

FACILITY NAME: Turkey Point

Section 11

REPORT NUMBER: 2009-302

## FINAL SIM/IN-PLANT JPMS

### CONTENTS:

- Final SIM/In-Plant JPMS
  - o 'As given' with changes made during administration annotated

### Location of Electronic Files:

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Submitted By: Edwin Lopez Verified By: Mark J. Riches

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**Appendix C** **Job Performance Measure Worksheet** **Form ES-C-1**

Facility: Turkey Point Task No: \_\_\_\_\_  
 Perform a Dropped Rod  
 Task Title: Recovery. JPM No: NRC-Sim-JPM-A (Alt Path)  
 Perform Dropped Rod  
 K/A Reference: Safety Function 1, 001.K4.09 Recovery  
 Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_  
 Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_  
 Method of testing: \_\_\_\_\_  
 Simulated Performance X Actual Performance \_\_\_\_\_ X  
 Classroom \_\_\_\_\_ Simulator X Plant X

Read to the examinee:  
 I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

- Initial Conditions:
- Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.
  - Load has been reduced to 50% power per 3-ONOP-028.3.
  - The reason for the dropped rod has been identified and corrected.
  - 3- ONOP-028.3 has been completed up through Step 17.
  - Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.

- Task Standard:
- Successfully attempts to recover Dropped L-5 Rod
  - Identifies M-10 RPI lit and with no changing plant conditions determines a second rod has not dropped.
  - Candidate does not trip reactor.

- Required Materials:
- The key to the Rod Disconnect Switch Cabinet.
  - 3-ONOP-028.3, "Dropped RCC"
  - Control Room Annunciator Response Procedure, 3-ARP-097.CR

- General References:
- 3-ONOP-028.3, "Dropped RCC"
  - Control Room Annunciator Response Procedure, 3-ARP-097.CR
  - Technical Specifications

Initiating Cue:

In accordance with Step 18 of 3-ONOP-028.3, the Shift Manager directs you to retrieve dropped rod L5 using Attachment 1 of 3-ONOP-028.3.

Time Critical Task: No

Validation Time: 20 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

SIMULATOR SETUP

Reset to IC #

Reset to 50% IC

Drop Rod L5

Unfreeze Simulator and allow plant to stabilize.

Load Lesson

Ensure Simulator Operator Checklist is complete

Denote critical steps with a check mark(✓)

Start Time \_\_\_\_\_

STEP 1 :	Obtain 3-ONOP-028.3, Dropped RCC.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Obtains 3-ONOP-028.3. Refers to Step 18 to confirm need to perform Attachment 1. 1. Proceeds to Attachment 1, Page 1.	
<u>Cue</u>	3-ONOP-028.3, Dropped RCC is open to page 10 with step 17 completed and step 18 circled.	
<u>Comment</u>		
NOTE:		

STEP 2 :	<p><b>3-ONOP028.3 Attachment 1 step 1:</b></p> <p style="text-align: center;"><b>CAUTIONS</b></p> <ul style="list-style-type: none"> <li>• <i>If the dropped RCC has been dropped and retrieved in the previous 24 hours, then any further retrieval attempts require the permission of the Plant General Manager.</i></li> <li>• <i>In cases of power operation with a dropped RCC, power peaking may affect fuel integrity if caution is not employed.</i></li> <li>• <i>If PRMS R-20 shows an unexpected increase due to the dropped RCC, a Reactor Engineering evaluation is required prior to retrieving the dropped rod.</i></li> </ul>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>Standard:</u>	Candidate reads CAUTIONS compares them to initial conditions, and determines it is satisfactory to proceed.	
<u>Cue</u>	<ul style="list-style-type: none"> <li>• Initial Conditions and Simulator provide Cues.</li> <li>• <b>If asked, inform the operator that R-20 has been stable.</b></li> </ul>	
<u>Comment</u>		
NOTE:	<ul style="list-style-type: none"> <li>• Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.</li> <li>• Load has been reduced to 50% power per 3-ONOP-028.3.</li> <li>• The reason for the dropped rod has been identified and corrected.</li> <li>• 3- ONOP-028.3 has been completed up through Step 17.</li> <li>• Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.</li> </ul>	

STEP 3 :	<b>3-ONOP028.3 Attachment 1 Step 1:</b> Verify Reactor Power Is Stable	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Verifies Reactor Power Is Stable	
<u>Cue</u>	Simulator provides cue.	
<u>Comment</u>		
NOTE:		

STEP 4 :	<b>3-ONOP028.3 Attachment 1:</b> Candidate reads NOTE prior to step 2. If Initial Reactor Startup or Physics Testing after refueling was in progress, boration to All-Rods-Out, Hot Standby boron concentration will ensure adequate SHUTDOWN MARGIN in xenon-free conditions while the cause of the dropped rod is being determined prior to reactor shutdown.	____ SAT ____ UNSAT
<u>Standard:</u>	Note read.	
<u>Cue</u>	Initial Conditions and Simulator provide cue.	
<u>Comment</u>	Note is not applicable.	
NOTE:		

STEP 5 :	<b>3-ONOP028.3 Attachment 1 Step 2:</b>  Check Reactor Mode Status a. Reactor in Mode 2 or 3 b. Verify RCS boron concentration is greater than or equal to the ARO Hot Standby RCS boron concentration specified in the Plant Curve Book, Section 3, Figure 7.	___ SAT  ___ UNSAT
<u>Standard:</u>	Candidate understands from initial conditions and simulator response that unit is in mode 1.	
<u>Cue</u>	Initial Conditions and Simulator provide cue.	
<u>Comment</u>		
NOTE:	From IC sheet: <ul style="list-style-type: none"> <li>• Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.</li> <li>• Load has been reduced to 50% power per 3-ONOP-028.3.</li> <li>• The reason for the dropped rod has been identified and corrected.</li> <li>• 3- ONOP-028.3 has been completed up through Step 17.</li> <li>• Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.</li> </ul>	

STEP 6 :	<b>3-ONOP028.3 Attachment 1 Step 3:</b> Check Elapsed Time of Dropped Rod. a. Time less than 10 hours.	___ SAT ___ UNSAT
<u>Standard:</u>		
<u>Cue</u>	Provided by Initial Conditions (4 hours).	
<u>Comment</u>		
NOTE:	From IC sheet: <ul style="list-style-type: none"> <li>• Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.</li> <li>• Load has been reduced to 50% power per 3-ONOP-028.3.</li> <li>• The reason for the dropped rod has been identified and corrected.</li> <li>• 3- ONOP-028.3 has been completed up through Step 17.</li> <li>• Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.</li> </ul>	

STEP 7 :	<b>3-ONOP028.3 Attachment 1 Step 4:</b> Cause of Rod Drop Repaired.	____ SAT ____ UNSAT
<u>Standard:</u>	Candidate realizes this has been provided by Initial Conditions.	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:	From IC sheet: <ul style="list-style-type: none"> <li>• Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.</li> <li>• Load has been reduced to 50% power per 3-ONOP-028.3.</li> <li>• The reason for the dropped rod has been identified and corrected.</li> <li>• 3- ONOP-028.3 has been completed up through Step 17.</li> <li>• Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.</li> </ul>	

STEP 8 : √	<b>3-ONOP028.3 Attachment 1 Step 5:</b> Prepare To Retrieve Dropped RCC. a. Position the Rod Motion Control Selector switch to the RCC bank with the dropped RCC.	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Candidate positions the Rod Motion Control Selector switch to Shutdown Bank B.</b>	
<u>Cue</u>	Simulator provides cue.	
<u>Comment</u>		
NOTE:		

STEP 9 : √	<b>3-ONOP028.3 Attachment 1 Step 5:</b> b. Place all the lift coil disconnect switches for the dropped rod bank to the disconnect position (toggle switch down) except for the dropped RCC lift coil disconnect switch.	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Candidate placed all the lift coil disconnect switches for the dropped rod bank to the disconnect position (toggle switch down) except for the dropped RCC L5 lift coil disconnect switch.</b>	
<u>Cue</u>	Simulator provides cue.	
<u>Comment</u>		
NOTE:		

STEP 10 :	3-ONOP028.3 Attachment 1 c. Ensure the lift coil disconnect switch for the dropped RCC is in the connect position (toggle switch up).	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate ensured the lift coil disconnect switch for the dropped RCC L5 is in the connect position (toggle switch up).	
<u>Cue</u>	Simulator provides cue.	
<u>Comment</u>		
NOTE:		

STEP 11 :	3-ONOP028.3 Attachment 1 Step 5: d. Record the step position for the dropped RCC group demand step counter in the Unit Narrative Log as follows: Bank _____ Group _____ Position _____ steps	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate records information on simulated log.	
<u>Cue</u>	Once candidate states intent, tell candidate that recording information on IC sheet is sufficient.	
<u>Comment</u>		
NOTE:		

STEP 12 : √	<b>3-ONOP028.3 Attachment 1 Step 5:</b> e. Manually set the associated group demand step counter to zero.	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Candidate manually sets the Shutdown Bank B Group 1 group demand step counter to zero.</b>	
<u>Cue</u>	Simulator provides cue.	
<u>Comment</u>		
NOTE:		

STEP 13 :	<b>3-ONOP028.3 Attachment 1 Step 6 Note:</b> <ul style="list-style-type: none"> <li>• The Pulse Analog Converter is located in the Control Room in the Rod Position Detector and Bistable assemblies Rack QR-70.</li> <li>• Annunciators B 8/1, ROD BANK A/B/C/D LO-LIMIT, and B 8/2, ROD BANK EXTRA LO-LIMIT, will alarm when the Pulse to Analog computer is reset below the Low and Extra Low Rod Insertion Limits.</li> </ul>	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate reads note.	
<u>Cue</u>	None. Note is not applicable.	
<u>Comment</u>		
NOTE:		

STEP 14 :	<b>3-ONOP028.3 Attachment 1 Step 6:</b> Check If Dropped Rod is in a Shutdown Bank	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate identifies Shutdown Bank B rod L5.	
<u>Cue</u>	Simulator and Initial Conditions provide cue.	
<u>Comment</u>		
NOTE:	From IC sheet: <ul style="list-style-type: none"> <li>• Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.</li> <li>• Load has been reduced to 50% power per 3-ONOP-028.3.</li> <li>• The reason for the dropped rod has been identified and corrected.</li> <li>• 3- ONOP-028.3 has been completed up through Step 17.</li> <li>• Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.</li> </ul>	

STEP 15 :	<p><b>3-ONOP028.3 Attachment 1 Step 7:</b></p> <p style="text-align: center;">CAUTIONS</p> <ul style="list-style-type: none"> <li>• If a dropped RCC is retrieved within 10 hours of dropping, it may be withdrawn at a rate not to exceed 10 steps per minute.</li> <li>• If a dropped RCC is retrieved after 10 hours of dropping, it should be withdrawn at a rate not to exceed 3 steps per hour.</li> <li>• The actual withdrawal rate shall be approved by the Reactor Engineering Supervisor or designee prior to commencing, and may be modified from the above if conditions warranted (i.e., PRMS R-20 Alarm, Unit in Mode 3 etc.).</li> <li>• If the unit experiences a transient which requires rod motion during the dropped rod retrieval, all lift coil disconnect switches are required to be placed in the connect position (toggle switch up), rod control alarm reset PB depressed, and the rod control selector switch placed in MANUAL prior to rod motion.</li> </ul>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>Standard:</u>	Candidate reviews the Cautions	
<u>Cue</u>	Cues provided by Simulator and Initial Conditions.	
<u>Comment</u>		
NOTE:	<p>From IC sheet:</p> <ul style="list-style-type: none"> <li>• Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.</li> <li>• Load has been reduced to 50% power per 3-ONOP-028.3.</li> <li>• The reason for the dropped rod has been identified and corrected.</li> <li>• 3- ONOP-028.3 has been completed up through Step 17.</li> <li>• Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.</li> </ul>	

STEP 16 :	<b>3-ONOP028.3 Attachment 1 Step 7:</b>  <p style="text-align: center;">NOTES</p> <ul style="list-style-type: none"> <li>• Boration at 10 gpm is equivalent to 1 ppm/min (10 pcm/min) negative reactivity insertion.</li> <li>• Annunciator B 9/4, ROD CONTROL URGENT FAILURE, and the RCC Power Cabinet URGENT FAILURE will alarm for the group with the lift coils disconnected.</li> <li>• Boration of the RCS may be required to maintain Tavg equal to Tref.</li> </ul>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>
<u>Standard:</u>	Candidate reads Notes	
<u>Cue</u>	None	
<u>Comment</u>		
NOTE:		

STEP 17 :	<b>3-ONOP028.3 Attachment 1 Step 7:</b>	___ SAT
√	<p>Withdraw The Dropped RCC</p> <p>a. Withdraw the dropped rod at the rate determined by the Reactor Engineering Supervisor.</p> <p>b. Borate as necessary to maintain Tavg within 3°F of Tref.</p> <p>c. Adjust turbine load as necessary to maintain required power level determined in procedure Step 8.</p> <p>d. Continue to withdraw the RCC until it is aligned with its group.</p>	___ UNSAT
<u>Standard:</u>	<b>Candidate reads step and begins to withdraw Rod L-5 by placing the IN-HOLD-OUT Lever to OUT at a rate not to exceed 10 steps per minute.</b>	
<u>Cue</u>	When Rod L-5 reaches 40 steps the Simulator Operator initiates an energization for ROD BOTTOM LIGHT of rod M-10.	
<u>Comment</u>		
NOTE:	No adjustments to Boron or Generator should be necessary during rod withdrawl.	

<b>STEP</b> 18	:	Candidate responds to ROD BOTTOM LIGHT for rod M-10	___ SAT ___ UNSAT
√			
<u>Standard:</u>		<ul style="list-style-type: none"> <li>• <b>Candidate identifies ROD BOTTOM LIGHT lit for rod M-10</b></li> <li>• Candidate informs US/SM (NOT CRITICAL)</li> <li>• <b>Candidate stops withdrawal of rod L-5.</b></li> <li>• <b>Candidate identifies rod M-10 is not dropped by observation of unit conditions.</b></li> <li>• <b>Candidate does not trip reactor.</b></li> </ul>	
<u>Cue</u>		If candidate attempts to notify US/SM act as US/SM and confirm communication.  Once standards are completed tell candidate that JPM is terminated.	
<u>Comment</u>			
NOTE:			
<b>Terminating Cue:</b>		Once standards are completed tell candidate that JPM is terminated.	<b>STOP</b>

Stop Time \_\_\_\_\_

Verification of Completion

Job Performance Measure No. Sim-A

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## JPM BRIEFING SHEET

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### INITIAL CONDITIONS:

- Four hours ago while at 75% power, control rod L-5 dropped fully into the reactor.
- Load has been reduced to 50% power per 3-ONOP-028.3.
- The reason for the dropped rod has been identified and corrected.
- 3- ONOP-028.3 has been completed up through Step 17.
- Rx Engineering Supervisor has approve a withdraw rate of up to 10 steps/min.

### INITIATING CUE:

In accordance with Step 18 of 3-ONOP-028.3, the Shift Manager directs you to retrieve dropped rod L5 using Attachment 1 of 3-ONOP-028.3.

Acknowledge to the examiner when you are ready to begin.

HAND THIS P APER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED  
THE ASSIGNED TASK.

Facility: Turkey Point Task No: \_\_\_\_\_

Task Title: Pressurizer Level Control

Channel 459 Drifts Low JPM No: NRC-25-SIM-JPM-B

Safety Function 2

K/A Reference: 011-A2.03

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing: \_\_\_\_\_

Simulated Performance \_\_\_\_\_ Actual Performance X

Classroom \_\_\_\_\_ Simulator X Plant \_\_\_\_\_

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 3 is at 100% and stable
- No equipment is out of service

Task Standard:

- Unit 3 is at 100% and stable.
- Pressurizer level stable and returning to programmed level.
- Letdown has been returned to service.

Required Materials:

- 3-ONOP-041.6, Pressurizer Level Control Malfunction

General References:

- 3-ONOP-041.6, Pressurizer Level Control Malfunction
- 3-ARP-097.CR, Control Room Annunciator Response

Initiating Cue:

- You have been directed to respond to plant conditions.

Time Critical Task: No

Validation Time: 20 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

SIMULATOR SETUP

Reset to IC #

IC-1: 100% Power MOL

Ensure Simulator Operator Checklist is complete

Simulator Operator Instructions

1. Verify IC-1
2. Place Simulator to RUN
3. Schema » Reactor Coolant System » Pressurizer » L-459 » LT-459 » Insert -1.0 drift on LT-459 with a 4 min ramp.

Denote critical steps with a check mark(✓)

Start Time \_\_\_\_\_

STEP 1 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction</b> Respond to Pressurizer Level Control Channel 459 fails low. <b>SYMPTOMS</b> 2.1.1 Annunciator A 8/3 - PZR PROTECTION HI LEVEL 2.1.2 Annunciator A 8/4 - PZR LO-LO LEVEL ALERT <b>2.1.3 Annunciator A 9/3 - PZR CONTROL HI/LO LEVEL</b> <b>2.1.4 Annunciator A 9/4 - PZR LO LEVEL/HEATER OFF/LTDN SECURED</b> <b>2.2 An unexplained deviation of pressurizer level from the Tavg programmed level.</b>	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Based on Symptoms 2.1.3, 2.1.4, and 2.2 above candidate refers to 3-ONOP-041.6 Pressurizer Level Control Malfunction, or may use Annunciator Response Procedure as guidance to get to 3-ONOP-041.6.</b>	
<u>Cue</u>	Simulator provides cue.	
<u>Comment</u>		
NOTE:	Candidate may choose to refer to ARP prior to entering ONOP. The ARP will direct the candidate to 3-ONOP-041.6 Pressurizer Level Control Malfunction.	

