

U.S. Nuclear Regulatory Commission  
Surry Power Station

SR2012301  
**Administrative** Job Performance Measure G2.1.7

Applicant \_\_\_\_\_

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

Examiner \_\_\_\_\_

Date \_\_\_\_\_

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

**Title**

**PERFORM AN AT-POWER SHUTDOWN MARGIN CALCULATION**

**Applicability**

**Estimated Time**

**Actual Time**

RO/SRO

25 Minutes

**Conditions**

- Task may be PERFORMED in the simulator (or any area with access to a Station Curve Book).
- Unit 2 is at 72% power with Rod M12 dropped and stuck at 123 steps in the core.

**Standards**

- 2-OP-RX-001, Shutdown Margin (Calculated at Power) complete within 50 minutes.

**Initiating Cues**

- Nuclear Shift Manager direction.

**Terminating Cues**

- 2-OP-RX-001, Shutdown Margin (Calculated at Power), step 5.1.12 completed.

**Procedures**

- 0-AP-1.00, Rod Control System Malfunction, Revision 25
- 2-OP-RX-001, Shutdown Margin (Calculated At Power), Revision 11.
- 2-DRP-003R, Curve Book, Revision 09

**Tools and Equipment**

**Safety Considerations**

- None

- None

**Initiating Cues**

- Perform 2-OP-RX-001, Shutdown Margin (Calculated At Power) within one hour.

**Directions to the Applicant**

- During normal steady state operation on Unit 2, Control Bank C Rod M12 dropped and stuck at a height of 123 steps above the bottom of the core. 0-AP-1.00, Rod Control System Malfunction, is in progress on Unit 2 for Rod M12. Unit 2 is being ramped to 72% power IAW 0-AP-23.00, Rapid Load Reduction IAW 0-AP-1.00, Rod Control System Malfunction, Step 18, RNO a).
- IAW step 16, RNO b) of 0-AP-1.00, Perform Shutdown Margin Calculation IAW 2-OP-RX-001, Shutdown Margin (Calculated At Power) within 1 Hour.
- The following unit conditions exist:
  - Core Burnup: 14,500 MWD/MTU
  - C<sub>B</sub>: 352 ppm, measured 1 hour ago. No dilutions have taken place.
  - D-Bank rod height at 72% - by ramp plan: 192 Steps
- I am the Nuclear Shift Manager and you are the Unit 1 BOP. You are to perform 2-OP-RX-001, Shutdown Margin (Calculated At Power) and be complete within one hour.

**Notes**

- Ensure use of current (Cycle 24) 2-DRP-003R (Curve Book) values.

