTO/LOCKOUT RESET, HS-0-211-A, is tripped to manual.</p>	Diesel	Handswitch Name	Handswitch No.	Panel	A	4KV SD BD A AUTO/LOCKOUT RESET	0-211-3EA	0-9-23-7	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>							
Diesel	Handswitch Name	Handswitch No.	Panel													
A	4KV SD BD A AUTO/LOCKOUT RESET	0-211-3EA	0-9-23-7													



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT												
<p><u>Step 3:</u></p> <p>[3] <b>PLACE</b> the synchroscope switch for the 4-kV shutdown board feeder breaker that is to be paralleled with the Diesel Generator in ON.</p> <p><u>Standard:</u></p> <p>Places Synchroscope switch for 4-kV Shutdown Board A normal feeder breaker 1614 to ON.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>												
<p><u>Step 4:</u></p> <p>[4] <b>VERIFY</b> 4-kV Shutdown Bus 1(2) voltage is between 3950 Volts and 4400 Volts and <b>NOT</b> undergoing abnormal voltage transients.</p> <p><u>Standard:</u></p> <p>Verifies 4-kV Shutdown Bus 1 voltage is between 3950 Volts and 4400 Volts and <b>NOT</b> undergoing abnormal voltage transients.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>												
<p><u>Step 5:</u></p> <p>[5] <b>VERIFY</b> associated incoming frequency is between 59 Hertz and 61 Hertz and <b>NOT</b> undergoing abnormal frequency transients.</p> <table border="1"><thead><tr><th>Shutdown Bd</th><th>Instrument Name</th><th>Instrument No.</th><th>Panel</th></tr></thead><tbody><tr><td>A or B</td><td>GEN SYNC FREQUENCY</td><td>0-SI-82-0AB</td><td>0-9-23-7</td></tr><tr><td>C or D</td><td>GEN SYNC FREQUENCY</td><td>0-SI-82-0CD</td><td>0-9-23-8</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Verifies incoming frequency is between 59 Hertz and 61 Hertz and NOT undergoing abnormal frequency transients using GEN SYNC FREQUENCY, 0-SI-82-AB .</p>	Shutdown Bd	Instrument Name	Instrument No.	Panel	A or B	GEN SYNC FREQUENCY	0-SI-82-0AB	0-9-23-7	C or D	GEN SYNC FREQUENCY	0-SI-82-0CD	0-9-23-8	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Shutdown Bd	Instrument Name	Instrument No.	Panel										
A or B	GEN SYNC FREQUENCY	0-SI-82-0AB	0-9-23-7										
C or D	GEN SYNC FREQUENCY	0-SI-82-0CD	0-9-23-8										



## Job Performance Measure (JPM)

STEP / STANDARD				SAT / UNSAT								
<p><u>Step 6:</u></p> <p style="text-align: center;"><b>CAUTION</b></p> <p>DO NOT parallel the Diesel Generators with an unstable offsite source or during inclement weather (e.g., lightning, heavy winds).</p> <p>[6] IF 4-kV Shutdown Bus 1 (2) is experiencing abnormal voltage or frequency conditions, <b>THEN PERFORM</b> the following:</p> <p><u>Standard:</u></p> <p style="text-align: center;">N/A</p>				<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>								
<p><u>Step 7:</u></p> <p style="text-align: center;"><b>CAUTION</b></p> <p>Only one Unit 1 and 2 Diesel Generator at a time is allowed to be operated in parallel with system.</p> <p>[7] <b>PULL and PLACE</b> the associated Diesel Generator mode selector switch in PARALLELED WITH SYSTEM.</p> <table border="1"><thead><tr><th>Diesel</th><th>Handswitch Name</th><th>Handswitch No.</th><th>Panel</th></tr></thead><tbody><tr><td>A</td><td>DG A MODE SELECT</td><td>0-HS-82-A/5A</td><td>0-9-23-7</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Pulls DG A MODE SELECT switch 0-HS-82-A/5A and places it in PARALLELED WITH SYSTEM.</p>				Diesel	Handswitch Name	Handswitch No.	Panel	A	DG A MODE SELECT	0-HS-82-A/5A	0-9-23-7	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Diesel	Handswitch Name	Handswitch No.	Panel									
A	DG A MODE SELECT	0-HS-82-A/5A	0-9-23-7									



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT								
<p><u>Step 8:</u></p> <p style="text-align: center;"><b>CAUTION</b></p> <p>Failure of the PARALLELED WITH SYSTEM light to illuminate in the following step could indicate that the DG is still in SINGLE UNIT operation and result in overload when the DG output breaker is closed.</p> <p>[8] <b>RELEASE</b> the Diesel Generator mode selector switch and <b>OBSERVE</b> PARALLELED WITH SYSTEM light illuminated.</p> <p><u>Standard:</u></p> <p>Releases the Diesel Generator A mode selector switch, 0-HS-82-A/5A and observes PARALLELED WITH SYSTEM light is illuminated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>								
<p><u>Step 9:</u></p> <p>[9] <b>ADJUST</b> Diesel Generator frequency using the associated Diesel Generator governor control switch to obtain a synchroscope needle rotation of one revolution every 15 to 20 seconds in the SLOW direction.</p> <table border="1"><thead><tr><th>Diesel</th><th>Handswitch Name</th><th>Handswitch No.</th><th>Panel</th></tr></thead><tbody><tr><td>A</td><td>DG A GOVERNOR CONTROL</td><td>0-HS-82-A/3A</td><td>0-9-23-7</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Adjusts Diesel Generator A frequency using Diesel Generator governor control switch, 3-HS-82-A/3A to obtain a synchroscope needle rotation of one revolution every 15 to 20 seconds in the SLOW direction.</p>	Diesel	Handswitch Name	Handswitch No.	Panel	A	DG A GOVERNOR CONTROL	0-HS-82-A/3A	0-9-23-7	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Diesel	Handswitch Name	Handswitch No.	Panel						
A	DG A GOVERNOR CONTROL	0-HS-82-A/3A	0-9-23-7						