STEP 2 :	<p><b>3-ONOP-041.6, Pressurizer Level Control Malfunction</b></p> <p><b>3.0 AUTOMATIC ACTIONS</b></p> <p>3.1 <b>IF</b> control channel fails LOW, <b>THEN</b> the following will occur:</p> <p>3.1.1 High Pressure LTDN Isol. Vlv. LCV-3-460 CLOSES.</p> <p>3.1.2 LTDN Orifice Isol. Valves, CV-3-200A, CV-3-200B <b>AND</b> CV-3-200C CLOSE.</p> <p>3.1.3 All Pressurizer Heaters turn OFF.</p> <p>3.1.4 Charging flow INCREASES.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>Standard:</u>	<p>Operator verifies the following:</p> <ol style="list-style-type: none"> <li>1. High Pressure LTDN Isolation Valve LCV-3-460 CLOSES.</li> <li>2. LTDN Orifice Isolation Valves, CV-3-200A, CV-3-200B AND CV-3-200C CLOSE.</li> <li>3. All Pressurizer Heaters turn OFF.</li> <li>4. Charging flow INCREASES.</li> </ol>	
<u>Cue</u>	<p>Simulator provides cue.</p>	
<u>Comment</u>		
NOTE:		

STEP 3 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction</b> <b>4.0 IMMEDIATE ACTIONS</b> 4.1 None	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	None	
<u>Cue</u>	None	
<u>Comment</u>		
NOTE:		

STEP 4 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.0:</b> <b>NOTES</b> <ul style="list-style-type: none"> <li>• If Pressurizer Level Malfunction is a result of a failure of the 3-459CX or 3-460CX relays (as indicated by a loss of letdown flow with a loss of Pressurizer Heaters with no concurrent failure of Level Transmitters 3-459A, 3-460, 3-461), use 3-ONOP-003.6 Attachment 4, for 3-460CX failure, <b>OR</b> 3-ONOP-003.9 Attachment 4, for 3-459CX failure as guidance for establishing Letdown flow and Pressurizer Heaters.</li> <li>• If the button on relays 3-459CX or 3-460CX are used to restore Letdown flow and Pressurizer Heaters, comply with Tech Spec Action Statement 3.4.3 Action b.</li> <li>• If the manual control of Heaters from the Electrical penetration room is used, comply with Tech Spec Action Statement 3.4.3 Action a.</li> </ul>	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate reads notes and understands that none apply.	
<u>Cue</u>	None	
<u>Comment</u>		
NOTE:		

STEP 5 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5:</b> <b>5.0 SUBSEQUENT ACTIONS</b> 5.1 Check pressurizer level indicators LI-3-459A, LI-3-460 AND LI-3-461,	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Candidate checks pressurizer level indicators LI-3-459A, LI-3-460 AND LI-3-461 and identifies Channel 459 as failing/failed low.</b>	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 6 : √	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.1.1:</b> 5.1.1 <b>IF</b> one level indicator deviates significantly from the others, <b>THEN</b> place CHANNEL SELECT PRESSURIZER LEVEL CONTROL switch in a position that will NOT include the defective channel.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Candidate places CHANNEL SELECT PRESSURIZER LEVEL CONTROL switch in position 2 or 3 to select out defective channel.</b>	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 7 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.2:</b> 5.2 <b>IF</b> pressurizer level does not follow programmed level, <b>THEN</b> place MASTER CHARGING PUMP CONTROLLER, LC-3-459G in MANUAL <b>AND</b> maintain programmed level per Enclosure 1.	____ SAT ____ UNSAT
<u>Standard:</u>	<ol style="list-style-type: none"> <li>1. Candidate places MASTER CHARGING PUMP CONTROLLER, LC-3-459G in MANUAL</li> <li>2. Candidate attempts to maintain programmed level per Enclosure 1.</li> </ol>	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 8 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.2.1:</b> 5.2.1 <b>IF</b> individual charging pump controllers are not following LC-3-459G, <b>THEN</b> place individual CHARGING PUMP CONTROLLERS in MANUAL <b>AND</b> maintain programmed level per Enclosure 1.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate recognizes CHARGING PUMP CONTROLLERS are operating properly.	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 9 :	<p><b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.3:</b></p> <p>5.3 <b>IF</b> affected charging pump is not able to maintain programmed level per Enclosure 1, <b>THEN</b> start additional pumps as necessary to restore programmed level per Enclosure 1.</p> <p>5.3.1 After programmed level has been restored, if troubleshooting of affected charging pump is desired, then refer to 3-OP-047, CVCS - Charging and Letdown, Troubleshooting Guide.</p> <p>5.3.2 If affected charging pump is not required, then shut down the affected charging pump using 3-OP-047, CVCS - CHARGING AND LETDOWN.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>Standard:</u>	Candidate reads step and realizes no action is required.	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 10 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.4:</b> 5.4 <b>IF</b> LR-3-459 is selected to a defective channel, <b>THEN</b> place CHANNEL SELECT PRESSURIZER LEVEL RECORDER in another position.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Placed CHANNEL SELECT PRESSURIZER LEVEL RECORDER in position other than Channel 459.	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 11 : √	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.5:</b> 5.5 <b>IF</b> control malfunction caused letdown isolation, <b>THEN</b> re-establish flow as follows:  5.5.1 Throttle Low Pressure LTDN Controller, PCV-3-145, as necessary to prevent LTDN relief valve from lifting, (approximately 50 percent open)	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	<b>Candidate throttles Low Pressure LTDN Controller, PCV-3-145, as necessary to prevent LTDN relief valve from lifting, (approximately 50 percent open).</b>	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 12 :	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.5.2:</b> 5.5.2 Manually control Low Pressure Letdown Control Valve, PCV-3-145, to limit pressure spike.	____ SAT ____ UNSAT
<u>Standard:</u>	Candidate manually controls Low Pressure Letdown Control Valve, PCV-3-145, to limit pressure spike.	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 13 : √	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.5.3:</b> 5.5.3 OPEN High Pressure L/D Isol Vlv from Loop B Cold Leg LCV-3-460.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Candidate OPENS High Pressure L/D Isol Vlv from Loop B Cold Leg LCV-3-460.</b>	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

STEP 14 : √	<b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.5.4:</b> 5.5.4 OPEN L/D Isolation Valves, CV-3-200 A, B <b>OR</b> C as required to restore pressurizer level to programmed level.	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Candidate OPENS L/D Isolation Valves, CV-3-200 A, B OR C as required to restore pressurizer level to programmed level.</b>	
<u>Cue</u>	Provided by simulator.	
<u>Comment</u>		
NOTE:		

<p>STEP 15 :</p>	<p><b>3-ONOP-041.6, Pressurizer Level Control Malfunction, Step 5.5.5:</b> 5.5.5 Return Low Pressure Letdown Control Valve, PCV-3-145 to automatic.</p>	<p>___ SAT ___ UNSAT</p>
<p><u>Standard:</u></p>	<p>Candidate returns Low Pressure Letdown Control Valve, PCV-3-145 to automatic.</p>	
<p><u>Cue</u></p>	<p>Tell candidate that another operator will complete the remainder of the procedure.</p>	
<p><u>Comment</u></p>		
<p>NOTE:</p>		
<p><b>Terminating Cue:</b></p>	<p><b>Once standards are completed tell candidate that another operator will complete the remainder of the procedure.</b></p>	<p><b>STOP</b></p>

Stop Time \_\_\_\_\_

Verification of Completion

Job Performance Measure No. NRC-25-SIM-JPM-B, Pressurizer Level Channel 459 Fails Low

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## JPM BRIEFING SHEET

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### INITIAL CONDITIONS:

- Unit 3 is at 100% and stable
- No equipment is out of service

### INITIATING CUE:

- You have been directed to respond to plant conditions.

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED  
THE ASSIGNED TASK.

Facility: Turkey Point Task No: \_\_\_\_\_

Task Title: ALIGN SAFETY INJECTION FOR HOT LEG RECIRC JPM No: NRC-25-SIM-JPM-C  
Safety Function 4(P) 005 K4.11  
3.5/3.9

K/A Reference: \_\_\_\_\_

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing: \_\_\_\_\_

Simulated Performance	Actual Performance	X
Classroom _____	Simulator <u>X</u>	Plant _____

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- UNIT ON COLD LEG RECIRCULATION (RHR LOOP A)
- 12 HOURS HAVE ELAPSED SINCE EVENT INITIATION
- IDLE RHR TRAIN AVAILABLE (RHR LOOP B)
- POWER AVAILABLE TO BOTH 4 KV BUSES
- RHR SUPPLYING COLD LEG RECIRCULATION
- ALL CCW HEAT EXCHANGERS ARE IN SERVICE
- STEP 32 OF 3-EOP-E-1, Loss of Reactor or Secondary Coolant. IS IN PROGRESS
- 3-EOP-E-1, Loss of Reactor or Secondary Coolant. IS OPEN ON THE UNIT SUPERVISOR DESK AND OPEN TO STEP 32 WITH STEP 32 CIRCLED.

Task Standard:

- S.I. FLOW SUPPLIED TO HOT LEGS

Required Materials:

- 3-EOP-ES-1.4, TRANSFER TO HOT LEG RECIRCULATION
- 3-EOP-E-1, Loss of Reactor or Secondary Coolant

General References:

- 3-EOP-ES-1.4, TRANSFER TO HOT LEG RECIRCULATION
- 3-EOP-E-1, Loss of Reactor or Secondary Coolant

- **Initiating Cue:**

**You have been directed to ALIGN SAFETY INJECTION FOR HOT LEG RECIRC AS REQUIRED BY STEP 32 OF 3-EOP-E-1, Loss of Reactor or Secondary Coolant.**

**Time Critical Task: NO**

**Validation Time: 18 minutes**

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

SIMULATOR SETUP

Reset to IC #

For going on Hot Leg Recirc

Load Lesson

- LOADAND EXECUTE LESSON: JPM 01062012501.LSN
- TRIGGER “MOV-3-869 CLOSED”
- MOV-3-863A & MOV-3-863B CLOSED
- Unfreeze simulator.
- 3A & 3B CSPs in PTL
- Accumulators Isolated
- 3A and 3B HHSI pumps in PTL
- 3A RHR running, 3B PTL
- MOV-3-866 Closed
- MOV-3-880A & B Closed
- MOV-3-744 A & B Open
- MOV-3-864 A & B Closed
- MOV-3-750 & 751 Energized

Ensure Simulator Operator Checklist is complete

Denote critical steps with a check mark()

Start Time

STEP 1 : √	<b>3-EOP-E-1, Loss of Primary or Secondary Coolant Step 32</b> Transition as required by Step 32 OF 3-EOP-E-1	____ SAT ____ UNSAT
<u>Standard:</u>	Transition made to 3-EOP-ES-1.4, TRANSFER TO HOT LEG RECIRCULATION	
<u>Cue</u>	None required	
<u>Comment</u>		
NOTE:	Candidate should place a mark through circled step 32 prior to transition.	

STEP 2 :	<b>3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 1:</b>  <p style="text-align: center;">CAUTIONS</p> <ul style="list-style-type: none"> <li>• Each step of this procedure should be completed prior to continuing with the next step. In the event a step can NOT be performed, each subsequent step must be evaluated prior to performance to ensure core cooling and equipment operability.</li> <li>• CCW System load requirements of 3-OP-030, COMPONENT COOLING WATER SYSTEM, SHALL NOT be exceeded.</li> </ul>	___ SAT  ___ UNSAT
<u>Standard:</u>	Candidate reads Cautions	
<u>Cue</u>	None required	
<u>Comment</u>		
NOTE:		

STEP 3 :	<b>3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 1:</b>  NOTES <ul style="list-style-type: none"> <li>• This procedure is required to be performed without delay.</li> <li>• CSF status trees are required to be monitored for information only. FRPs shall NOT be implemented until directed by procedure.</li> <li>• Foldout page is required be monitored throughout this procedure.</li> </ul>	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate reads notes	
<u>Cue</u>	None required	
<u>Comment</u>		
NOTE:		

STEP 4 :	<b>3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 1:</b>	___ SAT
√	Check High-Head SI Pumps – ANY RUNNING	___ UNSAT
<u>Standard:</u>	<b>Candidate starts any High-Head SI Pump aligned to Unit 3.</b>	
<u>Cue</u>	Provided by simulator	
<u>Comment</u>		
NOTE:		

<b>STEP 5 :</b>	<b>3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 2:</b> Verify RHR Heat Exchanger CCW Outlet Valve On Operating RHR Train - OPEN * MOV-3-749A for train A * MOV-3-749B for train B	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate verifies OPEN RHR Heat Exchanger CCW Outlet Valve On Operating RHR Train –3-MOV-3-749A for train A	
<u>Cue</u>	Provided by simulator	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 6 :	<b>3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 3:</b> Verify Safety Injection To Hot Leg Isolation Valve, MOV-3-869 - OPEN	___ SAT ___ UNSAT
<u>Standard:</u>	Attempts to open Hot Leg Isolation Valve, MOV-3-869.	
<u>Cue</u>	<ul style="list-style-type: none"> <li>• Provided by simulator</li> <li>• If candidate calls to locally open MOV-3-869 Simulator Operator as the Primary Operator tells candidate that valve is inaccessible.</li> </ul>	
<u>Comment</u>		
NOTE:		

STEP 7 :	<b>3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 3 RNO:</b>	___ SAT
√	Go to ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation	___ UNSAT
<u>Standard:</u>	<b>Candidate transitions to ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation</b>	
<u>Cue</u>	None required	
<u>Comment</u>		
NOTE:		

STEP 8 :	<b>ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 1:</b>	___ SAT
√	1. Establish Alternate Hot Leg Injection Flowpath a. Locally close both RHR Pump Manual Suction Valves <ul style="list-style-type: none"> <li>• 3-752A</li> <li>• 3-752B</li> </ul>	___ UNSAT
<u>Standard:</u>	<b>Candidate contacts Primary Operator to CLOSE 3-752A and 3-752B RHR Pump Manual Suction Valves</b>	
<u>Cue</u>	<ul style="list-style-type: none"> <li>• Simulator Operator receives and acknowledges candidates request.</li> <li>• Using Time Compression, Simulator Operator reports 3-752A and 3-752B RHR Pump Manual Suction Valves are closed.</li> </ul>	
<u>Comment</u>		
NOTE:		

STEP 9 : √	<b>ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg          Recirculation Step 1:</b>  b. Open both Loop 3C RHR Pump Suction Stop valves <ul style="list-style-type: none"> <li>• MOV-3-750</li> <li>• MOV-3-751</li> </ul>	___ SAT  ___ UNSAT
<u>Standard:</u>	<b>Candidate Opens both Loop 3C RHR Pump Suction Stop valves</b> <ul style="list-style-type: none"> <li>• MOV-3-750</li> <li>• MOV-3-751</li> </ul>	
<u>Cue</u>	Provided by simulator	
<u>Comment</u>		
NOTE:		

STEP 10 : √	<b>ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 2:</b>  Locally Verify RHR Heat Exchanger Manual Outlet Valve On The Operating RHR Train(s) - OPEN * 3-759A for train A * 3-759B for train B	___ SAT  ___ UNSAT
<u>Standard:</u>	<b>Candidate calls Primary Operator/Field Supervisor to verify 3-759A for train A and 3-759B for train B are OPEN.</b>	
<u>Cue</u>	<ul style="list-style-type: none"> <li>• Primary Operator/Field Supervisor acknowledge request.</li> <li>• Using Time Compression, Simulator Operator reports 3-759A for train A and 3-759B for train B are OPEN.</li> </ul>	
<u>Comment</u>		
NOTE:		

STEP 11 :	ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 3:	___ SAT
	<p style="text-align: center;"><b>CAUTION</b></p> <p>Injection flow to the core shall NOT be interrupted for more than 10 minutes during performance of subsequent steps.</p>	___ UNSAT
<u>Standard:</u>	Candidate reads Caution.	
<u>Cue</u>	None required.	
<u>Comment</u>		
NOTE:		

STEP 12 : √	<b>ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 3:</b>  <b>Place All Of The Following Pumps In PULLTO-LOCK</b> <ul style="list-style-type: none"> <li>• Unit 3 Containment Spray Pumps</li> <li>• All High Head SI Pumps aligned to Unit 3.</li> </ul>	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Candidate places All Of The Following Pumps In PULLTO-LOCK</b> <ul style="list-style-type: none"> <li>• All High Head SI Pumps aligned to Unit 3.</li> </ul>	
<u>Cue</u>	Provided by Simulator	
<u>Comment</u>		
NOTE:	3A and 3B Containment Spray Pumps are currently in Pull-To-Lock	