**PERFORMANCE CHECKLIST**

**Notes to the Evaluator**

- Task critical elements are bolded.
- **START TIME:**

<p><b>STEP 1:</b></p> <p>Reviews Administrative Section of Procedure:</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Reviews and initials Section 1.0, Purpose.</li> <li>b) Reviews Section 2.0, References.</li> <li>c) Reviews and initials Section 3.0, Initial Conditions.</li> <li>d) Reviews and initials Section 4.0, Precautions and Limitations.</li> </ul> <p><b>EVALUATOR'S NOTE:</b></p> <p>Candidate may complete Signature Table, Step 3.4, at this time. Table should be completed prior to informing Shift Manager (Evaluator) that task is complete.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 2:</b></p> <p>Completes Step 5.1.1. (<i>Step 5.1.1</i>)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Reviews NOTE prior to Step 5.1.1: NOTE: Meeting the conditions in Step 5.1.1 verifies that the SDM is at least -1770 pcm. A stuck / dropped rod (10 or more steps from the bottom) requires a full SDM.</li> <li>b) Check ALL of the following to determine if an abbreviated SDM can be performed:             <ul style="list-style-type: none"> <li>1) Places check (✓) in blank: The Unit is operating between HZP and HFP.</li> <li>2) No check (✓) in blank: A single fully dropped (less than 10 steps) control rod exists.</li> <li>3) Places a check (✓) in blank: All other rods are greater than the minimum rod insertion limit.</li> </ul> </li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 3:</b></p> <p>Completes Steps 5.1.2 and 5.1.3. (Step 5.1.2 / 5.1.3)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Initials Step 5.1.2: IF any of the above conditions are NOT met, THEN enter N/A for Step 5.1.3, AND GO TO Step 5.1.4. Otherwise, enter N/A.</li> <li>b) Places N/A and initials blank for Step 5.1.3.a. Draws a single line below blank for Step 5.1.3.c. Draws arrow down from Step 5.1.3.a blank to line below Step 5.1.3.c.</li> </ul> <p><b>EVALUATOR'S NOTE:</b></p> <p>Completed Step 5.1.3 appears as follows:          5.1.3 IF all of the above conditions are met, THEN perform the following:  <del>20</del> N/A a. Enter N/A for Steps 5.1.4 through 5.1.9.          _____ b. Record -1770 pcm in Step 5.1.10.  <u>          </u> c. GO TO Step 5.1.11.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 4:</b></p> <p>Completes Step 5.1.4 using the information provided on the Candidate Directions Page. (Step 5.1.4)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Initials Step 5.1.4.a., and enters Time/date in blanks of Step 5.1.4.a.</li> <li>b) Initials Step 5.1.4.b, and enters <b>14,500</b> on Step 5.1.4.b blank.</li> <li>c) Initials Step 5.1.4.c, and enters <b>192</b> in Step 5.1.4.c blank.</li> <li>d) Initials Step 5.1.4.d, and enters <b>352</b> in Step 5.1.4.d blank.</li> <li>e) Initials Step 5.1.4.e, and enters <b>72</b> in Step 5.1.4.e blank.</li> </ul> <p><b>EVALUATOR'S NOTE:</b></p> <p><b>If asked:</b> Use current date and time for item a) above.  <b>If asked:</b> Use 72% for power level.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 5:</b></p> <p>Completes Step 5.1.5. (Step 5.1.5)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Places N/A and initials blank for Step 5.1.5.</li> <li>b) Enter "0" pcm in Step 5.1.8.a (Page 8, 2-OP-RX-001)</li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><b>STEP 6:</b></p> <p>Completes Step 5.1.6. (<i>Step 5.1.6</i>)</p> <p><b>STANDARD:</b></p> <ol style="list-style-type: none"> <li>Uses Step 2.3.1.e to determine curve reference – Stuck Rod Worth vs Burnup.</li> <li>Refers to 2-DRP-003R, Attachment 40, Page 81 (Surry Unit 2 – Cycle 24 Stuck Rod Worth VS Burnup).</li> <li>Refers to NOTE: For Use In Shutdown Margin Calculations Only.</li> <li>Finds 14,500 MWD/MTU line along “X” axis of graph and traces upward to intersect with line.</li> <li>Traces horizontally to “Y” axis of graph to determine intersection point.</li> <li>Noting “Y” axis label (25 pcm/div), determines that stuck rod worth <b>2220 pcm (range 2207.5 to 2225)</b> based on <math>\pm 12.5</math> band or 1/2 of a division for low, 2225 line for high).</li> <li>Enters this value in blank above “Ref 2.3.1.e”.</li> <li>Using Step 5.1.6 guidance, enters “2” in Actual No. of Stuck Rods Plus One blank.</li> <li><b>Performs multiplication, and enters “4440” in blank next to pcm (range 4415 to 4450)</b> based on <math>\pm 12.5</math> band or 1/2 of a division for low, 2225 line for high.)</li> <li><b>Enters value above in blank for Step 5.1.8.b.</b></li> <li>Initials Blank for Step 5.1.6.</li> </ol> <p><b>EVALUATOR’S NOTE:</b></p> <p><b>If asked:</b> Candidate should use provided reference copy of 2-DRP-003R.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 7:</b></p> <p>Completes Step 5.1.7. (<i>Step 5.1.7</i>)</p> <p><b>STANDARD:</b></p> <ol style="list-style-type: none"> <li>Enters “0” in blank next to pcm.</li> <li>Enters “0” in blank, Step 5.1.8.c.</li> <li>Initials blank for Step 5.1.7.</li> </ol> <p><b>EVALUATOR’S NOTE:</b></p> <p><b>If asked:</b> Control Rod M12 is the only Affected Rod, all others at the specified height or are fully withdrawn.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><b>STEP 8:</b></p> <p>Initials Steps 5.1.8.a. through 5.1.8.c. (Step 5.1.8)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Checks blank filled in on Step 5.1.8.a (performed JPM Step 5), and Initials blank for Step 5.1.8.a.</li> <li>b) Checks blank filled in on Step 5.1.8.b (performed JPM Step 6), and Initials blank for Step 5.1.8.b.</li> <li>c) Checks blank filled in on Step 5.1.8.c (performed JPM Step 7), and Initials blank for Step 5.1.8.c.</li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 9:</b></p> <p>Completes Step 5.1.8.d. (Step 5.1.8.d)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Uses Step 2.3.1a to determine curve reference – Power Defect.</li> <li>b) Refers to 2-DRP-003R, Attachment 31, Page 71 (Surry Unit 2 – Cycle 24 Power Defect).</li> <li>c) Refers to NOTE: For Use Through Nominal Full Power End Of Reactivity.</li> <li>d) Finds 14,500 MWD/MTU line along “X” axis of graph and traces upward to intersect with line with the 50% and 75% lines.</li> <li>e) Traces horizontally to the “Y” axis and notes the intersection points.</li> <li>f) Notes the “Y” axis label (-50 pcm/div) determine Power defect at 75% = 1600 pcm; Power Defect at 50% = 1040 pcm.</li> <li>g) <b>Interpolates Power defect values to determine Power Defect at 72% = 1533 pcm (range 1508 to 1558 pcm based on ± 25 band or 1/2 of a division.)</b></li> <li>h) Enters this value in blank for Step 5.1.8.d. and Initials Step 5.1.8.d.</li> </ul> <p><b>EVALUATOR’S NOTE:</b></p> <p><b>If asked:</b> Candidate should use provided reference copy of 2-DRP-003R.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><b>STEP 10:</b></p> <p>Completes Step 5.1.8.e. (<i>Step 5.1.8.e</i>)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Uses Step 2.3.1b to determine curve reference – Reactivity Redistribution Factor.</li> <li>b) Refers to 2-DRP-003R, Attachment 42, Page 83 (Surry Unit 2 – Cycle 24 Reactivity Redistribution Factor VS Burnup).</li> <li>c) Refers to NOTE: For Use In Shutdown Margin Calculations Only.</li> <li>d) Finds 14,500 MWD/MTU line along “X” axis of graph and traces upward to intersect curve.</li> <li>e) Traces horizontally to the “Y” axis and notes the intersection point.</li> <li>f) <b>Notes the “Y” axis label (10 pcm/div) determine RRF at 188 pcm (range 183 to 190 based on ± 5 band or 1/2 of a division for low, 190 line for high.)</b></li> <li>g) Enters this value in blank for Step 5.1.8.e. and Initials Step 5.1.8.e.</li> </ul> <p><b>EVALUATOR’S NOTE:</b></p> <p><b>If asked:</b> Candidate should use provided reference copy of 2-DRP-003R.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 11:</b></p> <p>Completes Step 5.1.8.f. (<i>Step 5.1.8.f</i>)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Uses Step 2.3.1c to determine curve reference – At Power Integral Worth Table – Control Banks C &amp; D in Overlap.</li> <li>b) Refers to 2-DRP-003R, Attachment 29, Page 62 (Surry Unit 2 – Cycle 24 At-Power Integral Rod Worth Table for Control Banks C and D in overlap).</li> <li>c) Refers to NOTE: Worth At Nominal HFP Conditions.</li> <li>d) Finds 14000.1 TO 16000.0 MWD/MTU column and traces down to intersect with 193/191 Rows D-Bank Pos Steps.</li> <li>e) <b>Interpolates to determine Worth at 192 Steps = 223.2 pcm. (223 pcm acceptable).</b></li> <li>f) Enters this value in blank for Step 5.1.8.f. and Initials Step 5.1.8.f.</li> </ul> <p><b>EVALUATOR’S NOTE:</b></p> <p><b>If asked:</b> Candidate should use provided reference copy of 2-DRP-003R.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><b>STEP 12:</b></p> <p>Completes Step 5.1.8.g and 5.1.8.h. <i>(Step 5.1.8.g / 5.1.8.h)</i></p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Uses Step 2.3.1d to determine curve reference – Total Rod Worth.</li> <li>b) Refers to 2-DRP-003R, Attachment 38, Page 79 (Surry Unit 2 – Cycle 24 Total Rod Worth vs Burnup).</li> <li>c) Refers to NOTE: For Use In Shutdown Margin Calculations Only.</li> <li>d) Finds 14, 500 MWD/MTU along the “X” axis and traces upward to intersect with the curve.</li> <li>e) Traces horizontally to the “Y” axis and notes the intersection point.</li> <li>e) <b>Notes the “Y” axis label (25 pcm/div) to determine Total Rod Worth = 7788 pcm (range 7775.5 to 7800 based on ± 12.5 band or 1/2 of a division for low, 7800 line for high.)</b></li> <li>f) Enters this value in blank for Step 5.1.8.g. and Initials Step 5.1.8.g.</li> <li>g) Reads and initials blank for Step 5.1.8.h.</li> </ul> <p><b>EVALUATOR’S NOTE:</b></p> <p style="padding-left: 40px;"><b>If asked:</b> Candidate should use provided reference copy of 2-DRP-003R.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 12:</b></p> <p>Completes Step 5.1.9 and 5.1.10. <i>(Step 5.1.9 / 5.1.10)</i></p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Calculates the Shutdown Margin by adding the values in Substeps 5.1.8.a through Substep 5.1.8.h.</li> <li>b) Enters <b>Value of -1254 pcm in blank in Step 5.1.10 (range -1195 to -1554 pcm based on sum of high and low range values through Step 5.1.8.</b></li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>STEP 13:</b></p> <p>Completes Step 5.1.11 and 5.1.12. <i>(Step 5.1.11 / 5.1.12)</i></p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>a) Informs Nuclear Shift Manager (Evaluator) that the Shutdown Margin independent review required.</li> <li>b) Informs Nuclear Shift Manager (Evaluator) that the calculated Shutdown Margin is less than Section 4.0 requirements (-1770 pcm), power must be reduced IAW TS 3.12, and the minimum Shutdown Margin must be met.</li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>