## Job Performance Measure (JPM)

STEP / STANDARD				SAT / UNSAT
<u>Step 10:</u>  [10] <b>USE</b> the associated Diesel Generator voltage regulator control switch to match Diesel Generator and System voltages.				
<b>Diesel</b>	<b>Instrument Name</b>	<b>Inst No.</b>	<b>Panel</b>	
A	DG A VOLT REGULATOR CONT	0-HS-82-A/2A	0-9-23-7	___ SAT
	GEN SYNC REF VOLTAGE	0-EI-82-AB		___ UNSAT
	SYSTEM SYNC REF VOLTAGE	0-EI-211-0AB		___ N/A
<u>Standard:</u>  Matches DG A voltage with system voltage using DG A VOLT REGULATOR CONT switch 0-HS-82-A/2A.				
<u>Step 11:</u>  [11] <b>WHEN</b> the synchroscope needle is approximately 2 minutes on the right hand side of the 12 o'clock position, <b>THEN CLOSE</b> the 4-kV shutdown board feeder breaker that is to be paralleled with the Diesel Generator.				<b>Critical Step</b>
<u>Standard:</u>  Closes the 4-kV shutdown board feeder breaker 1614 when the synchroscope needle is approximately 2 minutes on the right hand side of the 12 o'clock position.				___ SAT ___ UNSAT ___ N/A
<u>Step 12:</u>  [12] <b>PLACE</b> the synchroscope switch for the 4-kV shutdown board feeder breaker that was paralleled with the Diesel Generator in OFF.				___ SAT ___ UNSAT ___ N/A
<u>Standard:</u>  Places the synchroscope switch for BKR 1614 in OFF.				



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT										
<p><u>Step 13:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>If diesel operates greater than 4 hours at less than 50% load, the diesel should be loaded to full load for at least 30 minutes prior to engine shutdown. This will allow the engine to clean out any oil accumulations from the exhaust manifolds.</p> <p>[13] IF DG has been operating at a low-load condition (<math>\leq 50\%</math>) for an extended period of time (<math>\geq 4</math> hours) <b>THEN</b> <b>PERFORM</b> the following (Otherwise N/A):</p> <p><u>Standard:</u></p> <p>N/A, given in initial conditions.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>										
<p><u>Step 14:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>Lagging VARs should be maintained when adjusting kW load (rising or lowering). This may require kW load adjustment to be stopped periodically to allow for adjusting kVAR load. Once desired kW load is achieved, Illustration 1 should be referred to for determination of kVAR loading required to obtain a power factor (pf) of 0.8 lagging. Diesel generator kVAR load should then be adjusted to obtain a 0.8 pf lagging. <b>IF</b> system conditions will <b>NOT</b> permit the kVAR loading required to obtain a 0.8 pf lagging, kVAR load should be adjusted to the maximum kVAR lagging the system will allow.</p> <p>[14] <b>USE</b> the associated Diesel Generator's governor control switch and voltage regulator control switch to obtain desired kW and kVAR load.</p> <table border="1"><thead><tr><th>Diesel</th><th>Handswitch Name</th><th>Handswitch No.</th><th>Panel</th></tr></thead><tbody><tr><td rowspan="2">A</td><td>DG A GOVERNOR CONTROL</td><td>0-HS-82-A/3A</td><td rowspan="2">0-9-23-7</td></tr><tr><td>DG A VOLT REGULATOR CONT</td><td>0-HS-82-A/2A</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Obtains desired kW and kVAR load using DG A Governor Control switch, 0-HS-82-A/3A and DG Volt Regulator Cont switch, 0-HS-82-A/2A.</p>	Diesel	Handswitch Name	Handswitch No.	Panel	A	DG A GOVERNOR CONTROL	0-HS-82-A/3A	0-9-23-7	DG A VOLT REGULATOR CONT	0-HS-82-A/2A	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Diesel	Handswitch Name	Handswitch No.	Panel								
A	DG A GOVERNOR CONTROL	0-HS-82-A/3A	0-9-23-7								
	DG A VOLT REGULATOR CONT	0-HS-82-A/2A									



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT														
<p><u>Step 15:</u></p> <p>[15] <b>MONITOR</b> the offsite source that is paralleled with the Diesel Generator.</p> <p>[16] <b>IF</b> abnormal voltage or frequency transients are experienced, <b>THEN</b></p> <p><u>Standard:</u></p> <p>Monitors offsite power source and determines NO problems with source.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>														
<p><u>Step 16:</u></p> <p>[17] <b>WHEN</b> Parallel with System operation is no longer desired, <b>THEN UNLOAD</b> the Diesel Generator as follows:</p> <p style="text-align: center;"><b>CAUTION</b></p> <p>When unloading the Diesel Generator, failure to slowly approach the 300 kW/250 kVAR limit may result in a reverse power trip of the Diesel Generator output breaker.</p> <p>[17.1] <b>USE</b> the associated Diesel Generator's governor control switch and voltage regulator control switch to reduce generator load to approximately 300 kW and 250 kVAR:</p> <table border="1"><thead><tr><th>Diesel</th><th>Instrument Name</th><th>Inst No.</th><th>Panel</th></tr></thead><tbody><tr><td rowspan="4">A</td><td>DG A GOVERNOR CONTROL</td><td>0-HS-82-A/3A</td><td rowspan="4">0-9-23-7</td></tr><tr><td>DG A VOLTAGE REGULATOR CONTROL</td><td>0-HS-82-A/2A</td></tr><tr><td>DG A KILOWATTS</td><td>0-JI-82-A/A</td></tr><tr><td>DG A KILOVARS</td><td>0-VAR-82-A/A</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Unloads the DG to approximately 300 KW and 250 kVAR.</p>	Diesel	Instrument Name	Inst No.	Panel	A	DG A GOVERNOR CONTROL	0-HS-82-A/3A	0-9-23-7	DG A VOLTAGE REGULATOR CONTROL	0-HS-82-A/2A	DG A KILOWATTS	0-JI-82-A/A	DG A KILOVARS	0-VAR-82-A/A	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Diesel	Instrument Name	Inst No.	Panel												
A	DG A GOVERNOR CONTROL	0-HS-82-A/3A	0-9-23-7												
	DG A VOLTAGE REGULATOR CONTROL	0-HS-82-A/2A													
	DG A KILOWATTS	0-JI-82-A/A													
	DG A KILOVARS	0-VAR-82-A/A													





## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT								
<p><u>Step 17</u></p> <p>[17.2] <b>PLACE</b> the associated Diesel Generator breaker control switch in TRIP</p> <table border="1"><thead><tr><th>Diesel</th><th>Handswitch Name</th><th>Handswitch No.</th><th>Panel</th></tr></thead><tbody><tr><td>A</td><td>DG A BKR 1818</td><td>0-HS-211-A/22A</td><td>0-9-23-7</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Trips Diesel Generator breaker 1818.</p>	Diesel	Handswitch Name	Handswitch No.	Panel	A	DG A BKR 1818	0-HS-211-A/22A	0-9-23-7	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Diesel	Handswitch Name	Handswitch No.	Panel						
A	DG A BKR 1818	0-HS-211-A/22A	0-9-23-7						
<p><u>Step 18:</u></p> <p>[17.3] <b>PULL and PLACE</b> the associated Diesel Generator mode selector switch in SINGLE UNIT.</p> <table border="1"><thead><tr><th>Diesel</th><th>Handswitch Name</th><th>Handswitch No.</th><th>Panel</th></tr></thead><tbody><tr><td>A</td><td>DG A MODE SELECT</td><td>0-HS-211-A/5A</td><td>0-9-23-7</td></tr></tbody></table> <p><u>Standard:</u></p> <p>Pulls and places 0-HS-211-A/5A to Single Unit.</p>	Diesel	Handswitch Name	Handswitch No.	Panel	A	DG A MODE SELECT	0-HS-211-A/5A	0-9-23-7	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
Diesel	Handswitch Name	Handswitch No.	Panel						
A	DG A MODE SELECT	0-HS-211-A/5A	0-9-23-7						
<p><u>Step 20:</u></p> <p>[17.4] <b>RELEASE</b> the Diesel Generator mode selector switch and <b>OBSERVE</b> the SINGLE UNIT light illuminated.</p> <p><u>Standard:</u></p> <p>Verifies Single Unit light illuminated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>								
<p><b>CUE: ANOTHER OPERATOR WILL CONTINUE FROM HERE</b></p>									

STOP TIME \_\_\_\_\_

END OF TASK



## Job Performance Measure (JPM)

### Provide to Applicant

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### **INITIAL CONDITIONS:**

You are an Operator on Unit 2.

- No Inclement weather currently exists in the area
- One hour ago, 4 KV Shutdown Board A was separated from Offsite Power in accordance with 0-OI-82, Standby Diesel Generator System.

### **INITIATING CUE:**

The Unit Supervisor has directed you to restore offsite power to 4KV Shutdown Board A using the normal feeder breaker and remove DG A from parallel operation in accordance with 0-OI-82.



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	Restore Fuel Pool Level with RHRSW U-2
JPM NUMBER:	632	REVISION:	0

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):		U-078-AB-01 / Respond to Fuel Pool Cleanup Failure		
K/A RATINGS:	233000 A2.02 K/A RATING: RO 3.1 SRO 3.3			
K/A STATEMENT:	Ability to (a) predict the impacts of the following on the FUEL POOL AND CLEANUP; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Low pool level			
RELATED PRA INFORMATION:		N/A		
SAFETY FUNCTION:		9		

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: NA TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) N

Developed by: \_\_\_\_\_  
Developer Date  
(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)  
(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by: \_\_\_\_\_  
Validator Date

Approved by: \_\_\_\_\_  
Site Training Management Date

Approved by: \_\_\_\_\_  
Site Training Program Owner Date

Rec'd  
12/1/14



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: Restore Fuel Pool Level with RHRSW Pumps D1 and D2 in  
accordance with 2-AOI-78-1

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-AOI-78-1

VALIDATION TIME: 10 minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	107

Batch File or Pref file	NRC/1404auditg F3
-------------------------------	----------------------

Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch / Pref File(s): NRC/1404auditg



## Job Performance Measure (JPM)

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### INITIAL CONDITIONS:

You are a Unit Operator. Fuel Pool Level is lowering. The Unit is operating in 2-AOI-78-1, Fuel Pool Cleanup System Failure. All attempts to restore and maintain Fuel Pool Level have been unsuccessful thus far. There is an AUO on the Refuel Floor to monitor Fuel Pool Level.

### INITIATING CUES:

The US directs you to align RHRSW to the Fuel Pools in accordance with 2-AOI-78-1 subsequent action step 4.2 [2.9].



## Job Performance Measure (JPM)

START TIME \_\_\_\_\_

STEP / STANDARD	SAT / UNSAT
<p><u>Step 1:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>Performance of the following section will admit RHRSW from the Standby Coolant Supply to the Fuel Pool Cooling System as an alternate method for restoring Spent Fuel Storage Pool Level. This section is a non-preferred method due to the introduction of river water to the Spent Fuel Storage Pool. Technical Requirements Manual and current plant conditions should be reviewed as to the effects on equipment operability requirements when performing this section.</p> <p>[2.9] <b>IF</b> Fuel Pool level cannot be restored and maintained using the above actions, <b>THEN</b> <b>OBTAIN</b> Unit Supervisor/Shift Manager permission to perform the following:</p> <p>[2.9.1] <b>VERIFY</b> RHR Pumps 2A and 2C are not running.</p> <p><u>Standard:</u></p> <p>Direction has been given to perform these steps and operator verifies RHR Pumps 2A and 2C are not running.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 2:</u></p> <p>[2.9.2] <b>RACK OUT</b> the following 4160V breakers: (REFER to 0-GOI-300-2)</p> <ul style="list-style-type: none"><li>• At 4160V Shutdown Board A, Compartment 19 RESIDUAL HEAT REMOVAL PUMP 2A, 2-BKR-074-0005.</li><li>• At 4160V Shutdown Board B, Compartment 17 RESIDUAL HEAT REMOVAL PUMP 2C, 2-BKR-074-0016.</li></ul> <p><u>Standard:</u></p> <p>Calls to have RHR Pumps 2A and 2C racked out.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b>DRIVER: When called to rack out RHR pumps, insert preference key F4 and F5. Call operator and report pump breakers racked out.</b></p>	