STEP 13 :	<b>ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 4:</b>  Open Or Verify Open At Least One RHR Discharge To Cold Leg Isolation Valve * MOV-3-744A * MOV-3-744B	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate verifies open <ul style="list-style-type: none"> <li>• MOV-3-744A</li> <li>• MOV-3-744B</li> </ul>	
<u>Cue</u>	Provided by simulator	
<u>Comment</u>		
NOTE:		

STEP 14 :	<b>ATTACHMENT 1 of 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation Step 5:</b>  Close Both RHR Alternate Discharge Isolation Valves • MOV-3-863A • MOV-3-863B	___ SAT  ___ UNSAT
<u>Standard:</u>	Candidate verifies closed Both RHR Alternate Discharge Isolation Valves • MOV-3-863A • MOV-3-863B	
<u>Cue</u>	Provided by simulator	
<u>Comment</u>		
NOTE:		

<p>STEP 15 : √</p>	<p><b>ATTACHMENT 1, 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation</b>  <b>Step 6:</b>                  Locally Open RHR Recirculation Isolation Valve, 3-741A</p>	<p>___ SAT                  ___ UNSAT</p>
<p><u>Standard:</u></p>	<p>Candidate directs to locally Open RHR Recirculation Isolation Valve, 3-741A</p>	
<p><u>Cue</u></p>	<ul style="list-style-type: none"> <li>• Primary Operator/Field Supervisor acknowledge request.</li> <li>• Using Time Compression, Simulator Operator reports as Primary Operator that RHR Recirculation Isolation Valve, 3-741A is OPEN.</li> </ul>	
<p><u>Comment</u></p>		
<p>NOTE:</p>		

STEP 16 :	<b>ATTACHMENT 1, 3-EOP-ES-1.4, Transfer to Hot Leg Recirculation</b> <b>Step 7:</b> Verify Core Exit TCs - STABLE OR DECREASING	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate monitors Core Exit TCs for STABLE OR DECREASING trend.	
<u>Cue</u>	Tell candidate that another operator will continue with the task.	
<u>Comment</u>		
NOTE:		
Terminating Cue:	The task is complete when the Examinee returns the cue sheet to the examiner.	STOP
Stop Time		

Verification of Completion

Job Performance Measure No. NRC-25-SIM-JPM-C, Align Safety Injection for Hot Leg Recirculation

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## JPM BRIEFING SHEET

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### Initial Conditions:

- UNIT ON COLD LEG RECIRCULATION (RHR LOOP A)
- 12 HOURS HAVE ELAPSED SINCE EVENT INITIATION
- IDLE RHR TRAIN AVAILABLE (RHR LOOP B)
- POWER AVAILABLE TO BOTH 4 KV BUSES
- RHR SUPPLYING COLD LEG RECIRCULATION
- ALL CCW HEAT EXCHANGERS ARE IN SERVICE
- STEP 32 OF 3-EOP-E-1, Loss of Reactor or Secondary Coolant. IS IN PROGRESS
- 3-EOP-E-1, Loss of Reactor or Secondary Coolant. IS OPEN ON THE UNIT SUPERVISOR DESK AND OPEN TO STEP 32 WITH STEP 32 CIRCLED.

### INITIATING CUE:

You have been directed to ALIGN SAFETY INJECTION FOR HOT LEG RECIRC AS REQUIRED BY STEP 32 OF 3-EOP-E-1, Loss of Reactor or Secondary Coolant.

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

## Appendix C

Job Performance Measure  
Worksheet

Form ES-C-1

Facility:	Turkey Point	Task No:	_____
Task Title:	Test the Source Range NIS Channel (Shutdown) Safety Function 7	Job Performance Measure No:	NRC-25-SIM-JPM-D
K/A Reference:	015 A3.03 3.9/3.9		
Applicant:	_____	NRC Examiner:	_____
Facility Evaluator:	_____	Date:	_____
Method of testing:	Simulator (Direct, Low Power)		
Simulated Performance	_____	Actual Performance	Yes _____
Classroom	_____	Simulator	Yes _____
		Plant	_____

**Read to the applicant:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

## Initial Conditions:

1. Unit 3 is in Mode 4 for a short notice outage
2. The Shift Manager has authorized performance of 3-OSP-059.1, "Source Range Nuclear Instrumentation Analog Channel Operational Test" for channel N-32
3. You are relieving the RO who has successfully completed 3-OSP-059.1, Section 7.3.2 through step 7.3.2.16
4. N-32 reads 90-100 counts per second at the start of the test
5. Containment access doors are closed and no personnel are inside containment

## Task Standards:

1. Setpoints are verified to be within specification
2. Protective actuations verified

## Required Materials:

1. 3-OSP-059.1

## General References:

1. 3-OSP-059.1

## Initiating Cue:

Shift Manager permission has been granted to continue with the surveillance on source range detector channel N-32, starting at step 7.3.2.17 of 3-OSP-059.1

Time Critical Task: No

Validation Time: 20 minutes

## INSTRUCTIONS TO APPLICANT

### READ TO APPLICANT:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES. WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS JOB PERFORMANCE MEASURE WILL BE SATISFIED.

### **HAND JPM BRIEFING SHEET TO APPLICANT AT THIS TIME!**

### INITIAL CONDITIONS:

1. Unit 3 is in Mode 4 for a short notice outage
2. The Shift Manager has authorized performance of 3-OSP-059.1, "Source Range Nuclear Instrumentation Analog Channel Operational Test" for channel N-32
3. You are relieving the RO who has successfully completed 3-OSP-059.1, Section 7.3.2 through step 7.3.2.16
4. N-32 reads 90 counts per second at the start of the test
5. Containment access doors are closed and no personnel are inside containment

### INITIATING CUE:

Shift Manager permission has been granted to continue with the surveillance on source range detector channel N-32, starting at step 7.3.2.17 of 3-OSP-059.1.

### TERMINATION CUE:

WHEN YOU FEEL THAT YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK, HAND YOUR JPM BRIEFING SHEET BACK TO ME.

DO YOU HAVE ANY QUESTIONS?

YOU MAY BEGIN.

### NOTES TO EVALUATOR AND I/F OPERATOR:

1. Reset simulator to IC-14 or IC-140. If IC-140 used, skip ahead to step 10.
2. Unit 3 is in Mode 4.
3. Place simulator in run.
4. Verify the NR-45 console recorders are displaying N31/N32 & N35/N36.
5. Adjust N-32 high flux at shutdown setpoint inside N-32 drawer to 300 counts per seconds. Refer to 3-OSP-059.6 as required.
6. Verify the N-32 level trip switch is in BYPASS.
7. Verify the N-32 high flux at shutdown switch is in BLOCK.
8. Acknowledge alarms and freeze simulator.
9. Store temporary IC if needed for repeat runs of this JPM.
10. Mark placards above N-31 & N-32 with high flux at shutdown setpoint = 300 cps and today's date.
11. Hang shutdown placards on the following valves:
  - MOV-3-843A/B
  - MOV-3-866A/B
  - MOV-3-869
  - MOV-3-865A/B/C
12. Place a marked up copy of 3-OSP-059.1 signed off thru step 7.3.2.16 on the RO desk.

Denote critical steps with a check mark (✓)

Start Time \_\_\_\_\_

STEP 1 :	Obtained procedure	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>STANDARDS:</u>	1. Obtains procedure 3-OSP-059.1  <b>NOTE: A copy of 3-OSP-059.1 signed off thru step 7.3.2.16 is left on the RO desk for applicant use.</b>  2. Reviews 3-OSP-059.1 Precautions & Limitations before continuing	
<u>Cue</u>	None required.	
<u>Comment</u>		
<u>Note</u>		

STEP 2 :	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.17  Level adjust potentiometer (N-32) position verified fully counterclockwise	___ SAT  ___ UNSAT
<u>STANDARD:</u>	Candidate verifies N-32 level adjust potentiometer in the full counterclockwise position.	
<u>Cue</u>		
<u>Comment</u>		
<u>Note</u>		

STEP 3 : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.18  Operation selector switch positioned to LEVEL ADJ	___ SAT  ___ UNSAT
<u>STANDARD:</u>	<b>Positions N-32 operation selector switch positioned to LEVEL ADJ</b>	
<u>Cue</u>		
<u>Comment</u>		
<u>Note</u>	<b><i>Annunciator B-7/3 alarms (NIS CHANNEL IN TEST)</i></b>	

STEP 4 :	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.19</p> <p style="text-align: center;"><b>NOTE</b></p> <p><b>Plant P.A. phone announcements concerning the containment Evacuation Alarm actuation during High Flux at Shutdown alarm testing are necessary if personnel are in containment.</b></p> <p>Notify Outage Control Center that containment evacuation alarm will be tested AND announce distinctly over the plant P.A. phone, ATTENTION ALL PERSONNEL, THE CONTAINMENT EVACUATION ALARM IS BEING TESTED. (Mark N/A if no personnel are in containment.)</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARD:</u>	Candidate determines that Note and Step does not apply and marks step N/A.	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
<u>Note</u>		

STEP 5 : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.20  Place HIGH FLUX AT SHUTDOWN switch (NIS panel, N-32) to NORMAL..	___ SAT  ___ UNSAT
<u>STANDARD:</u>	Candidate Places HIGH FLUX AT SHUTDOWN switch (NIS panel, N-32) to NORMAL.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

<u>STEP 6</u> :	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.21  Verify Annunciator B 4/2, SOURCE RANGE HI FLUX AT SHUTDOWN BLOCKED, is OFF (Mark N/A if Annunciator B 4/2 is ON due to Source Range N-31, HIGH FLUX AT SHUTDOWN switch in BLOCK).	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>STANDARD:</u>	Candidate verifies Annunciator B 4/2, SOURCE RANGE HI FLUX AT SHUTDOWN BLOCKED, is OFF	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

STEP <u>7</u> : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.22  Adjust LEVEL ADJ potentiometer (NIS panel, N-32) slowly clockwise until HIGH FLUX AT SHUTDOWN status light (NIS panel, N-32) turns ON.	___ SAT ___ UNSAT
<u>STANDARD:</u>	Candidate adjusts LEVEL ADJ potentiometer (NIS panel, N-32) slowly clockwise until HIGH FLUX AT SHUTDOWN status light (NIS panel, N-32) turns ON.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

STEP 8 :	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.23</p> <p>Perform the following:</p> <p>a. Record SOURCE RANGE CPS NEUTRON LEVEL (NIS panel, N-32) for High Flux at Shutdown bistable trip point on Attachment 2.</p> <p>b. Verify HIGH FLUX AT SHUTDOWN status light (NIS panel, N-32) is ON.</p> <p>c. Verify Annunciator B 4/1, SOURCE RANGE HI FLUX AT SHUTDOWN, is ON.</p> <p>d. Verify containment Evacuation Alarm is ON. (Mark N/A if no personnel are in containment).</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARDS:</u>	<p>Candidate:</p> <p>a. Records High Flux at Shutdown bistable trip point, N-32 (Source Range CPS) on Attachment 2 <i>(step 7.3.2.23.a)</i></p> <p>b. Verifies N-32 drawer HIGH FLUX AT SHUTDOWN status light on <i>(step 7.3.2.23.b)</i></p> <p>c. Verifies annunciator B-4/1 (SOURCE RANGE HI FLUX AT SHUTDOWN) on <i>(step 7.3.2.23.c)</i></p> <p>d. Verifies containment Evacuation Alarm is ON. (Mark N/A if no personnel are in containment).</p> <p><b>NOTE: Containment evacuation alarm verification n/a</b> <i>(step 7.3.2.23.d)</i></p>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

STEP 9 : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.24  Adjust LEVEL ADJ potentiometer (NIS panel N-32) slowly counterclockwise until HIGH FLUX AT SHUTDOWN status light (NIS panel, N-32) turns OFF.	___ SAT  ___ UNSAT
<u>STANDARD:</u>	Candidate Adjusts LEVEL ADJ potentiometer (NIS panel N-32) slowly counterclockwise until HIGH FLUX AT SHUTDOWN status light (NIS panel, N-32) turns OFF.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

<p><u>STEP 10</u> :</p>	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.25</p> <p>Perform the following</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STANDARDS:</u></p>	<p>Candidate:</p> <ul style="list-style-type: none"> <li>a. Records High Flux at Shutdown bistable reset point, N-32 (Source Range CPS) on Attachment 2 (step 7.3.2.25.a)</li> <li>b. Verifies N-32 drawer HIGH FLUX AT SHUTDOWN status light turns off (step 7.3.2.25.b)</li> <li>c. Verifies annunciator B-4/1 (SOURCE RANGE HI FLUX AT SHUTDOWN) off (step 7.3.2.25.c)</li> <li>d. Marks N/A</li> </ul>	
<p><u>Cue</u></p>	<p>Provided by Simulator.</p>	
<p><u>Comment</u></p>		
<p><u>Note</u></p>	<p><b>Containment evacuation alarm verification n/a</b> (step 7.3.2.25.d)</p>	

<u>STEP 11</u> :	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.25  e. Verify High Flux at Shutdown bistable reset point is within acceptance criteria range of Enclosure 1.	<input type="checkbox"/> SAT  <input type="checkbox"/> UNSAT
<u>STANDARD:</u>	Candidate verifies high flux at shutdown acceptance criteria for alarm and reset met per Enclosure 1	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>	<b>NOTE: Acceptable values for Enclosure 1 acceptance criteria:</b> Alarm upper limit = 330-430 cps Alarm lower limit = 190-240 cps Reset upper limit = 165-215 cps  Reset lower limit = 100-135 cps	

STEP 12 : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.26  Place HIGH FLUX AT SHUTDOWN switch (NIS panel, N-32) to BLOCK.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>STANDARD:</u>	Candidate Placed HIGH FLUX AT SHUTDOWN switch (NIS panel, N-32) to BLOCK.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

STEP 13 :	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.27 and 28</p> <p>27. Verify Annunciator B 4/2, SOURCE RANGE HI FLUX AT SHUTDOWN BLOCKED, is ON.</p> <p>28. Announce distinctly over the plant P.A. phone, ATTENTION ALL PERSONNEL, THE CONTAINMENT EVACUATION ALARM TEST IS COMPLETE. (Mark N/A if no personnel are in containment).</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARDS:</u>	<p>Candidate:</p> <p>27. Verifies annunciator B-4/2 (SOURCE RANGE HI FLUX AT SHUTDOWN BLOCKED) turns on (<i>step 7.3.2.27</i>)</p> <p>28. Marks step N/A</p>	
<u>Cue</u>	Provided by Simulator and Initial Conditions.	
<u>Comment</u>		
<u>Note</u>		

STEP 14 : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.29  Adjust LEVEL ADJ potentiometer (NIS panel, N-32) slowly clockwise until LEVEL TRIP status light (NIS panel, N-32) turns ON.	___ SAT ___ UNSAT
<u>STANDARDS:</u>	Candidate Turns Level Adj potentiometer slowly clockwise until N-32 drawer LEVEL TRIP status light on ( <i>step 7.3.2.29</i> )	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

STEP 15 :	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.30</p> <p>a. Record SOURCE RANGE CPS NEUTRON LEVEL (NIS panel, N-32) for Level Trip bistable trip point on Attachment 2.</p> <p>b. Verify REACTOR PROTECTION LOGIC status light (VPB), SOURCE RANGE HI FLUX NC32D is ON.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARD:</u>	<p>Candidate:</p> <p>a. Records Level Trip bistable trip point, N-32 (Source Range CPS) on Attachment 2 (<i>step 7.3.2.30.a</i>)</p> <p>b. Verifies SOURCE RANGE HI FLUX NC32D VPB status light on (<i>step 7.3.2.30.b</i>)</p>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

<p>STEP 16 : √</p>	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.31</p> <p>Adjust LEVEL ADJ potentiometer (NIS panel N-32) slowly counterclockwise until LEVEL TRIP status light (NIS panel, N-32) turns OFF.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STANDARDS:</u></p>	<p>Candidate Turns Level Adj potentiometer slowly counterclockwise until the N-32 drawer LEVEL TRIP status light turns off (<i>step 7.3.2.31</i>)</p>	
<p><u>Cue</u></p>	<p>Provided by Simulator.</p>	
<p><u>Comment</u></p>		
<p><u>Note</u></p>		

STEP 17 :	<p>3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.32</p> <p>Perform the following:</p> <p>a. Record SOURCE RANGE CPS NEUTRON LEVEL (NIS panel, N-32) for Level Trip bistable reset point on Attachment 2.</p> <p>b. Verify REACTOR PROTECTION LOGIC status light (VPB), SOURCE RANGE HI FLUX NC32D is OFF.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARD:</u>	<p>Candidate:</p> <p>Records Level trip bistable reset point, N-32 (Source Range CPS) on Attachment 2 (<i>step 7.3.2.32.a</i>)</p> <p>Verifies SOURCE RANGE HI FLUX NC32D VPB status light off (<i>step 7.3.2.32.b</i>)</p>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		

STEP 18 : √	3-OSP-059.1, Source Range Nuclear Instrumentation Analog Channel Operational Test, Step 7.3.2.33  Adjust LEVEL ADJ potentiometer (NIS panel, N-32) fully counterclockwise.	____ SAT  ____ UNSAT
<u>STANDARD:</u>	Candidate Turns N-32 Level Adj potentiometer fully counterclockwise	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<u>Note</u>		
<b>Terminating Cue:</b>	<b>Tell candidate that another operator will perform the remainder of the test.</b>	<b>STOP</b>

Stop Time \_\_\_\_\_

**Verification of Completion**

Job Performance Measure No. Systems – d

Applicant's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## **JPM BRIEFING SHEET**

### INITIAL CONDITIONS:

1. Unit 3 is in Mode 4 for a short notice outage
2. The Shift Manager has authorized performance of 3-OSP-059.1, "Source Range Nuclear Instrumentation Analog Channel Operational Test" for channel N-32
3. You are relieving the RO who has successfully completed 3-OSP-059.1, Section 7.3.2 through step 7.3.2.16
4. N-32 reads 90-100 counts per second at the start of the test
5. Containment access doors are closed and no personnel are inside containment

### INITIATING CUE:

Shift Manager permission has been granted to continue with the surveillance on source range detector channel N-32, starting at step 7.3.2.17 of 3-OSP-059.1.