<b>STEP 14:</b> Report to Shift Manager (Evaluator) completion of Task.  <b>COMMENTS:</b>	  _____ SAT _____ UNSAT

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

Comments: \_\_\_\_\_  
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\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## INSTRUCTIONS TO APPLICANT (EXAMINER COPY)

### Conditions

- During normal steady state operation on Unit 2, Control Bank C Rod M12 dropped and stuck at a height of 123 steps above the bottom of the core. 0-AP-1.00, Rod Control System Malfunction, is in progress on Unit 2 for Rod M12. Unit 2 is being ramped to 72% power IAW 0-AP-23.00, Rapid Load Reduction IAW 0-AP-1.00, Rod Control System Malfunction, Step 18, RNO a).
- IAW step 16, RNO b) of 0-AP-1.00, Perform Shutdown Margin Calculation IAW 2-OP-RX-001, Shutdown Margin (Calculated At Power) within 1 Hour.
- The following unit conditions exist:

Core Burnup: 14,500 MWD/MTU

CB : 352 ppm, measured 1 hour ago. No dilutions have taken place.

D-Bank rod height at 72% - by ramp plan: 192 Steps

### Initiating Cues

- I am the Nuclear Shift Manager and you are the Unit 1 BOP. You are to perform 2-OP-RX-001, Shutdown Margin (Calculated At Power) and be complete within one hour.