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 3:</u></p> <p>[2.9.3] <b>PLACE</b> RHR SYSTEM I MIN FLOW INHIBIT Switch 2-HS-74-148 in INHIBIT and <b>VERIFY CLOSED</b> SYSTEM I MIN FLOW VALVE 3-FCV-74-7.</p> <p><u>Standard:</u></p> <p>*Operator places 2-HS-74-148 in INHIBIT and Verifies 2-FCV-74-7 closed.</p>	<p><b>*Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 4:</u></p> <p>[2.9.4] <b>NOTIFY</b> Chemistry that RHRSW is being placed in service and aligned through Loop I RHR piping for makeup water supply to Fuel Pool.</p> <p><u>Standard:</u></p> <p>Notifies Chemistry.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>DRIVER: As Chemistry, acknowledge notification</b>	
<p><u>Step 5:</u></p> <p>[2.9.5] <b>VERIFY CLOSED</b> the following:</p> <ul style="list-style-type: none"><li>• 2-SHV-074-0801, RHR SYS FILL FROM PSC HEAD TANK. (RX Bldg, EL. 621')</li><li>• 2-BYV-074-0704, CNDS FILL TO HEAD SPRAY BYPASS. (RX Bldg, EL. 621')</li><li>• 2-FCV-74-61, RHR SYS I DW SPRAY INBD VLV.</li><li>• 2-FCV-74-60, RHR SYS I DW SPRAY OUTBD VLV.</li><li>• 2-FCV-74-59, RHR SYS I SUPPR POOL CLG/TEST VLV.</li><li>• 2-FCV-74-58, RHR SYS I SUPPR CHBR SPRAY VALVE.</li><li>• 2-FCV-74-57, RHR SYS I SUPPR CHBR/POOL ISOL VLV.</li><li>• 2-FCV-23-52 RHR HEAT EXCHANGER D COOL WATER OUTLET VLV.</li></ul> <p><u>Standard:</u></p> <p>Verifies the above listed valves are closed, and dispatches and operator to verify the first two valves on the list.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



7



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 9:</u></p> <p>[2.9.10] At 480V RMOV BD 1B, Compartment 19A, <b>PLACE</b> 2-BKR-074-0100, RHR HEAT EXCHANGER DISCHARGE CROSSTIE VALVE XTIE FCV-74-100 in ON.</p> <p><u>Standard:</u></p> <p>Operator dispatches an operator to energize breaker for FCV-74-100.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><b>DRIVER: When called, insert preference key F7 to energize FCV-74-100, then call operator and report breaker for 74-100 is ON.</b></p>	
<p><u>Step 10:</u></p> <p style="text-align: center;"><b>NOTE</b></p> <p>To satisfy Appendix R requirements, Breaker for 2-FCV-074-0100 shall remain OFF, except for testing or until compensatory measures are in place.</p> <p>[2.9.11] OPEN 2-FCV-74-100, RHR SYS I U-1 DISCH XTIE</p> <p><u>Standard:</u></p> <p>Operator opens 2-FCV-74-100.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 11:</u></p> <p>[2.9.12] <b>START</b> RHRSW Pumps D1 and/or D2.</p> <p><u>Standard:</u></p> <p>Operator starts RHRSW Pumps D1 and/or D2.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 12:</u></p> <p>[2.9.13] <b>WHEN</b> time permits after RHRSW Pump is started, <b>THEN</b> <b>VERIFY</b> RHRSW Pump Breaker charging spring recharged by <b>OBSERVING</b> amber breaker spring charged light is ILLUMINATED and closing spring target indicates CHARGED.</p> <p><u>Standard:</u></p> <p>When time permits dispatches operator to verify charging springs recharged.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>DRIVER: When dispatched, inform the operator that charging springs are charged.</b>	
<p><u>Step 13:</u></p> <p>[2.9.14] OPEN 1-FCV-23-57, STANDBY COOLANT VALVE FROM RHRSW.</p> <p><u>Standard:</u></p> <p>Operator directs Unit 1 to open 1-FCV-23-57.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>DRIVER: When called, insert preference key F8 to open FCV-23-57 (mrf sw09 open) and report 1-FCV-23-57 is open</b>	
<p><u>Step 14:</u></p> <p>[2.9.15] <b>THROTTLE</b> 2-FCV-78-61, POOL MAKEUP FROM RHR INBOARD VLV, as required to restore and maintain Fuel Pool level.</p> <p><u>Standard:</u></p> <p>Operator OPENS 2-FCV-78-61 to restore and maintain Fuel Pool Level.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<b>CUE: As AUO monitoring Fuel Pool level, report Fuel Pool level is rising</b>	

END OF TASK

STOP TIME: \_\_\_\_\_



## Job Performance Measure (JPM)



## Job Performance Measure (JPM)

### Provide to Applicant

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### **INITIAL CONDITIONS:**

You are a Unit Operator. Fuel Pool Level is lowering. The Unit is operating in 2-AOI-78-1, Fuel Pool Cleanup System Failure. All attempts to restore and maintain Fuel Pool Level have been unsuccessful thus far. There is an AUO on the Refuel Floor to monitor Fuel Pool Level.

### **INITIATING CUES:**

The US directs you to align RHRSW to the Fuel Pools in accordance with 2-AOI-78-1 subsequent action step 4.2 [2.9].



## Job Performance Measure (JPM)

SITE:	BFN	JPM TITLE:	Place a Second/Third RFPT in Service	U-2
JPM NUMBER:	202	REVISION:	1	

TASK APPLICABILITY:	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> STA	<input checked="" type="checkbox"/> UO	<input type="checkbox"/> NAUO
TASK NUMBER / TASK TITLE(S):	U-003-NO-04 Place a Second/Third RFPT in Service			
K/A RATINGS:	K/A RATING: RO 3.9 SRO 3.7			
K/A STATEMENT:	259001 A4.02 Reactor Feedwater System Ability to manually operate and/or monitor in the control room: Manually start/control a RFP/TDRFP			
RELATED PRA INFORMATION:	N/A			
SAFETY FUNCTION:	2 Reactor Water Inventory Control			

EVALUATION LOCATION:	<input type="checkbox"/> In-Plant	<input checked="" type="checkbox"/> Simulator	<input type="checkbox"/> Control Room	<input type="checkbox"/> Lab
	<input type="checkbox"/> Other - List			

APPLICABLE METHOD OF TESTING: ☐ Discussion ☐ Simulate/Walkthrough ☒ Perform

TIME FOR COMPLETION: NA TIME CRITICAL (Y/N) N ALTERNATE PATH (Y/N) N

Developed by:

\_\_\_\_\_  
*Developer* *Date*

(Ensure validator is briefed on exam security per NPG-SPP-17.8.1)

(See JPM Validation Checklist in NPG-SPP-17.8.2)

Validated by:

\_\_\_\_\_  
*Validator* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Management* *Date*

Approved by:

\_\_\_\_\_  
*Site Training Program Owner* *Date*

Rec'd  
12/1/14



## Job Performance Measure (JPM)

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

TASK STANDARD: Places the Third RFPT in Service.