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU FEEL THAT YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

Facility:	<u>Turkey Point</u>	Task No:	_____
Task Title:	<u>Purging the PRT to Reduce Oxygen or Hydrogen Concentration (Major Gas Volume)</u>		
J/A Reference:	<u>Safety Function 5</u>	JPM No:	<u>NRC-25-SIM-JPM-E</u>
Examinee:	<u>007 A1.01 2.9/3.1</u>	NRC Examiner:	_____
Facility Evaluator:	_____	Date:	_____
Method of testing:	_____		
Simulated Performance	_____	Actual Performance	_____ X _____
Classroom	_____	Simulator	<u>X</u> _____
		Plant	_____

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

## Initial Conditions:

- Chemistry reports that PRT Oxygen Concentration is 2.5% by Volume
- Unit 3 is in Mode 1 at 100% Power with no equipment out of service.
- 3-NOP-041.3, Pressurizer Relief Tank up to and including step 5.5.10 has been completed by the off-going shift
- You are the oncoming Reactor Operator and have been briefed on the evolution.
- PRT Level is at 90%.

## Task Standard:

- Purge the PRT to Reduce Oxygen Concentration to within required specifications.

## Required Materials:

- 3-NOP-041.3, Pressurizer Relief Tank

## General References:

- 3-NOP-041.3, Pressurizer Relief Tank

## Initiating Cue:

- You have been directed to Purge the PRT to Reduce Oxygen Concentration to within required specifications using 3-NOP-041.3, Pressurizer Relief Tank starting at step 5.5.11.
- All prerequisites have been satisfied.
- You are continuing 3-NOP-041.3 after a turnover from the off-going shift.

Time Critical Task: No

Validation Time: 15 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

**SIMULATOR SETUP****Reset to IC #**

1. Load IC1
2. Place simulator in run
3. Perform 3-NOP-041.03 steps 5.5.1 up to step 5.5.10
4. Procedure is open on RO desk with 5.5.11 circled.
5. Ensure step 5.5.21 is marked to correct CV-519A Noun Name

**Load Lesson****Ensure Simulator Operator Checklist is complete**

Denote critical steps with a check mark()

Start Time \_\_\_\_\_

STEP 1 : ✓	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.11</b> ENSURE CV-3-549, PRT VENT, is OPEN	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate Placed PRT Vent Valve, CV-3-549 switch to open.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 2 :	3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.11 Verified PRT Vent Valve, CV-3-549 open	___ SAT ___ UNSAT
<u>Standard:</u>	Verified PRT Vent Valve, CV-3-549 Red Light ON Green Light OFF.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 3 :	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.12</b>  IF Containment Isolation or Safety Injection signals actuate, THEN CLOSE CV-3-519B, PRT PRIMARY WATER MAKE UP, to ensure Containment Integrity.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate reads step.	
<u>Cue</u>	None required.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 4 : √	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.13</b> OPEN CV-3-519B, PRT PRIMARY WATER MAKE UP.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate Placed PRT PRIMARY WATER MAKE UP, CV-3-519B switch to open.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 5 :	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.13</b> Verified PRT PRIMARY WATER MAKE UP CV-3-519B OPEN	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate Verified PRT PRIMARY WATER MAKE UP, CV-3-519B Red Light ON Green Light OFF.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 6 : ✓	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.14</b>  WHEN any of the following conditions exists: <ul style="list-style-type: none"> <li>• PRT level approaches 95% on LI-3-470, PRZR RELIEF TK LEVEL</li> <li>• PRT pressure approaches 10 psig on PI-3-472, PRZR RELIEF TK PRESSURE THEN <b>CLOSE</b> CV-3-519B, PRT PRIMARY WATER MAKE UP.</li> </ul>	___ SAT  ___ UNSAT
<u>Standard:</u>	Candidate observes required indications and placed PRT PRIMARY WATER MAKE UP., CV-3-519B switch to close when Level or Pressure limit is reached.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
NOTE:		

STEP 7 :	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.14</b> Verify PRIMARY WATER MAKE UP., CV-3-519B is CLOSED	___ SAT ___ UNSAT
<u>Standard:</u>	Verified PRIMARY WATER MAKE UP., CV-3-519B Red Light OFF Green Light ON	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 8 :	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.15</b> <b>MAINTAIN</b> PRT level at 90 to 95% for 25 to 35 minutes.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate <b>MAINTAINS</b> PRT level at 90 to 95% for 25 to 35 minutes.	
<u>Cue</u>	Using time compression tell operator that 30 minutes have elapsed.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 9 : √	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.16,17, and 18</b> Contact Primary Operator/Field Supervisor to perform Steps 5.5.16, 17, and 18.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate contacts Primary Operator/Field Supervisor to perform Steps 5.5.16, 17, and 18.	
<u>Cue</u>	Using time compression, wait 1 minute, call as Primary Operator/Field Supervisor and state that Steps 5.5.16, 17, and 18 have been completed.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 10 : √	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.20</b>  WHEN PRT pressure indicated on PI-3-472 has lowered to approximately 6 psig, as controlled by nitrogen supply regulator, THEN <b>CLOSE</b> CV-3-549, PRT VENT.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate Places PRT Vent Valve, CV-3-549 switch to close at 6 psig on PI-3-472.	
<u>Cue</u>	After 1 minute if PI-3-472 is not at 6 psig, using time compression tell candidate that PI-3-472 is at 6 psig	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 11 :	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.20</b> Verify PRT Vent Valve, CV-3-549 CLOSED	___ SAT ___ UNSAT
<u>Standard:</u>	Verified PRT Vent Valve, CV-3-549 Red Light OFF Green Light ON	
<u>Cue</u>	<ul style="list-style-type: none"> <li>• CV-3-549 indications provided by Simulator.</li> <li>• Tell operator that Chemistry informs Reactor Operator that PRT oxygen reading is less than 2 percent oxygen by volume.</li> </ul>	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 12 : √	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.21.a</b> WHEN Chemistry reports PRT oxygen reading less than 2% by volume, THEN <b>CLOSE</b> CV-3-519A, Primary Water to Containment Isolation.	___ SAT ___ UNSAT
<u>Standard:</u>	CV-3-519A, Primary Water to Containment Isolation switch taken to close.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 13 :	<b>3-NOP-041.03, PRESSURIZER RELIEF TANK, Step 5.5.21.a</b> Verify CV-3-519A, Primary Water to Containment Isolation is CLOSED.	___ SAT ___ UNSAT
<u>Standard:</u>	Candidate verifies CV-3-519A, Primary Water to Containment Isolation Red Light OFF, Green Light ON.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		
<b>Terminating Cue:</b>	<b>Tell Candidate that another operator will complete the remainder of the procedure.</b>	<b>STOP</b>

Stop Time \_\_\_\_\_

**Verification of Completion**

Job Performance Measure No. NRC-25-SIM-JPM-E, Purge PRT CV-3-519A, Primary Water to Containment Isolation

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## **JPM BRIEFING SHEET**

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### **Initial Conditions:**

- Chemistry reports that PRT Oxygen Concentration is 2.5% by Volume
- Unit 3 is in Mode 1 at 100% Power with no equipment out of service.
- 3-NOP-041.3, Pressurizer Relief Tank up to and including step 5.5.11 has been completed by the off-going shift
- You are the oncoming Reactor Operator and have been briefed on the evolution.
- PRT Level is at 90%.

### **Initiating Cue:**

- You have been directed to Purge the PRT to Reduce Oxygen Concentration to within required specifications using 3-NOP-041.3, Pressurizer Relief Tank step 5.5.11.
- All prerequisites have been satisfied.
- You are continuing 3-NOP-041.3 after a turnover from the off-going shift.

**Acknowledge to the examiner when you are ready to begin.**

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

Facility: Turkey Point Task No: \_\_\_\_\_  
 Task Title: INITIATE CONTAINMENT PURGE JPM No: NRC-25-SIM-JPM-F  
 K/A Reference: Safety Function 8  
029 A2.03 2.7/3.1  
 Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_  
 Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_  
 Method of testing: \_\_\_\_\_  
 Simulated Performance \_\_\_\_\_ Actual Performance X  
 Classroom \_\_\_\_\_ Simulator X Plant \_\_\_\_\_

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**Initial Conditions:**

- UNIT 3 IS IN MODE 5 WITH ALL PURGE VALVES CLOSED.
- UNIT 3 EQUIPMENT, PERSONNEL, AND EMERGENCY HATCHES ARE CLOSED.
- UNIT 4 IS IN MODE 1 WITH ALL PURGE VALVES CLOSED AND CONTAINMENT EQUIPMENT, PERSONNEL, AND EMERGENCY HATCHES ARE CLOSED.
- ALL APPLICABLE PREREQUISITES OF 0-OP-053 ARE SATISFIED.
- CONTAINMENT PURGE RELEASE PERMIT IS APPROVED.
- IT IS DESIRED TO USE #3 CONTAINMENT PURGE EXHAUST AND SUPPLY FANS
- IT IS DESIRED TO PERFORM THE PURGE FOR ONE (1) HOUR.
- 0-OP-053, CONTAINMENT PURGE SYSTEM IS SIGNED OFF AND COMPLETED UP TO STEP 5.1.2.5.a.

**Task Standard:**

- ISOLATION VALVES OPEN AND PURGE FANS RUNNING IN ACCORDANCE WITH 0-OP-053, CONTAINMENT PURGE SYSTEM

**Required Materials:**

- 0-OP-053, CONTAINMENT PURGE SYSTEM
- APPROVED CONTAINMENT PURGE RELEASE PERMIT

**General References:**

- 0-OP-053, CONTAINMENT PURGE SYSTEM

Initiating Cue:

1. A satisfactory shift turnover has been completed.
2. You have been directed to continue with Step 5.1.2.5.a of 0-OP-053, CONTAINMENT PURGE SYSTEM and perform a purge of the Unit 3 Containment.

Time Critical Task: No

Validation Time: 10 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

**SIMULATOR SETUP****Reset to IC #**

Mode 5 IC with Containment Purge Valves CLOSED and Fans OFF

**Load Lesson**

**Ensure Simulator Operator Checklist is complete**

*Denote critical steps with a check mark()*

Start Time \_\_\_\_\_

STEP 1 : √	<b>0-OP-053, Containment Purge System Step 5.1.2.5.a</b>  Open the following valves: _____ a. Containment Purge Exhaust Isol (O.C.), POV-3-2602 (POV-4-2602). _____ b. Containment Purge Exhaust Isol (I.C.), POV-3-2603 (POV-4-2603).	___ SAT  ___ UNSAT
<u>Standard:</u>	<b>Candidate OPENS Containment Purge Exhaust Isol (O.C.), POV-3-2602</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>	<i>Candidate may decide to review procedure prior to performance.</i>	

STEP 2 :	<b>0-OP-053, Containment Purge System Step 5.1.2.5.a</b> Verify proper indication for POV-3-2602	___ SAT ___ UNSAT
<u>Standard:</u>	Verified Containment Purge Exhaust Isol (O.C.), POV-3-2602 Red Light On, Green Light Off.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

<p>STEP 3 :</p> <p>√</p>	<p><b>0-OP-053, Containment Purge System Step 5.1.2.5.b</b></p> <p>Open the following valves:</p> <p>_____ a. Containment Purge Exhaust Isol (O.C.), POV-3-2602 (POV-4-2602).</p> <p>_____ b. Containment Purge Exhaust Isol (I.C.), POV-3-2603 (POV-4-2603).</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>Standard:</u></p>	<p><b>Candidate OPENS Containment Purge Exhaust Isol (I.C.), POV-3-2603</b></p>	
<p><u>Cue</u></p>	<p>Provided by Simulator.</p>	
<p><u>Comment</u></p>		
<p><b>NOTE:</b></p>		

STEP 4 :	<b>0-OP-053, Containment Purge System Step 5.1.2.5.b</b> Verify proper indication for POV-3-2603	___ SAT ___ UNSAT
<u>Standard:</u>	Verified Containment Purge Exhaust Isol (O.C.), POV-3-2603 Red Light On, Green Light Off.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 5 :	<p><b>0-OP-053, Containment Purge System Step 5.1.2.6</b></p> <p>Verify the following:</p> <p>_____ a. Containment equipment hatch and emergency hatch are secure and at least one personnel door is closed on associated unit. (Mark N/A if any associated unit hatch or door is open.)</p> <p>AND</p> <p>_____ b. Opposite unit purge supply valves are closed OR its containment hatch, emergency hatch, and at least one personnel door are closed. (Mark N/A if purge supply valves are open and any hatch or door is open.)</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>Standard:</u>	Candidate verifies conditions are met as supplied by Initial Conditions	
<u>Cue</u>	<p>Repeat applicable initial conditions if asked:</p> <ul style="list-style-type: none"> <li>• UNIT 3 EQUIPMENT, PERSONNEL, AND EMERGENCY HATCHES ARE CLOSED.</li> <li>• UNIT 4 IS IN MODE 1 WITH ALL PURGE VALVES CLOSED AND CONTAINMENT EQUIPMENT, PERSONNEL, AND EMERGENCY HATCHES ARE CLOSED.</li> </ul>	
<u>Comment</u>		
<b>NOTE:</b>	This information is covered in the Initial Conditions	

STEP 6 : √	<b>0-OP-053, Containment Purge System Step 5.1.2.7.a</b> IF Substeps 5.1.2.6.a. and 5.1.2.6.b (above) have been signed off, THEN open associated unit purge supply valves: (Mark N/A if any hatch or door is open.) ___ a. Containment Purge Supply Isol (O.C.), POV-3-2600 (POV-4- 2600). ___ b. Containment Purge Supply Isol (I.C.), POV-3-2601 (POV-4- 2601).	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Containment Purge Supply Isol (O.C.), POV-3-2600 switch placed          to Open.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 7 :	<b>0-OP-053, Containment Purge System Step 5.1.2.7.a</b> Verify POV-3-2600 position.	___ SAT ___ UNSAT
<u>Standard:</u>	Verified Containment Purge Supply Isol (O.C.), POV-3-2600 Red Light On, Green Light Off.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 8 : √	<b>0-OP-053, Containment Purge System Step 5.1.2.7.b</b> IF Substeps 5.1.2.6.a. and 5.1.2.6.b (above) have been signed off, THEN open associated unit purge supply valves: (Mark N/A if any hatch or door is open.) ___ a. Containment Purge Supply Isol (O.C.), POV-3-2600 (POV-4-2600). ___ b. Containment Purge Supply Isol (I.C.), POV-3-2601 (POV-4-2601).	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Containment Purge Supply Isol (O.C.), POV-3-2601 switch placed to Open.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 9 :	<b>0-OP-053, Containment Purge System Step 5.1.2.7.b</b> Verify POV-3-2601 position.	___ SAT ___ UNSAT
<u>Standard:</u>	Verified Containment Purge Supply Isol (O.C.), POV-3-2601 Red Light On, Green Light Off.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 10 :	<b>0-OP-053, Containment Purge System Step 5.1.2.8</b>  <p style="text-align: center;">CAUTION</p> <p>The exhaust fan from the opposite unit may be used for purging operation. See Precaution/Limitation 4.17 for the loss of automatic fan trip function during containment isolation.</p>	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate reads CAUTION.	
<u>Cue</u>	Cue provided by Initial Conditions.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 11 : √	<b>0-OP-053, Containment Purge System Step 5.1.2.8</b> Start No. 3 (4) Contmt. Purge Exhaust Fan .	___ SAT ___ UNSAT
<u>Standard:</u>	<b>#3 Contmt. Purge Exhaust Fan 3V20.Control Switch Positioned to Run</b>	
<u>Cue</u>	Provided by Initial Conditions and Simulator. If Candidate asks repeat pertinent Initial Conditions.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 12 :	<b>0-OP-053, Containment Purge System Step 5.1.2.8</b> Verify proper Cntmt. Purge Exhaust Fan.3V20 and Damper MO-3-3421 indication.	___ SAT ___ UNSAT
<u>Standard:</u>	Verified Fan 3V20 Red Light On and Green Light Off Verified Damper MO-3-3421 Red Light On Green Light Off	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 13 :	<b>0-OP-053, Containment Purge System Step 5.1.2.9</b>  <p style="text-align: center;"><b>CAUTION</b></p> To prevent an uncontrolled release, a Containment Purge Supply Fan shall not be started unless the containment equipment hatch and emergency hatch are secure and at least one personnel door is closed.	<input type="checkbox"/> SAT  <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate reads CAUTION.	
<u>Cue</u>	Cue provided by Initial Conditions.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 14 : √	<b>0-OP-053, Containment Purge System Step 5.1.2.9</b> IF Substeps 5.1.2.7.a and 5.1.2.7.b (above) have been signed off, THEN start No. 3 (4) Containment Purge Supply Fan. (Mark N/A if Substeps 5.1.2.7.a and 5.1.2.7.b have been marked N/A.)	___ SAT ___ UNSAT
<u>Standard:</u>	<b>Candidate STARTS No. 3 Containment Purge Supply Fan 3V9.</b>	
<u>Cue</u>	Provided by Initial Conditions and Simulator. If Candidate asks repeat pertinent Initial Conditions.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 15 :	<b>0-OP-053, Containment Purge System Step 5.1.2.9</b> Verify Fan 3V9 and Damper MO-3-3411 position.	___ SAT ___ UNS ___ AT
<u>Standard:</u>	Verified Fan 3V9 Red Light On and Green Light Off Verified Damper MO-3-3411 Red Light On Green Light Off	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		
<b>Terminating Cue:</b>	<b>Tell candidate that another operator will complete the remainder of the procedure..</b>	STOP
<b>Stop Time</b>		