## INSTRUCTIONS TO APPLICANT (CANDIDATE COPY)

### Conditions

- During normal steady state operation on Unit 2, Control Bank C Rod M12 dropped and stuck at a height of 123 steps above the bottom of the core. 0-AP-1.00, Rod Control System Malfunction, is in progress on Unit 2 for Rod M12. Unit 2 is being ramped to 72% power IAW 0-AP-23.00, Rapid Load Reduction IAW 0-AP-1.00, Rod Control System Malfunction, Step 18, RNO a).
- IAW step 16, RNO b) of 0-AP-1.00, Perform Shutdown Margin Calculation IAW 2-OP-RX-001, Shutdown Margin (Calculated At Power) within 1 Hour.
- The following unit conditions exist:

Core Burnup: 14,500 MWD/MTU

CB : 352 ppm, measured 1 hour ago. No dilutions have taken place.

D-Bank rod height at 72% - by ramp plan: 192 Steps

### Initiating Cues

- I am the Nuclear Shift Manager and you are the Unit 1 BOP. You are to perform 2-OP-RX-001, Shutdown Margin (Calculated At Power) and be complete within one hour.

**Administrative Job Performance Measure GEN2.1.25 (3.9/4.2)**

Applicant \_\_\_\_\_

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

Examiner \_\_\_\_\_

Date \_\_\_\_\_

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

**Title**

**DETERMINE REQUIRED NITROGEN DILUTION FOR OUT OF SPEC WASTE GAS DECAY TANK**

**K/A: 2.1.25 - Ability to interpret reference materials, such as graphs, curves, tables, etc.**

**Applicability**

**Estimated Time**

**Actual Time**

ALL

15 Minutes

**Conditions**

- Task is to be PERFORMED in the classroom.
- Annunciator 0-WD-D9, Waste Gas Decay Tanks HI O<sub>2</sub> has alarmed with an indicated oxygen concentration of 4.2%.

**Standards**

- Applicant lists closure of 1-BR-79 to suspend all additions to 1B WGDT as required
- Applicant recognizes that 1B WGDT must be reduced to less than or equal to 2% per OP-22.2.4 and associated required valve manipulations to achieve dilution.
- Applicant correctly calculates 1B WGDT pressure for O<sub>2</sub> dilution, per OP-23.2.4, within +/- 1 psig.

**Initiating Cues**

- I am the Shift Manager and you are a licensed operator assigned to the control room. Alarm WD-D9 (WASTE GAS DECAY TANKS HI O<sub>2</sub>) has just been received.
- Both units are stable at 100%.
- No maintenance or testing activities are in progress.
- The indication on the oxygen analyzer has been trending up slowly with NO spiking or other abnormalities noted (both local and MCR indications are NORMAL with NO indications of analyzer failure present)
- You are to perform the actions of WD-D9 and list the following:
  - All - required actions for the given condition
  - SRO – All required actions to correct the given condition and applicable Tech Spec LCOs and applicable time requirements (if any)

**Terminating Cues**

- Final WGDT pressure after dilution determined using Attachment 3 of OP-23.2.4, Release of Waste Gas Decay Tank 1B.

**Procedures**

- 0-WD-D9, Waste Gas Decay Tank HI O<sub>2</sub>.
- OP-23.2.4, Release of Waste Gas Decay Tank 1B.\
- Surry Technical Specifications.

**Tools and Equipment**

- None

**Safety Considerations**

- None

**Simulator Setup for Screen Captures**

- Call up IC-1 and initialize.
- Meter override 1B Waste Gas Decay Tank pressure to 30 psig (0.136), and override GW-AIT-150A, pen # (green) to an indicated concentration of 4.2% (0.42).
- Verify in service / isolated tanks swapped ("Isolated" magnet on WGDT "A").

**Notes**

**Notes to the Evaluator**

- Task critical elements are bolded and noted at the end of the step as CRITICAL STEP.
- **START TIME:**