PRA: NA

REFERENCES/PROCEDURES NEEDED: 2-OI-3

VALIDATION TIME: 20 minutes

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER



## Job Performance Measure (JPM)

### SIMULATOR SETUP

IC	
Exam IC	

Batch File or Pref file	
-------------------------------	--

Malfunctions	Description	Event	Severity	Delay	Initial set

Remotes	Description	Event	Severity	Delay	Initial set

Overrides	Description	Event	Severity	Delay	Initial set

Batch / Pref File(s):





## Job Performance Measure (JPM)

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**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

### **INITIAL CONDITIONS:**

You are the Unit Operator at the controls. RFPT 2A is warmed and ready to be placed in service. Precautions and limitations have been reviewed. Radiation Protection has been notified that an RPHP is in effect for the impending action to place RFPT 2A in service. Time of notification has been recorded in the NOMS Narrative Log. Appropriate data and signatures have been recorded on Appendix A.

### **INITIATING CUE:**

The Unit Supervisor directs you to place RFPT 2A in service and in automatic level control per 2-OI-3 Reactor Feedwater System section 5.7.



## Job Performance Measure (JPM)

START TIME \_\_\_\_\_

STEP / STANDARD	SAT / UNSAT
<p><u>Step 1:</u> <b>5.7 Placing the Second and Third RFP/RFPT In Service</b></p> <p style="text-align: center;"><b>CAUTIONS</b></p> <p>1) FAILURE to monitor SJAE/OG CNDR CNDS FLOW, 2-FI-2-42, on Panel 2-9-6 for proper flow (between <math>2 \times 10^6</math> and <math>3 \times 10^6</math> lbm/hr) may result in SJAE isolation.</p> <p>2) Changes in Condensate System flow may require adjustment to SPE CNDS BYPASS, 2-FCV-002-0190.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>Placing RFP 2A MIN FLOW VALVE, 2-HS-3-20, in OPEN position will lock it open, preventing minimum flow valve oscillations at low flow.</p> <p>[1] <b>NOTIFY</b> Radiation Protection that an RPHP is in effect for the impending action to place RFPT 2A in service. <b>RECORD</b> time Radiation Protection notified in NOMS Narrative Log</p> <p>[1.1] <b>VERIFY</b> appropriate data and signatures recorded on Appendix A per Appendix A instructions</p> <p>[2] Verify Reactor Power is <math>\leq 95\%</math>. (Ref. P&amp;L 3.0 VV)</p> <p>[3] <b>PERFORM</b> the following if the RFP/RFPT is <b>NOT</b> warmed, reset and rolling: (<b>N/A</b> if RFP/RFPT is already warmed, reset and rolling)</p> <p><u>Standard:</u></p> <p>Given in initial conditions that step 1, 2, and 3 are complete.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 2:</u></p> <p>[4] <b>VERIFY</b> RFP 2A MIN FLOW VALVE, 2-HS-3-20, in OPEN position.</p> <p>• <b>CHECK OPEN</b> MIN FLOW VALVE, 2-FCV-3-20.</p> <p><u>Standard:</u></p> <p>Places RFP 2A MIN FLOW VALVE, 2-HS-3-20, in OPEN.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 3:</u></p> <p>[5] <b>SLOWLY RAISE</b> speed of RFPT using RFPT 2A SPEED CONT RAISE/LOWER, 2-HS-46-8A, to establish flow and maintain level in vessel.</p> <p>[6] <b>IF</b> discharge valve was not opened in Step 5.6[2.2.8] <b>AND</b> RFPT discharge pressure is within 250 psig of Reactor pressure, <b>THEN</b> (Otherwise N/A)</p> <p><b>OPEN</b> RFP 2A DISCHARGE VALVE, 2-FCV-3-19.</p> <p><u>Standard:</u></p> <p>Raises RFPT speed and verifies discharge valve open.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 4:</u></p> <p>[7] <b>SLOWLY RAISE</b> RFPT speed using RFPT 2A SPEED CONT RAISE/LOWER switch, 2-HS-46-8A, to slowly raise RFP discharge pressure and flow on the following indications (Panel 2-9-6):</p> <ul style="list-style-type: none"><li>• RFP Discharge Pressure - RFP 2A, 2-PI-3-16A</li><li>• RFP Discharge Flow - RFP 2A, 2-FI-3-20</li></ul> <p><u>Standard:</u></p> <p>Raises RFPT speed and commences injection to the Reactor.</p>	<p><b>Critical Step</b></p> <p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 5:</u></p> <p>[8] <b>WHEN</b> sufficient flow is established to maintain RFP 2A MIN FLOW VALVE, 2-FCV-3-20, in CLOSED position (<math>\approx 2 \times 10^6</math> lbm/hr), <b>THEN</b></p> <p><b>PLACE</b> RFP 2A MIN FLOW VALVE, 2-HS-3-20, in AUTO.</p> <p><u>Standard:</u></p> <p>Places RFP 2A MIN FLOW VALVE in AUTO.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