**Verification of Completion**

Job Performance Measure No. NRC-25-SIM-JPM-F

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

### **JPM BRIEFING SHEET**

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- UNIT 3 IS IN MODE 5 WITH ALL PURGE VALVES CLOSED.
- UNIT 3 EQUIPMENT, PERSONNEL, AND EMERGENCY HATCHES ARE CLOSED.
- UNIT 4 IS IN MODE 1 WITH ALL PURGE VALVES CLOSED AND CONTAINMENT EQUIPMENT, PERSONNEL, AND EMERGENCY HATCHES ARE CLOSED.
- ALL APPLICABLE PREREQUISITES OF 0-OP-053 ARE SATISFIED.
- CONTAINMENT PURGE RELEASE PERMIT IS APPROVED
- IT IS DESIRED TO USE #3 CONTAINMENT PURGE SUPPLY AND EXHAUST FANS
- IT IS DESIRED TO PERFORM THE PURGE FOR ONE (1) HOUR.
- 0-OP-053, CONTAINMENT PURGE SYSTEM IS SIGNED OFF AND COMPLETED UP TO STEP 5.1.2.5.a.

Initiating Cue:

1. A satisfactory shift turnover has been completed.
2. You have been directed to continue with Step 5.1.2.5.a of 0-OP-053, CONTAINMENT PURGE SYSTEM and perform a purge of the Unit 3 Containment.

**Acknowledge to the examiner when you are ready to begin.**

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

Appendix C		Job Performance Measure Worksheet		Form ES-C-1
Facility:	Turkey Point	Task No:		
Task Title:	Fill 3A Accumulator 006 A1.13 Accumulator pressure (level, boron concentration)3.5/3.7	JPM No:	NRC-25-SIM-JPM-G	
K/A Reference:				
Examinee:		NRC Examiner:		
Facility Evaluator:		Date:		
Method of testing:				
Simulated Performance		Actual Performance	X	
Classroom		Simulator	X	Plant

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues.

Initial Conditions:

- 3-OP-064 Safety Injection Accumulators, Section 7.1, Adding Make-up to the Safety Injection Accumulators up to and including 7.1.2.2.a has been completed.
- 7.1.2.2.b, c, and d are marked N/A.
- It is desired to use the 3A HHSI Pump for this task

Task Standard:

- Make-up to the 3A Safety Injection Accumulator to 6560-6780 gallons.

Required Materials:

- 3-OP-064 Safety Injection Accumulators

General References:

- 3-OP-064 Safety Injection Accumulators

**Initiating Cue:**

You have been directed to raise 3A Accumulator Level to  $6640 \pm 20$  gallons using 3A SAFETY INJECTION PUMP starting at step: 7.1.2.2.3.

- 3-OP-064 Safety Injection Accumulators, Section 7.1, Adding Make-up to the Safety Injection Accumulators up to 7.1.2.2.2.a has been completed.
- 7.1.2.2.b c, and d are marked N/A.

Time Critical Task: NO

Validation Time: 15 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

**Appendix C****Page 3 of 12****Form ES-C-1****SIMULATOR SETUP**Reset to IC #1.Drain A Accumulator to 6500 gallons.Load Lesson!

- Open SI Pump 3A and 3B Test Recirc Isolation, 3-899L.
- Open SI Pump 3A Test Recirc Isolation, 3-899K.

Ensure Simulator Operator Checklist is complete

Ensure marked up copy of 3-OP-064 Safety Injection Accumulators, Section 7.1, Adding Make-up to the Safety Injection Accumulators up to 7.1.2.2.a has been completed. Steps 7.1.2.2.b,c, and d are marked N/A. Step 7.1.2.3 is circled.

Denote critical steps with a check mark()

Start Time \_\_\_\_\_

STEP 1 : <input checked="" type="checkbox"/>	<b>3-OP-064, Safety Injection Accumulators Step 7.2.3</b>  Open the Accum Makeup Valve (one valve only if in Modes 1, 2, or 3 with RCS pressure greater than 1000 psig) for the accumulator to be filled. (N/A for valves not operated): <input type="checkbox"/> a. Accumulator A, CV-3-851A <input type="checkbox"/> b. Accumulator B, CV-3-851B <input type="checkbox"/> c. Accumulator C, CV-3-851C	___ SAT  ___ UNSAT
<u>Standard:</u>	Candidate Placed Control Switch to OPEN for Accumulator A, CV-3-851A	
<u>Cue</u>	Cue provided by Simulator.	
<u>Comment</u>		
NOTE:		

<b>STEP 2 :</b>	<b>3-OP-064, Safety Injection Accumulators Step 7.2.3</b> Open the Accum Makeup Valve (one valve only if in Modes 1, 2, or 3 with RCS pressure greater than 1000 psig) for the accumulator to be filled. (N/A for valves not operated): ___ a. Accumulator A, CV-3-851A ___ b. Accumulator B, CV-3-851B ___ c. Accumulator C, CV-3-851C	___ SAT ___ UNSAT
<b>Standard:</b>	Candidate Verified Red OPEN light ON and Green CLOSED light OFF Candidate marks steps 7.2.3.a and b N/A.	
<b>Cue</b>	Cue provided by Simulator and Initial Conditions.	
<b>Comment</b>		
<b>NOTE:</b>		

<p><b>STEP 3 :</b> √</p>	<p><b>3-OP-064, Safety Injection Accumulators Step 7.2.4</b> Start the 3A Safety Injection Pump document the start time on QA Record Page</p>	<p>___ SAT ___ UNSAT</p>
<p><u>Standard:</u></p>	<p><b>3A HHSI Pump Control Switch turned to START</b></p>	
<p><u>Cue</u></p>		
<p><u>Comment</u></p>		
<p><b>NOTE:</b></p>		

<b>STEP 4 :</b>	<b>3-OP-064, Safety Injection Accumulators Step 7.2.4</b>	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
	Start the 3A Safety Injection Pump document the start time on QA Record Page	
<b>Standard:</b>	Candidate verifies: 3A HHSI Pump Red Run light is ON 3A HHSI Pump Green Stop light is OFF 3A HHSI Pump start time recorded on QA record page.	
<b>Cue</b>	Cue provided by Simulator.	
<b>Comment</b>		
<b>NOTE:</b>		

<p>STEP 5 : √</p>	<p><b>3-OP-064, Safety Injection Accumulators Step 7.2.5</b> Open the Loop 3A and 3B Hot Leg SI Isol, MOV-3-869 to establish flow to the accumulator.</p>	<p>___ SAT ___ UNSAT</p>
<p><u>Standard:</u></p>	<p>Opens the Loop 3A and 3B Hot Leg SI Isolation, MOV-3-869.</p>	
<p><u>Cue</u></p>	<p>MOV-3-869 position cue provided by Simulator. If Operator asks for the use of another operator tell operator that the designated operator will serve in this capacity.</p>	
<p><u>Comment</u></p>		
<p><b>NOTE:</b></p>	<p>A second operator may be utilized to operate MOV-3-869 to allow sufficient time to perform the self-checking process.</p>	

<b>STEP 6 :</b>	<b>3-OP-064, Safety Injection Accumulators Step 7.2.5</b> Open the Loop 3A and 3B Hot Leg SI Isol, MOV-3-869 to establish flow to the accumulator.	___ SAT ___ UNSAT
<b>Standard:</b>	MOV-3-869 Red OPEN light is ON. MOV-3-869 Green CLOSED light is OFF.	
<b>Cue</b>	Cue provided by Simulator.	
<b>Comment</b>		
<b>NOTE:</b>		

<p>STEP 7 : √</p>	<p><b>3-OP-064, Safety Injection Accumulators Step 7.2.6</b>  WHEN accumulator level has increased to between 6560 and 6780 gallons, THEN close MOV-3-869.</p>	<p>___ SAT ___ UNSAT</p>
<p><u>Standard:</u></p>	<p>Candidate establishes level between 6560-6780 gallons.  Loop 3A and 3B Hot Leg SI Isolation, MOV-3-869 switch is taken to CLOSE at 6560-6780 gallons</p>	
<p><u>Cue</u></p>	<p>Tell operator that it is not desired to fill another Accumulator and that another operator will perform the remainder of the procedure.</p>	
<p><u>Comment</u></p>		
<p><b>NOTE:</b></p>	<p>Desired level is 6600-6680 gallons.</p>	
<p><b>Terminating Cue:</b></p>	<p>Tell operator that it is not desired to fill another Accumulator and that another operator will perform the remainder of the procedure.</p>	<p><b>STOP</b></p>

Stop Time \_\_\_\_\_

**Verification of Completion**

Job Performance Measure No. NRC-25-SIM-JPM-G, Fill 3A Accumulator

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

**Question Documentation:**

**Question:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Response:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Result:** Satisfactory/Unsatisfactory

**Examiner's signature and date:** \_\_\_\_\_

**JPM BRIEFING SHEET**

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**Initial Conditions:**

- 3-OP-064 Safety Injection Accumulators, Section 7.1, Adding Make-up to the Safety Injection Accumulators up to and including 7.1.2.2.a has been completed.
- 7.1.2.2.b,c, and d are marked N/A.
- It is desired to use the 3A HHSI Pump for this task

**Initiating Cue:**

You have been directed to raise 3A Accumulator Level to  $6640 \pm 20$  gallons using 3A SAFETY INJECTION PUMP starting at step: 7.1.2.2.3.

**Acknowledge to the examiner when you are ready to begin.**

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

Facility:	Turkey Point	Task No:	_____
Task Title:	Perform EDG Normal Start Test (Alternate Path) 064 A2.05 Loading the ED/G 3.1/ 3.2	JPM No:	NRC-25-SIM-JPM-H
K/A Reference:	_____		
Examinee:	_____	NRC Examiner:	_____
Facility Evaluator:	_____	Date:	_____
Method of testing:	Simulator		
Simulated Performance	_____	Actual Performance	_____ X
Classroom	_____	Simulator	_____ X
		Plant	_____

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

## Initial Conditions:

You are the Unit 3 RCO. 3-OSP-023.1, Diesel Generator Operability Test, has been satisfactorily completed through 7.1.2.30.

## Task Standard:

1. The EDG will be synchronized to the Bus in accordance with 3-OSP-023.1.
2. The EDG is placed to Emergency Stop when required.

## Required Materials:

1. 3-OSP-023.1, "Diesel Generator Operability Test"

## General References:

1. 3-OSP-023.1, "Diesel Generator Operability Test"

Initiating Cue:

You have been directed to continue the Monthly EDG Normal Start Test (3A EDG) starting at step 7.1.2.31. 3-OSP-023.1.

Time Critical Task: No

Validation Time: 15 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

**SIMULATOR SETUP****Reset to IC #**

Reset to IC-1.

**Load Lesson**

1. Open lesson JPM 01023006201.Isn and execute.
2. Ensure 3A EDG has been started and in stable operation.

**Ensure Simulator Operator Checklist is complete**

STEP 1 :	<p><b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31</b></p> <p><b>CAUTIONS</b></p> <ul style="list-style-type: none"> <li>• The Diesel Generator should NOT be operated at rated speed of 900 rpm AND unloaded for periods of time over 4.5 hours. A minimum of 25 percent of load should be applied in a timely manner to reduce the possibility of SOUPING which can result in an exhaust system fire.</li> <li>• The following guidelines are required to be followed to reduce the probability of EDG overload conditions without Main Generator Lockout protection: <ul style="list-style-type: none"> <li>a. If the 3A 4KV bus is NOT powered via the auxiliary transformer (3AA02 open), special attention is required to be given to the 3A EDG operating parameters during parallel operation to the system and the EDG is required to be tripped upon indication of impending overload.</li> <li>b. If the 3A 4KV bus is powered via the auxiliary transformer (3AA02 closed), no special precautions are required because protection is provided by the Main Generator Lockout.</li> <li>c. Starting any of the following pumps may cause an EDG paralleled to the affected 4160V bus to trip and may cause damage to the EDG: <ol style="list-style-type: none"> <li>1) Reactor Coolant Pump</li> <li>2) Condensate Pump</li> <li>3) Steam Generator Feed Pump</li> <li>4) Heater Drain Pump</li> <li>5) Circulating Water Pump</li> </ol> </li> </ul> </li> <li>• The diesel generator is inoperable while parallel to the grid.</li> </ul>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>Standard:</u>	Candidate reads CAUTION.	
<u>Cue</u>	None required.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 2 : √	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.a</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ a. Place the EDG A Sync to 3A 4KV Bus 3AA20 synchroscope switch to ON.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Candidate placed the 3A EDG Bkr 3AA20 Synchronizing switch to ON.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 3 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.b</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ b. Check that the WHITE synchronizing lights are cycling ON.	____ SAT ____ UNSAT
<u>Standard:</u>	Candidate checks WHITE synchronizing lights are cycling ON.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 4 : √	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.c</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ c. Using the A Diesel Gen Volt Regulator, adjust Incoming voltage to match Running indicated voltage.	_____ SAT _____ UNSAT
<u>Standard:</u>	<b>Using the A Diesel Gen Volt Regulator, adjusted Incoming voltage to match Running indicated voltage.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 5 : √	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.d</b> 31. Perform the following to match 3A EDG output parameters to the system grid: ____ d. Using the A Diesel Gen Speed Changer, adjust engine speed so that the pointer on the Synchroscope is rotating slowly in the FAST direction.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Using the A Diesel Gen Speed Changer, adjusted engine speed so that the pointer on the Synchroscope is rotating slowly in the FAST direction.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 6 : √	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.e</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ e. Using the A Diesel Gen Volt Regulator, adjust Incoming voltage slightly higher than Running voltage.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Using the A Diesel Gen Volt Regulator, adjust Incoming voltage slightly higher than Running voltage.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 7 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.f</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ f. Using the A Diesel Kilovolts indicator and 3A 4KV Bus Voltmeter, verify voltages are approximately equal between the 3A Diesel Generator output and the 3A 4KV Bus for all three phases.	_____ SAT _____ UNSAT
<u>Standard:</u>	Using the A Diesel Kilovolts indicator and 3A 4KV Bus Voltmeter, verified voltages are approximately equal between the 3A Diesel Generator output and the 3A 4KV Bus for all three phases.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 8 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.g</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ g. Verify 3A Diesel Generator frequency is between 58.8 and 61.2 Hz on the 3A Diesel Hertz indicator.	____ SAT ____ UNSAT
<u>Standard:</u>	Verified 3A Diesel Generator frequency is between 58.8 and 61.2 Hz on the 3A Diesel Hertz indicator.	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 9 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.h</b>	___ SAT
√	31. Perform the following to match 3A EDG output parameters to the system grid: ___ h. <b>WHEN</b> the Synchroscope pointer is at 12 o'clock position, <b>THEN</b> close the diesel generator breaker by placing the A EDG to 3A 4KV Bus 3AA20 switch to the CLOSE position (spring return to normal).	___ UNSAT
<u>Standard:</u>	<b>Closed the diesel generator breaker by placing the EDG Bkr 3AA20 Control Switch to the CLOSE position WHEN the synchroscope pointer reached the 12 o'clock position.</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 10 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.h.(1)</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ h. (1) Verify the Diesel Generator Breaker 3AA20 has closed (Breaker GREEN light is OFF and RED light is ON).	____ SAT ____ UNSAT
<u>Standard:</u>	Verified the Diesel Generator Breaker 3AA20 has closed (Breaker GREEN light is OFF and RED light is ON).	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 11 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.i</b> 31. Perform the following to match 3A EDG output parameters to the system grid: _____ i. Place the EDG A Sync to 3A 4KV Bus 3AA20 synchroscope switch to OFF.	_____ SAT _____ UNSAT
<u>Standard:</u>	<b>Placed the EDG Bkr 3AA20 Synchronizing switch to OFF</b>	
<u>Cue</u>	Provided by Simulator.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 12 : √	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.j</b> ____ j. Turn the A Diesel Gen Speed Changer in the RAISE direction AND slowly increase diesel generator load to approximately 1000 KW on A Diesel Kilowatts indicator. Turn the A EDG Speed Changer in the RAISE direction and slowly increase diesel generator load to approximately 1000 KW.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>Turned the Governor Control Switch AND slowly loaded diesel generator to approximately 1000 KW.</b>	
<u>Cue</u>	Provided by Simulator. If candidate asks tell candidate that vendor has cleared generator power increase to 1000 kw.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 13 :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.k</b>	___ SAT
	NOTE The following voltage adjustment will place the generator reactive load in lag.	___ UNSAT
<u>Standard:</u>	Candidate reads NOTE.	
<u>Cue</u>	None required.	
<u>Comment</u>		
<b>NOTE:</b>		

<b>STEP 14</b> :	<b>3-OSP-023.1, Diesel Generator Operability Test Step 7.1.2.31.k</b>	
√	k. Perform the following to adjust the reactive load: _____ (1) While monitoring the A Diesel Amps indicator, momentarily position the A Diesel Gen Volt Regulator to RAISE.	_____ SAT _____ UNSAT
<u>Standard:</u>	<b>Operator recognizes EDG Load continues to rise uncontrollably and places EDG to Emergency Stop.</b>	
<u>Cue</u>	Provided by Simulator: When the 3A EDG Voltage Regulator is taken to RAISE, SIM initiates a continuous increase in Voltage Regulator setting up to the point where increasing oscillations in Voltage/Load begin.	
<u>Comment</u>		
<b>NOTE:</b>		
<b>Terminating Cue:</b>	<b>When Operator places EDG to Emergency Stop or EDG trips tell operator that another operator will take over.</b>	<b>STOP</b>

Stop Time \_\_\_\_\_

**Verification of Completion**

Job Performance Measure No. NRC-25-SIM-JPM-H

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## **JPM BRIEFING SHEET**

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### **INITIAL CONDITIONS:**

You are the Unit 3 RCO. 3-OSP-023.1, Diesel Generator Operability Test, has been satisfactorily completed through 7.1.2.30.