<p><b>STEP 1: (WD-D9)</b></p> <p><b>STEP 1 -</b> Step 1. CHECK I&amp;C TESTING - IN PROGRESS</p> <ul style="list-style-type: none"> <li>• 1-GW-AIT-150A OR</li> <li>• 1-GW-AIT-150B</li> </ul> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Recognizes from initial cue that no maintenance or testing activities are in progress and GOES TO STEP 6.</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 2: (WD-D9)</b></p> <p><b>STEP 2 -</b> Notes prior to step 6:</p> <ul style="list-style-type: none"> <li>• Recorder Trace spiking is indicative of a clogged or worn sensing device.</li> <li>• Red pen indicates for Analyzer A. Green pen indicates for Analyzer B.</li> </ul> <p>Step 6 - CHECK RECORDER FOR IN-SERVICE TANK ANALYZER - FAILED</p> <ul style="list-style-type: none"> <li>• Recorder Trace - SPIKING OR</li> <li>• Local Power Light - OFF OR</li> <li>• Local oxygen concentration – NOT INDICATED</li> </ul> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Recognizes from initial cue that no indications exist that analyzer has failed and goes to RNO column.</li> </ul> <p><b>EVALUATOR'S NOTE:</b></p> <p><b>If asked:</b> No spiking has been noted.</p> <p><b>If asked:</b> Local power is Lit.</p> <p><b>If asked:</b> Local Oxygen concentration is indicated.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 3: (WD-D9)</b></p> <p><b>STEP 3 -</b> Step 6 RNO Actions: IF oxygen concentration is greater than 4%, THEN do the following:</p> <ul style="list-style-type: none"> <li>a) Immediately suspend all additions of waste gases to the affected tank by closing 1-BR-79 and reduce oxygen concentration to less than or equal to 4%.</li> <li>b) GO TO Step 13.</li> </ul> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Identifies oxygen concentration is greater than 4% and lists the closure of 1-BR-79 as a required action and goes to step 13. <b>THE IDENTIFICATION THAT 1-BR-79 MUST BE CLOSED IS A CRITICAL STEP</b></li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 4: (WD-D9)</b></p> <p><b>STEP 4 -</b> Note prior to step 13:</p> <ul style="list-style-type: none"> <li>• The maximum pressure allowed in the WGDT is 115 psig.</li> </ul> <p>Step 13 - REDUCE OXYGEN TO LESS THAN OR EQUAL TO 2.0% WITHIN 48 HOURS ON OUT-OF-SPEC TANK IAW APPROPRIATE OPERATING PROCEDURE:</p> <ul style="list-style-type: none"> <li>▪ OP-23.2.3, RELEASE OF WASTE GAS DECAY TANK 1A OR</li> <li>▪ OP-23.2.4, RELEASE OF WASTE GAS DECAY TANK 1B</li> </ul> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Trainee requests copy of OP-23.2.4 to reduce Oxygen concentration.</li> </ul> <p><b>EVALUATOR'S NOTE:</b> ARP actions for WD-D9 are listed in following steps and OP-23.2.4 begins immediately thereafter.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 5: (WD-D9)</b></p> <p><b>STEP 5 -</b> Step 14 - VERIFY OXYGEN CONCENTRATION - LESS THAN OR EQUAL TO 2.0% WITHIN 48 HOURS ON THE OUT-OF-SPEC TANK</p> <p>Step 14 RNO actions: Review Tech Spec 3.11.A.1.c.</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• SRO candidates review applicable spec.</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 6: (WD-D9)</b></p> <p><b>STEP 6 -</b> Step 15 - PROVIDE NOTIFICATIONS AS NECESSARY:</p> <ul style="list-style-type: none"> <li>○ OMOC</li> <li>○ Shift Supervision</li> <li>○ STA</li> </ul> <p><b>STANDARD:</b></p> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 7: (OP-23.2.4)</b></p> <p><b>STEP 7-</b> Candidate reviews Initial Conditions and Precautions and Limitations</p> <p><b>STANDARD:</b></p> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>



<p><b>STEP 8: (OP-23.2.4)</b></p> <p><b>STEP 8-</b> Section 5.1 Waste Gas Decay Tank 1B Sampling and/or Dilution</p> <p>Note: A Chemistry sample is required to determine H2 concentration for release rate adjustments.</p> <p>Step 5.1.1 - Sample 1-GW-TK-1B IAW OP-23.2.12. IF WGDT is NOT being Prepared for release, THEN enter N/A.</p> <p><b>STANDARD: Candidate N/A's step</b></p> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 9: (OP-23.2.4)</b></p> <p><b>STEP 9-</b> 5.1.2 IF the O2 concentration is greater than 1.65 percent and N2 addition is desired OR the tank is being purged after maintenance, THEN open 1-GW-755, 1-GW-FCV-104B Outlet Isolation. Otherwise, enter N/A. (Ref. 2.4.4)</p> <p><b>STANDARD: Candidate lists OPENING 1-GW-755 as a required action – THIS IS A CRITICAL STEP</b></p> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 10: (OP-23.2.4)</b></p> <p><b>STEP 10-</b> 5.1.3 IF O2 concentration is greater than 1.65 percent and N2 addition is Desired OR the tank is being purged for maintenance, THEN dilute the O2 concentration using Attachment 2 and/or Attachment 3 as applicable By performing the following Substeps. Otherwise, enter N/A. <b>(Ref. 2.4.2)</b></p> <p>a) Place 1-GW-43-GW-104B, 1-GW-FCV-104B Control Switch, in open.  b) Locally check that 1-GW-FCV-104B is open.  c) Adjust nitrogen flow as necessary using 1-GW-PCV-140, N2 Regulator.</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Candidate lists determines final WGDT pressure as _____ (84 ±1 psig)</li> <li>• Candidate lists locally opening 1-GW-43-GW-104B as a required action</li> <li>• <b>THESE ARE CRITICAL STEPS</b></li> <li>• Candidate may list locally adjusting N2 flow as a required action (not critical step)</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 11: (OP-23.2.4)</b></p> <p><b>STEP 11-</b> 5.1.4 WHEN tank pressure is at desired pressure, THEN perform the following. IF tank was NOT diluted in Step 5.1.3, THEN enter N/A.</p> <p>a. Place 1-GW-43-GW-104B, 1-GW-FCV-104B Control Switch, in close.  b. Locally check that 1-GW-FCV-104B is closed.</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Candidate lists locally closing 1-GW-43-GW-104B as a required action (not critical step)</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 12: (OP-23.2.4)</b></p> <p><b>STEP 12-</b> 5.1.5 Close 1-GW-755. IF 1-GW-755 was NOT opened in Step 5.1.2, THEN enter N/A. (Ref. 2.4.4)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Candidate lists locally closing 1-GW-755 as a required action (not critical step)</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 13: (OP-23.2.4)</b></p> <p><b>STEP 13- NOTE:</b> After the WGDT Discharge Record has been assigned a number, the form must be accounted for and <b>not</b> destroyed.</p> <p>5.1.6 Get the WGDT Discharge Record from Health Physics. Record the number and the release rate. IF WGDT is NOT being prepared for release, THEN enter N/A.</p> <p>Number: _____</p> <p>Release Rate: _____ cfm</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Candidate enters N/A for step</li> <li>• END TASK FOR RO CANDIDATES</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 14: (TECH SPECS)</b></p> <p><b>STEP 14- SRO TECH SPEC REVIEW:</b></p> <p><b>3.11 - RADIOACTIVE GAS STORAGE</b></p> <p>A. Explosive Gas Mixture</p> <p>1. The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration could exceed 4% by volume.</p> <p style="padding-left: 40px;">a. With the concentration of oxygen in the waste gas holdup system greater than 2% by volume but less than or equal to 4% by volume, reduce the oxygen concentration to the above limits within 48 hours.</p> <p style="padding-left: 40px;">b. <b>With the concentration of oxygen in the waste gas holdup system greater than 4% by volume, immediately suspend all additions of waste gases to the affected tank and reduce the concentration of oxygen to less than or equal to 4% by volume, then take the action in 1.a above.</b></p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• SRO CANDIDATE LISTS REQUIRED TECH SPEC ACTIONS AS:             <ul style="list-style-type: none"> <li>○ <b>Immediately suspend ALL additions of waste gases to the "B" WGDT and that concentration must be &lt;4%, then the concentration must be &lt;2% within 48 hours. THIS IS A CRITICAL STEP</b></li> </ul> </li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
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**INSTRUCTIONS TO APPLICANT (Evaluator Copy)****Conditions**