STEP / STANDARD	SAT / UNSAT
<p><u>Step 6:</u></p> <p>[9] <b>OBSERVE</b> lowering in speed and discharge flows of other operating RFPTs.</p> <p><u>Standard:</u></p> <p>Raises injection flow of RFPT 2A and monitors feedwater flow of other operating feed pumps.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>
<p><u>Step 7:</u></p> <p>[10] <b>ADJUST</b> RFPT speed with the individual controller as follows:</p> <p>[10.1] <b>IF</b> controlling RFPT with RFPT 2A SPD CONT, 2-SIC-46-8. <b>THEN PERFORM</b> the following steps to transfer control of the RFPT from MANUAL GOVERNOR to RFPT 2A SPD CONT, 2-SIC-46-8: (Otherwise N/A)</p> <p>[10.1.1] <b>VERIFY</b> RFPT 2A SPD CONT, 2-SIC-46-8 in MANUAL and Column 3.</p> <p>[10.1.2] <b>PULL</b> RFPT 2A SPEED CONT RAISE/LOWER switch, 2-HS-46-8A, to FEEDWATER CONTROL position.</p> <p>[10.1.3] <b>CHECK</b> amber light at RFPT 2A SPEED CONT RAISE/LOWER, 2-HS-46-8A, switch is extinguished.</p> <p>[10.1.4] <b>ADJUST</b> RFPT 2A SPD CONT, 2-SIC-46-8, using RAISE/LOWER pushbuttons as necessary to control RFPT speed and maintain water level.</p> <p><u>Standard:</u></p> <p>Pulls up on 2-HS-46-8A, verifies amber light extinguishes.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>___ N/A</p>



## Job Performance Measure (JPM)

### Step 8:

[11] **TRANSFER** individual RFPT from Speed Control to "AUTO" Rx Water level controller.

[11.1] **PERFORM** the following to transfer control from individual RFPT 2A SPD CONT, 2-SIC-46-8, to "AUTO" control using RX WATER LVL CONT, 2-LIC-46-5: (Otherwise N/A)

[11.1.1] **VERIFY** RX WATER LVL CONT, 2-LIC-46-5, is functioning properly and ready to control a second or third RFP.

[11.1.2] **SLOWLY** adjust RFP speed using RFPT 2A SPD CONT, 2-SIC-46-8, to increase discharge flow and discharge pressure.

[11.1.3] **WHEN** RFP speed is approximately equal to operating RFP(s) speed, **THEN PLACE** RFPT 2A SPD CONT, 2-SIC-46-8, in AUTO.

### Standard:

Slowly adjusts RFP speed and increases discharge flow and pressure, then places the Feedpump in AUTO.

### Critical Step

\_\_\_ SAT

\_\_\_ UNSAT

\_\_\_ N/A

**CUE: Another Operator will take over from here.**

**END OF TASK**

**STOP TIME: \_\_\_\_\_**



## Job Performance Measure (JPM)

### Provide to Applicant

\*\*\*\*\*

**IN-SIMULATOR:** I will explain the initial conditions and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's Correct". (OR "That's Incorrect", if applicable). When you have completed your assigned task, you will say, "my task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

#### **INITIAL CONDITIONS:**

You are the Unit Operator at the controls. RFPT 2A is warmed and ready to be placed in service. Precautions and limitations have been reviewed. Radiation Protection has been notified that an RPHP is in effect for the impending action to place RFPT 2A in service. Time of notification has been recorded in the NOMS Narrative Log. Appropriate data and signatures have been recorded on Appendix A.

#### **INITIATING CUE:**

The Unit Supervisor directs you to place RFPT 2A in service and in automatic level control per 2-OI-3 Reactor Feedwater System section 5.7.

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: i

TASK NUMBER: U-000-EM-20

TASK TITLE: 2-EOI Appendix-1B Vent and Repressurize the SCRAM Pilot Air Header

K/A NUMBER: 295015 AA1.01 K/A RATING: RO 3.8 SRO 3.9

TASK STANDARD: Simulate component manipulations required to vent and subsequently repressurize the scram pilot air header as directed by 2-EOI Appendix 1B

LOCATION OF PERFORMANCE: Plant

PRA:

REFERENCES/PROCEDURES NEEDED: 2-EOI Appendix-1B

VALIDATION TIME: 10 minutes

PERFORMANCE TIME:

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

*Rec'd  
12/1/14*

**INITIAL CONDITIONS:**

You are an Operator. The Unit 2 reactor has scrammed and all control rods failed to insert. EOI-1 has been entered and followed to RC/Q-20.

**INITIATING CUE:**

The Unit Supervisor has directed you to perform 2-EOI Appendix 1B, Venting and Repressurizing the SCRAM Pilot Air Header.

**CAUTION: DO NOT OPERATE ANY PLANT EQUIPMENT!**



\*\*\*\*\*

**IN-PLANT:** I will explain the initial conditions and state the task to be performed. ALL STEPS WILL BE SIMULATED. Do NOT operate any plant equipment. Touch STAAR may be carried out to the point of touching a label. If it becomes necessary to physically touch a control switch, use a non-conductive pointing device. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's correct" (or "That's incorrect", if applicable). When you have completed your assigned task, you will say, "My task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

#### **INITIAL CONDITIONS:**

You are an Operator. The Unit 2 reactor has scrammed and all control rods failed to insert. EOI-1 has been entered and followed to RC/Q-20.

#### **INITIATING CUE:**

The Unit Supervisor has directed you to perform 2-EOI Appendix 1B, Venting and Repressurizing the SCRAM Pilot Air Header.

**CAUTION: DO NOT OPERATE ANY PLANT EQUIPMENT!**

START TIME\_\_\_\_\_

\*\*\*\*\*

Performance Step 1:Critical Not Critical X[1] **NOTIFY** Unit Operator and **CONTINUE** in this procedure.**NOTE**

A ladder may be required to perform the following step. **REFER** to Tools and Equipment, Attachment 1.

Standard:

Simulates notifying Unit 2 Operator by phone or radio that procedure is being performed.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS:\_\_\_\_\_

\*\*\*\*\*

Performance Step 2:Critical X Not Critical

[2] **CLOSE** 2-SHV-085-0331, CONT AIR SPLY HDR SOV (RB North wall, near Scram Air Header Pressure Regulators).