### **INITIATING CUE:**

You have been directed to continue the Monthly EDG Normal Start Test (3A EDG) starting at step 7.1.2.31. 3-OSP-023.1.

**Acknowledge to the examiner when you are ready to begin.**

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE  
SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

Facility:	<u>Turkey Point</u>	Task No:	_____
Task Title:	<u>Transfer load from the 4B (4Y02) Inverter to the B SPARE (4Y04) Inverter</u>	Job Performance Measure No:	<u>NRC-25-IP-JPM-K</u>
K/A Reference:	<u>062-A4.04 (2.6/2.7)</u>		
Examinee:	_____	NRC Examiner:	_____
Facility Evaluator:	_____	Date:	_____
Method of testing:	<u>In Plant</u>		
Simulated Performance	<u>X</u>	Actual Performance	_____
Classroom	_____	Simulator	_____
		Plant	<u>X</u>

***Read to the examinee:***

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- 3B Inverter is Supplying Load, 4B Inverter is Supplying Load, and B SPARE Inverter is in STANDBY.
- All initial conditions in 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM, specifically Sections 3.0 and 5.1, have been verified satisfactorily and complete.

Task Standard:

- Transfer load from the 4B (4Y02) Inverter to the B SPARE (4Y04) Inverter.

Required Materials:

- 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM (12/08)

General References:

- 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM (12/08)

Initiating Cue:

You have been directed by the Unit 4 RO to transfer load from the 4B (4Y02) Inverter to the B SPARE (4Y04) Inverter.

Time Critical Task: No

Validation Time: 18 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

**SIMULATOR SETUP****Reset to IC #**

N/A

**Load Lesson**

N/A

**Ensure Simulator Operator Checklist is complete**

N/A

## INSTRUCTIONS TO OPERATOR

### **HAND JPM BRIEFING SHEET TO OPERATOR AT THIS TIME!**

#### INITIAL CONDITIONS:

- 3B Inverter is Supplying Load, 4B Inverter is Supplying Load, and B SPARE Inverter is in STANDBY.
- All initial conditions in 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM, specifically Sections 3.0 and 5.1, have been verified satisfactorily and complete.

#### INITIATING CUE:

You have been directed by the Unit 4 RO to transfer load from the 4B (4Y02) Inverter to the B SPARE (4Y04) Inverter.

#### TERMINATION CUE:

When you feel that you have satisfactorily completed the assigned task, hand your JPM Briefing Sheet back to me.

Do you have any questions?

You may begin.

#### NOTES TO EVALUATOR:

- Two inverters in service, B SPARE (4Y04) in standby and 4B (4Y02) supplying load.
- All initial conditions in 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM, specifically Sections 3.0 and 5.1, have been verified satisfactorily and complete.

**NOTE: This is a SIMULATE JPM. Tell candidate that NO plant equipment is to be manipulated during the performance of this task.**

Denote critical steps with a check mark (✓)

Start Time \_\_\_\_\_

STEP 1 :	<b>0-OP-003.3, 120V Vital Instrument AC System</b>  <b>7.0 INFREQUENT OPERATIONS</b> 7.1 Transfer of Bus Load From Normal to Spare Inverter (Normal Transfer) Transfer from Inverter _____ Date/Time Started: _____ / _____ 7.1.1 Initial Conditions _____ 1. All applicable prerequisites listed in Section 3.0 are satisfied.  _____ 2. The applicable Spare Inverter is in Standby in accordance with Subsection 5.1 of this procedure.	_____ SAT  _____ UNSAT
STANDARD:	1. Obtains copy of 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM.  2. Verifies procedure is current with no outstanding OTSCs.	
CUES:	<ul style="list-style-type: none"> <li>• Provide copy of procedure once operator has located &amp; verified 0-OP-003.3, or require candidate to obtain procedure.</li> <li>• If asked, inform candidate that Sections 3.0 and 5.1 conditions have been met.</li> <li>• Candidate should proceed to Control Room, ask permission to enter and go to the Inverter Room.</li> </ul> <p><b><u>Once candidate has identified need to go to the Control Room tell the candidate to insure that the specific task to be performed is not relayed to Control Room personnel.</u></b></p>	
Comment		
NOTE:	<p style="text-align: center;"><b>NOTE</b></p> <p><i>Enclosure 1 provides a reference for Typical Normal Vital AC Inverter Switch Location, or</i>  <i>Enclosure 2 provides a reference for Typical Spare Vital AC Inverter Switch Location as applicable.</i></p>	

<p>STEP 2 : ↓</p>	<p><b>0-OP-003.3, 120V Vital Instrument AC System</b> NOTE Initials should be entered for the applicable inverter. N/A should be entered for all others.(procedure step 7.1.2.1)</p> <p>_____ 1. Place the Alternate Source Transfer Switch to the position indicated in Table 2.</p> <p><b>4Y02B BACKUP TO SPARE INVERTER (4Y04) BS</b></p> <p style="text-align: center;">TABLE 2</p> <table border="1" data-bbox="357 504 1250 882"> <thead> <tr> <th>When Substituting SPARE INVERTER</th> <th>For INSERVICE NORMAL INVERTER</th> <th>Place ALTERNATE SOURCE TRANSFER SWITCH</th> <th>To Position (LOCKED)</th> <th>INIT</th> </tr> </thead> <tbody> <tr> <td>AS (3Y04)</td> <td>3A (3Y01)</td> <td>3Y01B</td> <td>BACKUP TO SPARE INVERTER (3Y04) AS</td> <td></td> </tr> <tr> <td>AS (3Y04)</td> <td>4A (4Y01)</td> <td>4Y01B</td> <td>BACKUP TO SPARE INVERTER (3Y04) AS</td> <td></td> </tr> <tr> <td>BS (4Y04)</td> <td>3B (3Y02)</td> <td>3Y02B</td> <td>BACKUP TO SPARE INVERTER (4Y04) BS</td> <td></td> </tr> <tr> <td>BS (4Y04)</td> <td>4B (4Y02)</td> <td>4Y02B</td> <td>BACKUP TO SPARE INVERTER (4Y04) BS</td> <td></td> </tr> <tr> <td>CS (3Y06)</td> <td>3C (3Y05)</td> <td>3Y05B</td> <td>BACKUP TO SPARE INVERTER (3Y06) CS</td> <td></td> </tr> <tr> <td>CS (3Y06)</td> <td>4C (4Y05)</td> <td>4Y05B</td> <td>BACKUP TO SPARE INVERTER (3Y06) CS</td> <td></td> </tr> <tr> <td>DS (4Y06)</td> <td>3D (3Y07)</td> <td>3Y07B</td> <td>BACKUP TO SPARE INVERTER (4Y06) DS</td> <td></td> </tr> <tr> <td>DS (4Y06)</td> <td>4D (4Y07)</td> <td>4Y07B</td> <td>BACKUP TO SPARE INVERTER (4Y06) DS</td> <td></td> </tr> </tbody> </table>	When Substituting SPARE INVERTER	For INSERVICE NORMAL INVERTER	Place ALTERNATE SOURCE TRANSFER SWITCH	To Position (LOCKED)	INIT	AS (3Y04)	3A (3Y01)	3Y01B	BACKUP TO SPARE INVERTER (3Y04) AS		AS (3Y04)	4A (4Y01)	4Y01B	BACKUP TO SPARE INVERTER (3Y04) AS		BS (4Y04)	3B (3Y02)	3Y02B	BACKUP TO SPARE INVERTER (4Y04) BS		BS (4Y04)	4B (4Y02)	4Y02B	BACKUP TO SPARE INVERTER (4Y04) BS		CS (3Y06)	3C (3Y05)	3Y05B	BACKUP TO SPARE INVERTER (3Y06) CS		CS (3Y06)	4C (4Y05)	4Y05B	BACKUP TO SPARE INVERTER (3Y06) CS		DS (4Y06)	3D (3Y07)	3Y07B	BACKUP TO SPARE INVERTER (4Y06) DS		DS (4Y06)	4D (4Y07)	4Y07B	BACKUP TO SPARE INVERTER (4Y06) DS		<p>_____ SAT _____ UNSAT</p>
When Substituting SPARE INVERTER	For INSERVICE NORMAL INVERTER	Place ALTERNATE SOURCE TRANSFER SWITCH	To Position (LOCKED)	INIT																																											
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<p>STANDARD:</p>	<ul style="list-style-type: none"> <li>• <b>Selects correct switch (4Y02B) and unlocks operating handle.</b></li> <li>• <b>Repositions switch 4Y02B to BACKUP TO SPARE INVERTER (4Y04) BS and re-installs lock.</b></li> </ul>																																														
<p>CUES:</p>	<ul style="list-style-type: none"> <li>• <i>Once candidate locates switch, correctly describes how to remove lock from operating handle and simulates repositioning switch handle, confirm these operations.</i></li> <li>• <i>When candidate correctly describes how to re-install lock on switch handle, confirm this operation.</i></li> </ul>																																														
<p>Comment</p>																																															
<p>NOTE:</p>	<p><b>DO NOT ALLOW THE BS INVERTER (4Y04) DOOR TO BE OPENED</b></p>																																														

STEP 3 ↓	<p><b>DO NOT ALLOW THE BS INVERTER (4Y04) DOOR TO BE OPENED</b></p> <p><b>0-OP-003.3, 120V Vital Instrument AC System</b></p> <p>(procedure step 7.1.2.2)</p> <p>____ 2. Place the Sync Reference Selector Switch (SW-2) inside the applicable SPARE inverter to NORMAL (DOWN) position.</p>	____ SAT ____ UNSAT
<u>STANDARD:</u>	<ul style="list-style-type: none"> <li>• Operator identifies the B SPARE (4Y04) inverter.</li> <li>• Simulates positioning switch SW-2 to NORMAL (DOWN) position (INSIDE INVERTER PANEL).</li> </ul>	
CUE:	<ul style="list-style-type: none"> <li>• When candidate identifies B SPARE (4Y04) inverter and states that the switch is inside the inverter requiring door opening to operate, tell the operator to simulate going inside the inverter to position the switch.</li> <li>• When SW-2 operation properly described, confirm re-positioning.</li> </ul>	
Comment		
NOTE:	<p><b>DO NOT ALLOW THE BS INVERTER (4Y04) DOOR TO BE OPENED</b></p>	

STEP 4 :	<b>0-OP-003.3, 120V Vital Instrument AC System</b> (procedure step 7.1.2.3)  3. Verify the following at the SPARE inverter: ___ a. The IN SYNC light is ON. ___ b. The ALT SOURCE AVAIL light is ON. ___ c. The SYNC REFERENCE NORMAL light is ON.	___ SAT  ___ UNSAT
<u>STANDARD:</u>	Determines the B SPARE (4Y04) inverter lights listed above are all ON.	
CUE:	When each light properly identified, state light is ON.	
Comment		
NOTE:		

STEP 5 : ✓	<p><b>DO NOT ALLOW THE 4B(4Y02) INVERTER DOOR TO BE OPENED</b></p> <p><b>0-OP-003.3, 120V Vital Instrument AC System</b></p> <p>(procedure step 7.1.2.4)</p> <p>___ 4. Place the Sync Reference Selector Switch (SW-2) inside the applicable INSERVICE NORMAL inverter to the EXTERNAL (UP) position</p>	___ SAT ___ UNSAT
<u>STANDARD:</u>	<ul style="list-style-type: none"> <li>• Operator identifies 4B (4Y02) inverter.</li> <li>• Simulates positioning switch SW-2 to EXTERNAL (UP) position.</li> </ul>	
CUE:	<ul style="list-style-type: none"> <li>• When candidate identifies 4B (4Y02) inverter and states that the switch is inside the inverter requiring door opening to operate, tell the operator to <b>SIMULATE</b> going inside the inverter to position the switch.</li> <li>• When SW-2 (Inside Inverter Panel) operation properly described, confirm re-positioning.</li> </ul>	
Comment		
NOTE:	<p><b>DO NOT ALLOW THE 4B(4Y02) INVERTER DOOR TO BE OPENED</b></p>	

STEP 6 :	<b>0-OP-003.3, 120V Vital Instrument AC System</b> (procedure step 7.1.2.5) 5. Verify the following at the INSERVICE NORMAL inverter: ___ a. The IN SYNC Light is ON. ___ b. The SYNC REFERENCE EXTERNAL light is ON.	___ SAT ___ UNSAT
<u>STANDARD:</u>	Determines the 4B (4Y02)inverter lights listed above are all ON.	
<u>CUE:</u>	When each light properly identified, state light is ON.	
<u>Comment:</u>		
<u>NOTE:</u>		

STEP 7 :	<p><b>0-OP-003.3, 120V Vital Instrument AC System</b></p> <p>(procedure step 7.1.2.6)</p> <p>6. Using Table 3, determine which Instrument AC Selector Switch should be used <b>AND</b> record: _____</p> <p><b>4P08A to AC LINE position</b></p> <p style="text-align: center;">TABLE 3</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">When Substituting SPARE INVERTER</th> <th style="text-align: center;">For INSERVICE NORMAL INVERTER</th> <th style="text-align: center;">Place INSTRUMENT AC SELECTOR SWITCH</th> <th style="text-align: center;">To SUPPLY Position</th> <th style="text-align: center;">INITIALS</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">AS (3Y04)</td><td style="text-align: center;">3A (3Y01)</td><td style="text-align: center;">3P07A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">AS (3Y04)</td><td style="text-align: center;">4A (4Y01)</td><td style="text-align: center;">4P07A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">BS (4Y04)</td><td style="text-align: center;">3B (3Y02)</td><td style="text-align: center;">3P08A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">BS (4Y04)</td><td style="text-align: center;">4B (4Y02)</td><td style="text-align: center;">4P08A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">CS (3Y06)</td><td style="text-align: center;">3C (3Y05)</td><td style="text-align: center;">3P06A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">CS (3Y06)</td><td style="text-align: center;">4C (4Y05)</td><td style="text-align: center;">4P06A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">DS (4Y06)</td><td style="text-align: center;">3D (3Y07)</td><td style="text-align: center;">3P09A</td><td style="text-align: center;">AC LINE</td><td></td></tr> <tr><td style="text-align: center;">DS (4Y06)</td><td style="text-align: center;">4D (4Y07)</td><td style="text-align: center;">4P09A</td><td style="text-align: center;">AC LINE</td><td></td></tr> </tbody> </table>	When Substituting SPARE INVERTER	For INSERVICE NORMAL INVERTER	Place INSTRUMENT AC SELECTOR SWITCH	To SUPPLY Position	INITIALS	AS (3Y04)	3A (3Y01)	3P07A	AC LINE		AS (3Y04)	4A (4Y01)	4P07A	AC LINE		BS (4Y04)	3B (3Y02)	3P08A	AC LINE		BS (4Y04)	4B (4Y02)	4P08A	AC LINE		CS (3Y06)	3C (3Y05)	3P06A	AC LINE		CS (3Y06)	4C (4Y05)	4P06A	AC LINE		DS (4Y06)	3D (3Y07)	3P09A	AC LINE		DS (4Y06)	4D (4Y07)	4P09A	AC LINE		<p>___ SAT</p> <p>___ UNSAT</p>
When Substituting SPARE INVERTER	For INSERVICE NORMAL INVERTER	Place INSTRUMENT AC SELECTOR SWITCH	To SUPPLY Position	INITIALS																																											
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<u>STANDARD:</u>	Using Table 3, identifies 4P08A as the correct Selector Switch to use.																																														
<u>CUE:</u>	None required.																																														
<u>Comment</u>																																															
<u>NOTE:</u>																																															