- Unit 1 is at 100% power.
- WGDT "A" is isolated.
- WGDT "B" is in service on the "A" Oxygen analyzer.
- Annunciator WD-D9 has just been received.

**Initiating Cues**

- I am the Shift Manager and you are a licensed operator assigned to the control room. Alarm WD-D9 (WASTE GAS DECAY TANKS HI O<sub>2</sub>) has just been received.
- Both units are stable at 100%.
- No maintenance or testing activities are in progress.
- The indication on the oxygen analyzer has been trending up slowly with NO spiking or other abnormalities noted (both local and MCR indications are NORMAL with NO indications of analyzer failure present)
- You are to perform the actions of WD-D9 and **list** the following:
  - RO/SRO – All required actions to correct the given condition.
  - SRO – All required actions to correct the given condition and applicable Tech Spec LCOs and applicable time requirements (if any)

## INSTRUCTIONS TO APPLICANT (Candidate Copy)

### Conditions

- Unit 1 is at 100% power.
- WGDT "A" is isolated.
- WGDT "B" is in service on the "A" Oxygen analyzer.
- Annunciator WD-D9 has just been received.

### Initiating Cues

- I am the Shift Manager and you are a licensed operator assigned to the control room. Alarm WD-D9 (WASTE GAS DECAY TANKS HI O<sub>2</sub>) has just been received.
- Both units are stable at 100%.
- No maintenance or testing activities are in progress.
- The indication on the oxygen analyzer has been trending up slowly with NO spiking or other abnormalities noted (both local and MCR indications are NORMAL with NO indications of analyzer failure present)
- You are to perform the actions of WD-D9 and **list** the following:
  - RO/SRO – All required actions to correct the given condition.
  - SRO – All required actions to correct the given condition and applicable Tech Spec LCOs and applicable time requirements (if any)

Required actions (**SRO/RO**):

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Applicable Tech Spec LCOs and Required Actions (**SRO ONLY**):