Standard:

Locates and simulates closing 2-SHV-085-0331.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS:\_\_\_\_\_

<b>CUE:</b>	Handwheel is turning, the stem is moving inward.
	<i>Pause</i>
	Handwheel is Snug, Stem has stopped moving

\*\*\*\*\*

Performance Step 3:Critical X Not Critical[3] **OPEN** the following instrument drain valves (located on Panel 2-25-18, east end):

- 2-DRIV-085-0038A (2-PS-085-0038, CRD SCRAM VALVE PILOT AIR HEADER PRESS)
- 2-DRIV-085-0038B (2-PI-085-0038, CRD SCRAM VALVE PILOT AIR HEADER PRESS)

Standard:

Locates and simulates opening 2-DRIV-085-0038A and 2-DRIV-085-0038B.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** Handwheel is turning, the stem is moving outward.  
*Pause*  
 Handwheel is Snug, Stem has stopped moving

\*\*\*\*\*

Performance Step 4:Critical Not Critical X[4] **WHEN** 2-PI-085-0038, CRD SCRAM VALVE PILOT AIR HEADER PRESS, indicates 0 psig, **THEN NOTIFY** Unit 2 Operator.Standard:

Simulate notifying the Unit 2 Operator by phone or radio that 2-PI-085-0038 indicates 0 psig.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**Cue:** 2-PI-085-0038 pressure is lowering, 2-PI-085-0038 indicates 0 psig**Cue:** The Unit Supervisor directs you to re-pressurize the SCRAM pilot air header

\*\*\*\*\*

Performance Step 5:Critical X Not Critical

[5] **WHEN** Unit Supervisor directs re-pressurizing Scram Pilot Air Header, **THEN** **REPRESSURIZE** the Scram Pilot Air Header as follows:

[5.1] **CLOSE** the following instrument drain valves:

- 2-DRIV-085-0038A, (2-PS-085-0038, CRD SCRAM VALVE PILOT AIR HEADER PRESS)
- 2-DRIV-085-0038B, (2-PI-085-0038, CRD SCRAM VALVE PILOT AIR HEADER PRESS)

Standard:

Simulates closing 2-DRIV-085-0038A and 2-DRIV-085-0038B.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** Handwheel is turning, the stem is moving inward.  
*Pause*  
 Handwheel is Snug, Stem has stopped moving

\*\*\*\*\*

Performance Step 6:Critical X Not Critical

[5.2] **SLOWLY OPEN** 2-SHV-085-0331, CONT AIR SPLY HDR SOV.

Standard:

Simulates opening 2-SHV-085-0031.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** **Cue:** Handwheel is turning, the stem is moving outward.  
*Pause*  
 Handwheel is Snug, Stem has stopped moving  
 2-PI-085-0038 is reading as indicated or 73 psig

\*\*\*\*\*

Performance Step 7:Critical Not Critical X[6] **WHEN** Scram Pilot Air Header is re-pressurized, **THEN NOTIFY** Unit 2 Operator.Standard:

Simulate notifying the Unit 2 Operator by phone or radio that the SCRAM pilot air header is repressurized.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS:\_\_\_\_\_

**CUE:** Acknowledge notification

END OF TASK

**STOP TIME** \_\_\_\_\_

JPM j

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: j

TASK NUMBER: U-001-AL-06

TASK TITLE: Field actions for stuck open SRV

K/A NUMBER: 239002 A2.03 K/A RATING: RO 4.1 SRO 4.2

TASK STANDARD: Stuck Open SRV is closed when power is removed from the SRV by opening the breakers

LOCATION OF PERFORMANCE: Plant

REFERENCES/PROCEDURES NEEDED: 3-AOI-1-1

VALIDATION TIME: 25 minutes

PERFORMANCE TIME:

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

*Handwritten:*  
12/1/14

**INITIAL CONDITIONS:**

You are an Operator, the Unit Supervisor has entered 3-AOI-1-1 Relief Valve Stuck Open. Control Room actions to close SRV 3-PCV-1-22 have been unsuccessful. Reactor Power is 85%.

**INITIATING CUE:**

The Unit Supervisor directs you to attempt to close SRV 3-PCV-1-22 from outside the Control Room in accordance with 3-AOI-1-1 step 4.2.3[2].

**CAUTION: DO NOT OPERATE ANY PLANT EQUIPMENT!**

\*\*\*\*\*

**IN-PLANT:** I will explain the initial conditions and state the task to be performed. ALL STEPS WILL BE SIMULATED. Do NOT operate any plant equipment. Touch STAAR may be carried out to the point of touching a label. If it becomes necessary to physically touch a control switch, use a non-conductive pointing device. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's correct" (or "That's incorrect", if applicable). When you have completed your assigned task, you will say, "My task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

#### **INITIAL CONDITIONS:**

You are an Operator, the Unit Supervisor has entered 3-AOI-1-1 Relief Valve Stuck Open. Control Room actions to close SRV 3-PCV-1-22 have been unsuccessful. Reactor Power is 85%.

#### **INITIATING CUE:**

The Unit Supervisor directs you to attempt to close SRV 3-PCV-1-22 from outside the Control Room in accordance with 3-AOI-1-1 step 4.2.3[2].

**CAUTION: DO NOT OPERATE ANY PLANT EQUIPMENT!**



START TIME\_\_\_\_\_

\*\*\*\*\*

Performance Step 1:Critical X Not Critical**NOTES**

- 1) 3-PCV-1-22 is an ADS Valve
- 2) 3-PCV-1-22 has two power supplies, it will auto transfer on loss of power and is Normal Seeking.
- 3) Attachment 1 may be addressed for fuse and breaker information.

[2] **IF** 3-PCV-1-22 is NOT closed, **THEN PERFORM** the following:

[2.1] On Panel 3-25-32 **PLACE** the associated transfer switch MAIN STM LINE B RELIEF VALVE XFR, 3-XS-1-22 in EMERG position.

Standard:

Simulates placing 3-XS-1-22 in emergency.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS:\_\_\_\_\_

<b>CUE:</b>	When simulated 3-XS-1-22 is in Emergency, Reactor Pressure is Stable, when control room called SRV 1-22 still indicates open
-------------	--

\*\*\*\*\*

Performance Step 2:Critical Not Critical X

[2.2] **IF** the SRV does **NOT** close, **THEN PERFORM** the following while **OBSERVING** the indications for the 3-PCV-1-22 on the Acoustic Monitor:

- **CYCLE** the MAIN STM LINE B RELIEF VALVE, 3-HS-1-22C to the following positions several times.