STEP 8 :	<b>0-OP-003.3, 120V Vital Instrument AC System</b> (procedure step 7.1.2.7.a)	___ SAT
	7. Perform the following steps at the appropriate Instrument AC Selector Switch panel in the Cable Spreading Room: ___ a. Verify that the Alternate Power Available light is ON.	___ UNSAT
<u>STANDARD:</u>	Verifies 4P08A alternate power available light ON	
CUE:	When 4P08A alternate power available light correctly identified, tell candidate that light is ON.	
Comment		
NOTE:		

STEP 9 :	<b>0-OP-003.3, 120V Vital Instrument AC System</b> (procedure step 7.1.2.7.b) b. Test the Sync Verification Light as follows: ____ (1) Position the Sync Switch to SYNCH LAMP TEST. ____ (2) Verify lamp comes ON.	____ SAT ____ UNSAT
<u>STANDARD:</u>	1. Positions 4P08A SYNC switch to SYNCH LAMP TEST. 2. Verifies 4P08A SYNC Verification Light ON.	
CUE:	1. <i>When SYNC switch identified and operation correctly described, confirm switch manipulation.</i> 2. <i>When Sync Verification Light correctly identified, tell candidate light is ON.</i>	
Comment		
NOTE:		

STEP 10 :	<p><b>0-OP-003.3, 120V Vital Instrument AC System</b></p> <p>(procedure step 7.1.2.7.c)</p> <p style="text-align: center;"><b>NOTE</b></p> <p>In the following Substeps 7.1.2.7.c.(1) and 7.1.2.7.c.(2) the bright light will go OFF, but a slight glow is expected. This is acceptable.</p> <p>c. Perform a synch check as follows:</p> <p>_____ (1) Position the Sync Switch to SYNCH CHECK PUSH.</p> <p>_____ (2) Depress and hold the Sync Switch.</p> <p>_____ (3) Verify that the Sync Verification Light stays OFF.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARD:</u>	<ol style="list-style-type: none"> <li>1. Positions 4P08A SYNC Switch to SYNCH CHECK PUSH.</li> <li>2. Depresses &amp; holds 4P08A SYNC Switch.</li> <li>3. Verifies 4P08A Sync Verification Light stays OFF.</li> <li>4. Releases 4P08A SYNC Switch.</li> </ol>	
CUE:	<ol style="list-style-type: none"> <li>1. When SYNC switch identified and operation correctly described, confirm switch manipulations.</li> <li>2. When Sync Verification Light correctly identified, tell candidate light is OFF.</li> </ol>	
Comment		
NOTE:	<p style="text-align: center;"><b>NOTE</b></p> <p>In the following Substeps 7.1.2.7.c.(1) and 7.1.2.7.c.(2) the bright light will go OFF, but a slight glow is expected. This is acceptable.</p>	

STEP 11 : ↓	<p><b>0-OP-003.3, 120V Vital Instrument AC System</b> (procedure step 7.1.2.7.d)</p> <p>___ d. Place the Instrument AC Selector Switch to the position indicated in Table 3.</p> <p style="text-align: center;"><b>NOTE</b> <i>Initials should be entered for the applicable inverter. N/A should be entered for all others.</i></p> <p><b>4P08A to AC LINE position</b></p> <p style="text-align: center;">TABLE 3</p> <table border="1" data-bbox="370 562 1239 842"> <thead> <tr> <th>When Substituting SPARE INVERTER</th> <th>For INSERVICE NORMAL INVERTER</th> <th>Place INSTRUMENT AC SELECTOR SWITCH</th> <th>To SUPPLY Position</th> <th>INITIALS</th> </tr> </thead> <tbody> <tr><td>AS (3Y04)</td><td>3A (3Y01)</td><td>3P07A</td><td>AC LINE</td><td></td></tr> <tr><td>AS (3Y04)</td><td>4A (4Y01)</td><td>4P07A</td><td>AC LINE</td><td></td></tr> <tr><td>BS (4Y04)</td><td>3B (3Y02)</td><td>3P08A</td><td>AC LINE</td><td></td></tr> <tr><td>BS (4Y04)</td><td>4B (4Y02)</td><td>4P08A</td><td>AC LINE</td><td></td></tr> <tr><td>CS (3Y06)</td><td>3C (3Y05)</td><td>3P06A</td><td>AC LINE</td><td></td></tr> <tr><td>CS (3Y06)</td><td>4C (4Y05)</td><td>4P06A</td><td>AC LINE</td><td></td></tr> <tr><td>DS (4Y06)</td><td>3D (3Y07)</td><td>3P09A</td><td>AC LINE</td><td></td></tr> <tr><td>DS (4Y06)</td><td>4D (4Y07)</td><td>4P09A</td><td>AC LINE</td><td></td></tr> </tbody> </table>	When Substituting SPARE INVERTER	For INSERVICE NORMAL INVERTER	Place INSTRUMENT AC SELECTOR SWITCH	To SUPPLY Position	INITIALS	AS (3Y04)	3A (3Y01)	3P07A	AC LINE		AS (3Y04)	4A (4Y01)	4P07A	AC LINE		BS (4Y04)	3B (3Y02)	3P08A	AC LINE		BS (4Y04)	4B (4Y02)	4P08A	AC LINE		CS (3Y06)	3C (3Y05)	3P06A	AC LINE		CS (3Y06)	4C (4Y05)	4P06A	AC LINE		DS (4Y06)	3D (3Y07)	3P09A	AC LINE		DS (4Y06)	4D (4Y07)	4P09A	AC LINE		___ SAT ___ UNSAT
When Substituting SPARE INVERTER	For INSERVICE NORMAL INVERTER	Place INSTRUMENT AC SELECTOR SWITCH	To SUPPLY Position	INITIALS																																											
AS (3Y04)	3A (3Y01)	3P07A	AC LINE																																												
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DS (4Y06)	3D (3Y07)	3P09A	AC LINE																																												
DS (4Y06)	4D (4Y07)	4P09A	AC LINE																																												
<u>STANDARD:</u>	<p><b>(SIMULATED)</b></p> <ol style="list-style-type: none"> <li><b>Selects correct switch (4P08A).</b></li> <li><b>Positions 4P08A Instrument AC Selector Switch to AC LINE.</b></li> </ol>																																														
CUE:	<i>When 4P08A Instrument AC Selector Switch identified and operation correctly described, confirm switch manipulation.</i>																																														
Comment																																															
NOTE:	<p style="text-align: center;"><b>NOTE</b></p> Initials should be entered for the applicable inverter. N/A should be entered for all others.																																														
<b>Terminating Cue:</b>	<b>Tell candidate that another operator will continue with step 7.1.2.8</b>	STOP																																													

**Verification of Completion**

Job Performance Measure No. NRC-25-IP-JPM-K Transfer load from the 4B (4Y02) Inverter to the B SPARE (4Y04) Inverter.

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## *JPM BRIEFING SHEET*

**THIS IS A SIMULATED PLANT JPM. DO NOT OPERATE ANY PLANT EQUIPMENT.**

**INITIAL CONDITIONS:**

- 3B Inverter is Supplying Load, 4B Inverter is Supplying Load, and B SPARE Inverter is in STANDBY.
- All initial conditions in 0-OP-003.3, 120V VITAL INSTRUMENT AC SYSTEM, specifically Sections 3.0 and 5.1, have been verified satisfactorily and complete.

**INITIATING CUE:**

You have been directed by the Unit 4 RO to transfer load from the 4B (4Y02) Inverter to the B SPARE (4Y04) Inverter.

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU FEEL THAT YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

Facility:	<u>Turkey Point</u>	Task No:	_____
Task Title:	<u>Manual Start of A AFW Pump</u>	JPM No:	<u>NRC-25-IP-JPM-J</u>
K/A Reference:	<u>Safety Function 4 (S) 061-A1.05 3.7/3.7</u>		
Examinee:	_____	NRC Examiner:	_____
Facility Evaluator:	_____	Date:	_____
<u>Method of testing:</u> _____			
Simulated Performance	<u>X</u>	Actual Performance	_____
Classroom	_____	Simulator	_____
		Plant	<u>X</u>

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

## Initial Conditions:

- 3-OP-075, Auxiliary Feedwater System, Section 7.8, Auxiliary Feedwater Pump A Manual Start is in progress.
- Auxiliary Feedwater System is in the Normal Alignment.
- 3-OP-075, Auxiliary Feedwater System has been completed up to Section 7.8.7 by another NPO.
- The Unit 3 Unit Supervisor has directed the NPO to perform Auxiliary Feedwater Pump A Manual Start starting at step 7.8.8 of 3-OP-075, Auxiliary Feedwater System.
- 

## Task Standard:

- AFW Pump "A" T&T Valve, MOV-6459A, is TRIPPED in accordance with 3-OP-075, Auxiliary Feedwater System, Section 7.8.
- AFW Pump "A" T&T Valve, MOV-6459A is RESET, in accordance with 3-OP-075, Auxiliary Feedwater System, Section 7.8.
- AFW Pump A running at 5900 rpm in accordance with 3-OP-075, Auxiliary Feedwater System, Section 7.8
- AFW Pump "A" T&T Valve, MOV-6459A is OPEN in accordance with 3-OP-075, Auxiliary Feedwater System, Section 7.8

## Required Materials:

- Applicable Personal Protective Equipment
- 3-OP-075, Auxiliary Feedwater System

## General References:

- 3-OP-075, Auxiliary Feedwater System

Initiating Cue: You have been directed to perform Auxiliary Feedwater Pump A Manual Start starting at step 7.8.8 of 3-OP-075, Auxiliary Feedwater System.

Time Critical Task: No

Validation Time: 15 minutes

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

SIMULATOR SETUP

Reset to IC #

N/A

Load Lesson

N/A

Ensure Simulator Operator Checklist is complete

N/A

Denote critical steps with a check mark(✓)

Start Time \_\_\_\_\_

STEP 1 : ✓	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.8</b>  Push the mechanical trip button for the AFW Pump A T&T Valve, MOV-6459A, then verify the following: _____ 1. AFW Pump A T&T Valve, MOV-6459A, is closed. _____ 2. Control Room mechanical trip light is On. _____ 3. Local Test Panel mechanical trip light is On.	_____ SAT  _____ UNSAT
<u>Standard:</u>	<b>(SIMULATED) Candidate Pushed the mechanical trip button for the AFW Pump A T&amp;T Valve, MOV-6459A</b>	
<u>Cue</u>	Once NPO identifies Mechanical Trip Button and simulates depressing the button, confirm Trip Button has been depressed.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 2 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.8.1</b>	___ SAT
	Push the mechanical trip button for the AFW Pump A T&T Valve, MOV-6459A, then verify the following: ___ 1. AFW Pump A T&T Valve, MOV-6459A, is closed.	___ UNSAT
<u>Standard:</u>	(SIMULATED) Candidate observes and describes MOV-6459A CLOSED by valve stem moving downward and stopping.	
<u>Cue</u>	Once NPO identifies and describes MOV-6459A CLOSED by valve stem moving downward and stopping, confirm CLOSED.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 3 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.8.1</b> NPO confirms Local Test Panel Mechanical Trip Light is on.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	(SIMULATED) Local Test Panel mechanical trip light is On.	
<u>Cue</u>	When NPO identifies Local Test Panel mechanical trip light tell the NPO that the RED light is OFF and the GREEN light is on.	
<u>Comment</u>		
<b>NOTE:</b>	Local Test Panel Mechanical Trip Light is AMBER.	

STEP 4 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.8.2</b> Push the mechanical trip button for the AFW Pump A T&T Valve, MOV-6459A, then verify the following: ____ 2. Control Room mechanical trip light is On.	____ SAT ____ UNSAT
<u>Standard:</u>	(SIMULATED) NPO contacts Control Room to verify MOV-6459A Control Room mechanical trip light is On.	
<u>Cue</u>	As Control Room Operator, confirm communication and confirm that MOV-6459A Control Room mechanical trip light is On.	
<u>Comment</u>		
<b>NOTE:</b>	Evaluator may act as Control Room Operator to simulate communications.	

STEP 5 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.8.3</b> Push the mechanical trip button for the AFW Pump A T&T Valve, MOV-6459A, then verify the following: ____ 3. Local Test Panel mechanical trip light is On.	____ SAT ____ UNSAT
<u>Standard:</u>	(SIMULATED) Candidate indicates on Local Test Panel that mechanical trip light is On.	
<u>Cue</u>	Once identified confirm Local Test Panel that mechanical trip light is On.	
<u>Comment</u>		
<b>NOTE:</b>	Local Test Panel Mechanical Trip Light is AMBER.	

STEP 6 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.</b>  <p style="text-align: center;">CAUTION</p> <p>When releasing the mechanical trip rod, ensure the rod does not snap back towards the turbine. This could damage the turbine overspeed tappet shaft.</p>	<input type="checkbox"/> SAT  <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate reads CAUTION.	
<u>Cue</u>	None required.	
<u>Comment</u>		
<b>NOTE:</b>		

<p>STEP 7 : √</p>	<p><b>3-OP-075, Auxiliary Feedwater System Step 7.8.9</b>                   ___ 7.8.9 Reset AFW Pump A T&amp;T Valve, MOV-6459A, by pulling the mechanical trip rod approximately one inch.</p>	<p>___ SAT ___ UNSAT</p>
<p><u>Standard:</u></p>	<p><b>(SIMULATED) 7.8.9 Reset AFW Pump A T&amp;T Valve, MOV-6459A, by pulling the mechanical trip rod approximately one inch.</b></p>	
<p><u>Cue</u></p>	<p>When NPO describes operating mechanical trip rod tell operator that the mechanical trip rod will travel no further and does not snap back to the tripped position.</p>	
<p><u>Comment</u></p>		
<p><b>NOTE:</b></p>	<p>HEAD LEVER</p> <p>TAPPET NUT</p> <p>TRIP LEVER</p> <p>HEAD BRACKET</p> <p>SCRIBE MARK</p> <p>GUIDE SPRING</p> <p>TAPPET ASSEMBLY</p> <p>SCRIBE MARK</p> <p>TAPPET NUT TOO HIGH</p> <p>SCRIBE MARK</p> <p>TRIP HEAD LEVER CORRECT POSITION</p> <p>TRIP HEAD LEVER INCORRECT POSITION (HELD BY TAPPET)</p>	

STEP 8 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.10</b>  _____ 7.8.10 Verify the limit switch arm roller is on the North side of the roller plate <b>AND</b> the tappet nut is contacting the head lever below the scribe mark.	_____ SAT _____ UNSAT
<u>Standard:</u>	(SIMULATED) Candidate Verifies the limit switch arm roller is on the North side of the roller plate <b>AND</b> the tappet nut is contacting the head lever below the scribe mark.	
<u>Cue</u>	When operator describes the correct standard, confirm that the limit switch arm roller is properly positioned.	
<u>Comment</u>		
<b>NOTE:</b>		



STEP 10 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.12 through 7.8.14</b> Steps 7.8.12 through 7.8.14 are to be performed by the Control Room Operators.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	(SIMULATED) Candidate contacts Control Room and directs performance of 7.8.12 through 7.8.14.	
<u>Cue</u>	Act as Control Room Operator to simulate communications and then confirm that 7.8.12 through 7.8.14 have been completed	
<u>Comment</u>		
<b>NOTE:</b>	Steps 7.8.12 through 7.8.14 are to be performed by the Control Room Operators.	