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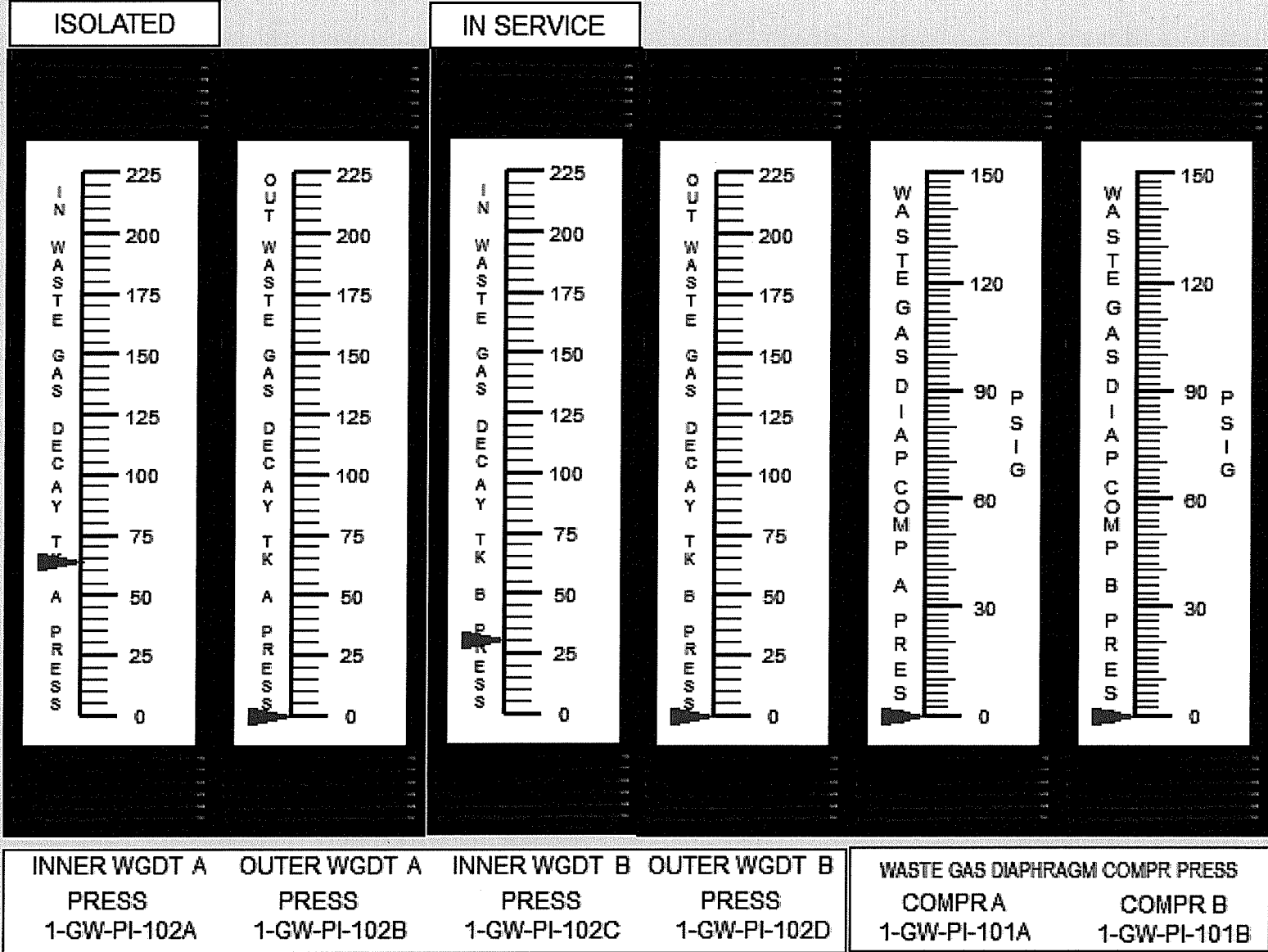
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U.S. Nuclear Regulatory Commission  
Surry Power Station

SR08301

**Administrative** Job Performance Measure G2.4.41

**TIME CRITICAL**

Applicant \_\_\_\_\_

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

Examiner \_\_\_\_\_

Date \_\_\_\_\_

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

**Title**

**Classify an event in accordance with EPIP-1.01**

**K/A: G2.4.41 Knowledge of the emergency action level thresholds and classifications. (2.3/4.1)**

**Applicability**

**Estimated Time**

**Actual Time**

SRO(I)/SRO(U)

12 Minutes

**Conditions**

- Task may be PERFORMED in the simulator or classroom.

**Standards**

- "Site Area Emergency" declared IAW EPIP-1.01.

**Initiating Cues**

- Significant event notification.
- EPIP-1.01, Emergency Manager Controlling Procedure.

**Terminating Cues**

- Report received of event classification and approval for transmitting EPIP-2.01.

**Procedures**

- EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE (REV 51)
- EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS (REV 36)
- EAL Tables (Rev 2)
- Surry EAL Basis Document (Rev 1)

**Safety Considerations**

- None

**Initial Conditions:**

- This is a **TIME CRITICAL JPM**.
- You are the Nuclear Shift Manager.
- With both units at 100% power, a fire broke out in the main control room that required control room evacuation (MCR personnel have left the Main Control Room).
- When the fire in the control room was announced, smoke from the control room fire was observed in the Emergency Switchgear Room; craft personnel in the area responded by dumping Halon in **BOTH** Unit One and Unit Two Emergency Switchgear Rooms.
- The Incident Commander has determined that the entire Emergency Switchgear room is uninhabitable until the area can be ventilated. It is estimated that this process will be complete in 25 minutes.
- You and the Emergency Communicators have re-located to the TSC.
- Here is a copy of EPIP-1.01, Emergency Manager Controlling Procedure. I need you to perform EPIP-1.01 and determine if this event should be classified.
- If a classification is warranted, complete EPIP-1.01 until you have reviewed and approved EPIP-2.01, Notification of State and Local Governments.
- On-site weather instruments indicate wind is from the North East (45 degrees) with an average wind speed of 10 mph.
- If performed in the classroom, announcing classification (if required) out loud is not required.
- When you finish the actions necessary to accomplish this, please inform me of your findings and classification, if applicable.

**Initiating Cues**

- Perform EPIP-1.01, Emergency Manager Controlling Procedure and approve EPIP-2.01, Notification of State and Local Governments.