CLOSE/AUTO to OPEN to CLOSE/AUTO

Standard:

Simulates cycling 3-HS-1-22C from CLOSE/AUTO to OPEN to CLOSE/AUTO.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

<b>CUE:</b>	3-HS-1-22C is in CLOSE/AUTO to OPEN to CLOSE/AUTO Switch is being cycled, Reactor Pressure remains stable, when Control Room called SRV fails to close or remains open
-------------	--

\*\*\*\*\*

Performance Step 3:\*Critical ☒ Not Critical[2.3] **IF** the SRV does **NOT** close, **THEN PERFORM** the following:

- A. **VERIFY** the MAIN STM LINE B RELIEF VALVE, 3-HS-1-22C, in the CLOSE/AUTO position.
- \*B. **PLACE** the associated transfer switch MAIN STM LINE B RELIEF VALVE XFR, 3-XS-1-22 in NORM position.

Standard:

Simulates verifying 3-HS-1-22C is in Close/Auto and simulates placing 3-XS-1-22 in Norm.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

**CUE:** 3-HS-1-22C is in Close/Auto and 3-XS-1-22 is in Norm. Use the preferred method to remove power from SRV 3-PCV-1-22.

\*\*\*\*\*

Performance Step 4:Critical X Not Critical

[2.4] **IF** the SRV does **NOT** close, **THEN REMOVE** the power from 3-PCV-1-22 by performing one of the following: (Opening breakers are the preferred method)

A. **OPEN** the following breakers: (Preferred method)

- 3A 250V RMOV, Compartment 11C2
- 3B 250V RMOV, Compartment 1C1

Standard:

Simulates opening Compartment 11C2 at 3A 250V RMOV and Compartment 1C1 at 3B 250V RMOV.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** 11C2 at 3A 250V RMOV is open and 1C1 at 3B 250V RMOV is open.  
When Control Room called SRV is Closed. **If Operator simulates closing breakers, breakers are closed SRV is Open. JPM Failure**

**STOP TIME** \_\_\_\_\_

END OF TASK

JPM k

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: k

TASK NUMBER: U-032-AL-03

TASK TITLE: Reset Excess Flow Check Valve on Unit 1 Dryer

K/A NUMBER: 295019 AA1.02 K/A RATING: RO 3.3 SRO 3.1

TASK STANDARD: Simulate component manipulations required to Reset Excess Flow Check Valve on Unit 1 Dryer in accordance with 0-OI-32

LOCATION OF PERFORMANCE: Plant

PRA:

REFERENCES/PROCEDURES NEEDED: 0-OI-32

VALIDATION TIME: 10 minutes

PERFORMANCE TIME:

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_\_ NO \_\_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

*Rec'd  
12/1/14*

**INITIAL CONDITIONS:**

You are an Operator. A large air leak occurred on Unit 2. The Unit 1 Excess Flow Check Valve is currently closed and needs to be reset.

**INITIATING CUE:**

The Unit Supervisor has directed you to reset the Unit 1 Excess Flow Check Valve, 1-ECKV-032-3745 in accordance with 0-OI-32 section 8.12, Resetting an Excess Flow Check Valve.

**CAUTION: DO NOT OPERATE ANY PLANT EQUIPMENT!**

\*\*\*\*\*

**IN-PLANT:** I will explain the initial conditions and state the task to be performed. ALL STEPS WILL BE SIMULATED. Do NOT operate any plant equipment. Touch STAAR may be carried out to the point of touching a label. If it becomes necessary to physically touch a control switch, use a non-conductive pointing device. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. When your task is given, you will repeat the task and I will acknowledge "That's correct" (or "That's incorrect", if applicable). When you have completed your assigned task, you will say, "My task is complete" and I will acknowledge that your task is complete.

\*\*\*\*\*

#### **INITIAL CONDITIONS:**

You are an Operator. A large air leak occurred on Unit 2. The Unit 1 Excess Flow Check Valve is currently closed and needs to be reset.

#### **INITIATING CUE:**

The Unit Supervisor has directed you to reset the Unit 1 Excess Flow Check Valve, 1-ECKV-032-3745 in accordance with 0-OI-32 section 8.12, Resetting an Excess Flow Check Valve.

**CAUTION: DO NOT OPERATE ANY PLANT EQUIPMENT!**

START TIME\_\_\_\_\_

\*\*\*\*\*

Performance Step 1:Critical X Not Critical**0-OI-32      Control Air System****8.12    Resetting an Excess Flow Check Valve****NOTE**

Excess Flow Check Valves have a valve position indicator located under the bottom of the valve body in the center of the valve body. When the check valve is open the position indicator will be flush or slightly recessed into the valve body. When the check valve is closed the position indicator will extend approximately 1/8 inch from the valve body.

[2]    **RESET UNIT ONE EXCESS FLOW CK VLV, 1-ECKV-032-3745** as follows:

[2.1]    **CLOSE U-1 DRYER SOV, 1-SHV-032-2373.**

Standard:

Simulates closing 1-SHV-032-2373.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** When located and IF checked the closed position indicator on 1-ECKV-032-3745 is extended below the valve body 1/8 of an inch.

When simulated 1-SHV-032-2373 is closed.



\*\*\*\*\*

Performance Step 2:Critical X Not Critical

[2.2] **OPEN** CONTROL AIR BLEED OFF VALVE FOR 1-ECKV-032-3745,  
1-BOV-032-3745.

Standard:

Simulates opening 1-BOV-032-3745.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** When simulated 1-BOV-032-3745 is Open.

\*\*\*\*\*

Performance Step 3:Critical X Not Critical

[2.3] **WHEN** UNIT ONE EXCESS FLOW CK VLV, 1-ECKV-032-3745 opens,  
  
**THEN CLOSE** CONTROL AIR BLEED OFF VALVE FOR 1-ECKV-032-3745,  
1-BOV-032-3745.

Standard:

Operator checks Unit 1 Excess Flow Check Valve and when it is confirmed to be open, the operator simulates closing 1-BOV-032-3745.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

**CUE:** When located the position indicator on 1-ECKV-032-3745 is as FOUND or now flush with the valve body.

When simulated 1-BOV-032-3745 is closed.

\*\*\*\*\*

Performance Step 4:

Critical X Not Critical

[2.4] **SLOWLY OPEN** U-1 DRYER SOV, 1-SHV-032-2373.

Standard:

Simulates opening 1-SHV-032-2373.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

END OF TASK

**STOP TIME** \_\_\_\_