STEP 11 : √	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.15.1.a</b> 7.8.15 Start AFW Pump A as follows: 1. Operate the T&T Valve, MOV-6459A, manually as follows: ___ a. Depress declutch lever on the side of AFW Pump A T&T Valve, MOV-6459A, to engage the handwheel for manual operation.	___ SAT ___ UNSAT
<u>Standard:</u>	<b>(SIMULATED) Candidate describes depressing declutch lever on the side of AFW Pump A T&amp;T Valve, MOV-6459A, to engage the handwheel for manual operation.</b>	
<u>Cue</u>	Once candidate describes action indicate that handwheel is engaged.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 12 : √	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.15.1.b</b>  7.8.15 Start AFW Pump A as follows: 1. Operate the T&T Valve, MOV-6459A, manually as follows: ____ b. Turn AFW Pump A T&T Valve, MOV-6459A, handwheel in the close direction as required to connect the trip pawl.	____ SAT  ____ UNSAT
<u>Standard:</u>	<b>(SIMULATED) Candidate describes turning AFW Pump A T&amp;T Valve, MOV-6459A, handwheel in the close direction as required to connect the trip pawl.</b>	
<u>Cue</u>	Once candidate describes closure of handwheel identify MOV-6459A is closed.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 13 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.15.1.c</b> 7.8.15 Start AFW Pump A as follows: 1. Operate the T&T Valve, MOV-6459A, manually as follows: ____ c. Verify AFW Pump A T&T Valve, MOV-6459A, is closed.	____ SAT ____ UNSAT
<u>Standard:</u>	(SIMULATED) Candidate uses MOV-6459A handwheel condition as stopped in the closed (right) direction and/or Green Light ON, Red Light OFF at local panel to determine valve is closed.	
<u>Cue</u>	Once candidate describes actions that indicate that MOV-6459A is closed, confirm MOV-6459A is closed..	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 14 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.15.2 through 7.8.15.3</b>  Steps 7.8.15.2 through 7.8.15.3 will be performed by the Control Room.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	(SIMULATED) Candidate contacts Control Room and requests performance of 7.8.15.2 through 7.8.15.3.	
<u>Cue</u>	Act as Control Room Operator to simulate communications and then confirm that 7.8.15.2 through 7.8.15.3 have been completed	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 15 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.4</b>  <p style="text-align: center;">CAUTION</p> AFW Pump speed should be promptly increased to approximately 2000 rpm to obtain positive oil pressure, then as desired by Maintenance, Engineering, and Operations.	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT
<u>Standard:</u>	Candidate reads CAUTION.	
<u>Cue</u>	None required.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 16 : √	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.15.4</b> 7.8.15 Start AFW Pump A as follows:  ____ 4. Throttle steam flow to the AFW turbine to increase turbine speed by turning AFW Pump A T&T Valve, MOV-6459A, handwheel in the open direction.	____ SAT  ____ UNSAT
<u>Standard:</u>	<b>(SIMULATED) Candidate describes throttling steam flow to the AFW turbine to increase turbine speed by turning AFW Pump A T&amp;T Valve, MOV-6459A, handwheel in the open direction (left).</b>	
<u>Cue</u>	Once candidate describes opening of MOV-6459A state that steam flow is heard and AFW Pump A starts rotating.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 17 :	<b>3-OP-075, Auxiliary Feedwater System Step 7.8.15.5</b> 7.8.15 Start AFW Pump A as follows: ____ 5. Monitor pump speed to verify the governor controls speed at approximately 5900 rpm.	____ SAT ____ UNSAT
<u>Standard:</u>	Candidate Monitors pump speed to verify the governor controls speed at approximately 5900 rpm on the local control panel.	
<u>Cue</u>	Once candidate indicates monitoring pump speed to verify the governor controls speed at approximately 5900 rpm on the local control panel point to 5900 rpm.	
<u>Comment</u>		
<b>NOTE:</b>		
<b>Terminating Cue:</b>	<b>Tell candidate that another operator will perform the remainder of the procedure.</b>	<b>STOP</b>

Stop Time \_\_\_\_\_

**Verification of Completion**

Job Performance Measure No. NRC-25-IP-JPM-J Manual Start of A AFW Pump

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## ***JPM BRIEFING SHEET***

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### **INITIAL CONDITIONS:**

- 3-OP-075, Auxiliary Feedwater System, Section 7.8, Auxiliary Feedwater Pump A Manual Start is in progress.
- Auxiliary Feedwater System is in the Normal Alignment.
- 3-OP-075, Auxiliary Feedwater System has been completed up to Section 7.8.7 by another NPO.
- The Unit 3 Unit Supervisor has directed the NPO to perform Auxiliary Feedwater Pump A Manual Start starting at step 7.8.8 of 3-OP-075, Auxiliary Feedwater System.

### **INITIATING CUE:**

Initiating Cue: You have been directed to perform Auxiliary Feedwater Pump A Manual Start starting at step 7.8.8 of 3-OP-075, Auxiliary Feedwater System.

**Acknowledge to the examiner when you are ready to begin.**

**HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE  
SATISFACTORILY COMPLETED THE ASSIGNED TASK.**

✓✓

NEED TO INFORM APPLICANT THAT THIS IS TIME CRITICAL

Appendix C

Job Performance Measure Worksheet

IDENTIFIED IN PROCEDURE

Form ES-C-1

NEED TO IDENTIFY TIME CRITICAL STEP & STOP

Facility: Turkey Point Task No: 24094001501  
 Place Unit 4 Post Accident  
 Task Title: Hydrogen Monitor In Service JPM No: NRC-25-IP-JPM-I  
 K/A Reference: 028 A2.02 (3.5/3.9)  
 Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_  
 Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_  
 Method of testing: In Plant  
 Simulated Performance X  
 Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant X

**Read to the examinee:**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

1. Unit 4 has experienced a valid Safety Injection signal.
2. All applicable prerequisites listed in Section 3.0 are satisfied.
3. Post Accident Hydrogen Monitoring system is in normal standby alignment.

Task Standard:

1. PAHMS Alignment Completed per Section 7.1 of 4-OP-094, "Containment Post-Accident Monitoring Systems."

Required Materials:

1. Two way radio (optional communications device)
2. 4-OP-094, "Containment Post-Accident Monitoring Systems"
3. "A" key
4. Valve Operating Handle (located in Aux Bldg E/W hallway)

General References:

1. 4-OP-094, "Containment Post-Accident Monitoring Systems"

**Initiating Cue:**

1. You have been directed by the RO to place the Post Accident Hydrogen Monitor in service in accordance with 4-OP-094, Section 7.1.

Time Critical Task: YES (30 min)

Validation Time: 15 minutes

**ONCE CUE IS GIVEN AND IN RCA START TIME FOR TIME CRITICAL  
TASK \_\_\_\_\_**

**HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!**

**SIMULATOR SETUP****Reset to IC #**

N/A

**Load Lesson**

N/A

**Ensure Simulator Operator Checklist is complete**

N/A

Denote critical steps with a check mark(✓)

Start Time \_\_\_\_\_

<p>STEP 1 :</p>	<p><b>4-OP-094, Post Accident Monitoring System Step 7.1</b> Obtain Required Materials</p>	<p>___ SAT ___ UNSAT</p>
<p><u>Standard:</u></p>	<p>1. Obtains a copy of <u>4-OP-094, Post Accident Monitoring System</u>. 2. Verifies latest revision and no outstanding OTSCs. 3. Begins review of section: 7.1 Post Accident H2 Monitor Startup.</p>	
<p><u>Cue</u></p>	<p>Evaluator may choose to require the candidate to obtain procedure section.  When the correct procedure is identified &amp; verified, provide the operator with the procedure.</p>	
<p><u>Comment</u></p>		
<p>NOTE:</p>	<p style="text-align: center;"><b>NOTE</b> <i>Hydrogen Monitors should be in service within 30 minutes of a valid SI signal.</i>  <b>ONCE CUE IS GIVEN AND IN RCA START TIME FOR TIME CRITICAL TASK _____</b></p>	

STEP 2 :	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.1.1</b>	<input type="checkbox"/> SAT
	<p style="text-align: center;"><b>NOTE</b></p> <p><i>Hydrogen Monitors should be in service within 30 minutes of a valid SI signal.</i></p> <p>7.1.1 Initial Conditions  <input type="checkbox"/> 1. All applicable prerequisites listed in Section 3.0 are satisfied.</p>	<input type="checkbox"/> UNSAT
<u>Standard:</u>	<ol style="list-style-type: none"> <li>1. Reviews Note prior to step 7.1.1. Notes that the task must be completed within 30 minutes of the safety injection signal.</li> <li>2. Determines prerequisites met from JPM Briefing Sheet Initial Conditions (thus procedure initial conditions complete).</li> </ol>	
<u>Cue</u>	None required	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 3	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.1.a-e</b>	<input type="checkbox"/> SAT
<input checked="" type="checkbox"/>	<p style="text-align: center;"><b>NOTES</b></p> <ul style="list-style-type: none"> <li>• Valves PASS-4-008, 4-001A, 4-001B, 4-002A and 4-002B are located in the floor at the junction of the north/south hallway.</li> <li>• Full travel for valves is provided in parenthesis and should not be exceeded or damage to reach rod assemblies may occur.</li> </ul> <p>1. Remove the floor caps <b>AND</b> open the following valves using the reach rods located in the Auxiliary Building.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> a. Post Accident Sampling System Return Line Isolation Valve, PASS-4-008 (2 turns)</li> <li><input type="checkbox"/> b. H2 Analyzer 4A Outlet Isol, PAHM-4-001A (3 turns)</li> <li><input type="checkbox"/> c. H2 Analyzer Outlet Isol, PAHM-4-001B (6 turns)</li> <li><input type="checkbox"/> d. PACV Vent and Sample System to PAHM Header Isolation Valve (RR), PAHM-4-002A (6 turns)</li> <li><input type="checkbox"/> e. PACV Vent and Sample System to PAHM Header Isolation Valve (RR), PAHM-4-002B (6 turns)</li> </ul>	<input type="checkbox"/> UNSAT
<u>Standard:</u>	<p><b>(SIMULATED) Proceeds to the Aux Bldg east-west hallway and describes how to unlock and obtain a T-handle tool from the rack.</b></p> <p><b>Removes floor caps by engaging the T-handle tool into each cap and rotating them counter clockwise. Then opens the following valves by engaging the T-handle tool to the valve operator and turning the operator the specified number of turns counter clockwise:</b></p> <ul style="list-style-type: none"> <li>a. PASS-4-008 (2 turns).</li> <li>b. PAHM-4-001A (3 turns).</li> <li>c. PAHM-4-001B (6 turns).</li> <li>d. PAHM-4-002A (6 turns).</li> <li>e. PAHM-4-002B (6 turns).</li> </ul>	
<u>Cue</u>	<p>For each of the valves listed above, when applicant correctly identifies how to remove floor cap, state, "The floor cap is removed."</p> <p>When applicant correctly demonstrates how to operate valve in the open direction, state, "The valve operator has been rotated the applicable number of turns".</p>	
<u>Comment</u>		
<b>NOTE:</b>	<p style="text-align: center;"><b>NOTES</b></p> <ul style="list-style-type: none"> <li>• Valves PASS-4-008, 4-001A, 4-001B, 4-002A and 4-002B are located in the floor at the junction of the north/south hallway.</li> <li>• Full travel for valves is provided in parenthesis and should not be exceeded or damage to reach rod assemblies may occur.</li> </ul>	

STEP 4 : √	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.2</b> 2. Unlock and open PACVS Isol Vlv Penet 51, HV-4-3, outside the Unit 4 Pipe and Valve Room. (An A key is required for this lock.)	___ SAT ___ UNSAT
<u>Standard:</u>	<b>(SIMULATED) Removes lock from HV-4-3 remote operator handwheel (South end of Aux Bldg 18' elevation N/S hallway outside U4 P&amp;V Room) using an A key, then opens valve using remote operator handwheel.</b>	
<u>Cue</u>	When candidate simulates turning valve handwheel counterclockwise, point to open indicator to show valve is open.	
<u>Comment</u>		
<b>NOTE:</b>	Although not specified in the procedure, candidate may reinstall lock on valve. This is not required for this JPM.	

STEP 5 : √	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.3</b> 3. Unlock and open PACVS Isol Vlv Penet 16, HV-4-1, outside the Unit 4 Pipe and Valve Room. (An A key is required for this lock.)	___ SAT ___ UNSAT
<u>Standard:</u>	<b>(SIMULATED) Removes lock from HV-4-1 remote operator handwheel (South end of Aux Bldg 18' elevation N/S hallway outside U4 P&amp;V Room) using an A key, then opens valve using remote operator handwheel.</b>	
<u>Cue</u>	When candidate simulates turning valve handwheel counterclockwise, point to open indicator to show valve is open.	
<u>Comment</u>		
<b>NOTE:</b>	Although not specified in the procedure, candidate may reinstall lock on valve. This is not required for this JPM.	

<p>STEP 6 : √</p>	<p><b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.4</b></p> <p>4. Request the Reactor Operator perform the following:</p> <p>a. Verify the following function selector switches on the Hydrogen Analyzer Panels are in the SAMPLE position:</p> <p>____ (1) QR 81</p> <p>____ (2) QR 82</p> <p>____ b. Place control switches to ANALYZE.</p> <p>____ c. Depress the REMOTE selector buttons.</p> <p>____ d. Depress the ALARM reset buttons.</p>	<p>____ SAT</p> <p>____ UNSAT</p>
<p><u>Standard:</u></p>	<p><b>(SIMULATED) Candidate directs the Unit 4 RO to perform step 7.1.2.4 of 4-OP-094</b></p>	
<p><u>Cue</u></p>	<p>1. As Unit 4 RO acknowledge direction to perform step 7.1.2.4 of 4-OP-094 (Control Room Portion)</p> <p>2. As Unit 4 RO, tell candidate step 7.1.2.4 has been completed. Direct candidate to continue with step 7.1.2.5.</p>	
<p><u>Comment</u></p>		
<p><b>NOTE:</b></p>	<p><i>Candidate may attempt to use a communication device or simulate communication directly to the evaluator.</i></p>	

STEP 7 : √	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.5</b> ____ 5. At the area outside the Unit 3 BA Evap Room, remove floor cap <b>AND</b> close WHT Waste Transfer Pump Discharge to Rad Waste Building, MPAS-001,(1/4 turn).	____ SAT ____ UNSAT
<u>Standard:</u>	<b>1. (SIMULATED) Attempts to remove the floor cap for MPAS-001.</b> <b>2. (SIMULATED) When MPAS-001 floor cap determined to be jammed in place, leaves the Aux Building and proceeds to the Waste Evaporator Feed Pump room in the Radwaste Building.</b>	
<u>Cue</u>	When candidate attempts to remove MPAS-001 floor cap, state that it is jammed and cannot be removed	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 8 : √	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.5</b>  ____ At the Waste Evaporator Feed Pump Room in the Radwaste Bldg, close Aux Bldg WHT valve to Radwaste Bldg WHT, 1731.	____ SAT ____ UNSAT
<u>Standard:</u>	<b>(SIMULATED) At the Waste Evaporator Feed Pump Room in the Radwaste Bldg, CLOSES Aux Bldg WHT valve to Radwaste Bldg WHT, 1731</b>	
<u>Cue</u>	When candidate identifies 1731 handwheel has been rotated fully clockwise and valve stem inserted, confirm this indication.	
<u>Comment</u>		
<b>NOTE:</b>		

STEP 9 : √	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.6.a</b>  <p style="text-align: center;"><b>NOTE</b></p> <p><i>The following valves are located on the Auxiliary Building roof near the Unit 4 containment wall.</i></p> <p>6. Perform the following:        ___ a. Unlock and open Isol Vlv from WHT Pp Back, MPAS-4-004 (an <b>A</b> key is required).</p>	___ SAT ___ UNSAT
<u>Standard:</u>	<p>1. <b>(SIMULATED) Proceeds to Auxiliary Building roof near Unit 4 Containment wall.</b></p> <p>2. <b>(SIMULATED) Unlocks MPAS-4-004 handwheel with an A key, then opens valve. (Rotates handwheel fully counterclockwise until valve stem fully withdrawn.)</b></p>	
<u>Cue</u>	When candidate identifies handwheel has been rotated fully counterclockwise and valve stem withdrawn, confirm this indication	
<u>Comment</u>	<i>END TIME CRITICAL AT STEP TO</i>	
<b>NOTE:</b>	<i>Although not specified in the procedure, candidate may reinstall lock on valve.</i>	

<b>STEP 10</b>	<b>:</b>	<b>4-OP-094, Containment Post Accident Monitoring Systems Step 7.1.2.6.b</b>	___ SAT
√		___ b. Close Isol Viv MPAS to Purge Air Rtn, MPAS-4-005.	___ UNSAT
<u>Standard:</u>		<b>(SIMULATED) Closes MPAS-4-005. (Rotates handwheel fully clockwise until the valve stem is fully inserted.)</b>	
<u>Cue</u>		When candidate identifies handwheel has been rotated fully clockwise and valve stem inserted, confirm that valve travel has stopped and stem is inserted.	
<u>Comment</u>			
<b>NOTE:</b>		<b>RECORD STOP TIME WHEN MPAS-4-005 IS CLOSED _____.</b>	
<b>Termination Cue:</b>		<b>Tell candidate another operator will perform step 7.1.2.7</b>	<b>STOP</b>

Stop Time \_\_\_\_\_

**Verification of Completion**

Job Performance Measure No. NRC-25-IP-JPM-I

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question Documentation:

Question:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: \_\_\_\_\_

## ***JPM BRIEFING SHEET***

The examiner will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

1. Unit 4 has experienced a valid Safety Injection signal.
2. All applicable prerequisites listed in Section 3.0 are satisfied.
3. Post Accident Hydrogen Monitoring system is in normal standby alignment.

### ***INITIATING CUE:***

You are the Primary Operator and you have been directed by the Unit 4 RO to place the Post Accident Hydrogen Monitor in service per 4-OP-094 section 7.1.

**This is a Simulate JPM. No plant equipment is to be manipulated during the performance of this task.**

**HAND THIS PAPER BACK TO YOUR EVALUATOR**  
**WHEN YOU HAVE SATISFACTORILY COMPLETED**  
**THE ASSIGNED TASK.**