**Notes**

**PERFORMANCE CHECKLIST**

**Notes to the Evaluator**

- Task critical elements are bolded and noted at the applicable step.
- **START TIME:**

<p>EPIP-1.01</p> <p>STEP 1:    <b>REVIEWS CAUTION AND NOTE PRIOR TO STEP 1 OF EPIP-1.01.</b></p> <p><b><u>Standards</u></b></p> <p>a)        <b>Reviews the following CAUTION: Declaration of the highest emergency class for which an Emergency Action Level is exceeded shall be made.</b></p> <p>b)        <b>Reviews the following NOTE: The PCS is potentially unreliable in the event of an earthquake. Therefore, PCS parameters should be evaluated for accuracy should an earthquake occur.</b></p> <p><b><u>Evaluator's Comments</u></b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
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<p>EPIP-1.01</p> <p>STEP 2: Step 1. EVALUATE EMERGENCY ACTION LEVELS:</p> <p><b><u>Standards</u></b></p> <p>a) Determine event category using the applicable Emergency Action Level Matrix:</p> <ul style="list-style-type: none"> <li>▪ Hot Conditions (RCS &gt; 200 °F)</li> <li>▪ Cold Conditions (RCS ≤ 200 °F)</li> </ul> <p>Turns to EPIP-1.01, Attachment 1, Page 1, EAL Table Index.</p> <p>b) Review EAL associated with event category.</p> <p>Determines event category to be HAZARDS.</p> <p>c) Use Control Room monitors, PCS, and outside reports to get indications of emergency conditions listed in the EAL Matrix.</p> <p><b>Determines event is HS5.1 and classifies the event as a SITE AREA EMERGENCY. (CRITICAL TASK)</b></p> <p>d) Verify EAL – CURRENTLY EXCEEDED</p> <p>e) Initiate a chronological log of events</p> <p><b><u>Evaluator Note</u></b></p> <p><b>TIME CRITICAL</b> for JPM ends upon declaration of the Site Area Emergency.</p> <p><b>DECLARATION TIME:</b></p> <p><b><u>Evaluator's Comments</u></b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
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<p>EPIP-1.01</p> <p>STEP 3: Step 2. RECORD EAL TAB, TIME EMERGENCY DECLARED AND SM/SEM NAME:</p> <p><b><u>Standards</u></b></p> <p>Completes the table below:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Emergency Classification</th> <th style="text-align: center;">EAL Identifier</th> <th style="text-align: center;">Time Declared</th> <th style="text-align: center;">SM /SEM Name</th> </tr> </thead> <tbody> <tr> <td>Notification of Unusual Event</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Alert</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Site Area Emergency</td> <td></td> <td></td> <td></td> </tr> <tr> <td>General Emergency</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><b><u>Evaluator Note</u></b></p> <p>Fill in Declaration Time in Item 2 of EPIP-2.01, Attachment 2 in Blank "Declared at".                  Fill in Declaration Time in Item 4 of EPIP-2.01, Attachment 2, Meteorological Data; blank "Time:".</p> <p><b><u>Evaluator's Comments</u></b></p>	Emergency Classification	EAL Identifier	Time Declared	SM /SEM Name	Notification of Unusual Event				Alert				Site Area Emergency				General Emergency				<p style="text-align: center;">_____ SAT</p> <p style="text-align: center;">_____ UNSAT</p>
Emergency Classification	EAL Identifier	Time Declared	SM /SEM Name																		
Notification of Unusual Event																					
Alert																					
Site Area Emergency																					
General Emergency																					
<p>EPIP-1.01</p> <p>STEP 4: Step 3. ANNOUNCES THE FOLLOWING DECLARATIONS:</p> <p><b><u>Standards</u></b></p> <p>Announces the following information:</p> <ul style="list-style-type: none"> <li>• Station Emergency Manager position</li> <li>• Emergency Classification</li> <li>• EAL</li> <li>• Time Declared</li> </ul> <p><b><u>Evaluator's Comments</u></b></p>	<p style="text-align: center;">_____ SAT</p> <p style="text-align: center;">_____ UNSAT</p>																				

<p>EPIP-1.01</p> <p>STEP 5: Note: Assembly, accountability and/or initiation of facility staffing may not be desired during certain situations (e.g., security event or condition, severe weather, anticipated grid disturbance) or may have already been completed. These activities should be implemented as quickly as achievable given the specific situation.</p> <p>Step 4. CHECK – CONDITIONS ALLOW FOR NORMAL IMPLEMENTATION OF EMERGENCY RESPONSE ACTIONS</p> <p><b><u>Standards</u></b></p> <p>Determines that plant conditions allow for normal implementation of the emergency response organization</p> <p><b><u>Evaluator Note</u></b></p> <p><b>If asked:</b> State that there are no other events in progress that could hinder the activation of the emergency response organization.</p> <p><b><u>Evaluator's Comments</u></b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
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<p>EPIP-1.01</p> <p>STEP 6: Step 5. NOTIFY PLANT STAFF OF ALERT OR HIGHER CLASSIFICATION:</p> <p><b><u>Standards</u></b></p> <p>a) Check classification – ALERT OR HIGHER</p> <p>b) Check if emergency assembly and accountability – PREVIOUSLY CONDUCTED</p> <p>Step b) RNO actions: 1) Sound emergency alarm and make announcement on the station Gai-Tronics system as follows:</p> <p style="padding-left: 40px;">“<u>Site Area Emergency</u> has been declared due to <u>fire in the MCR and inability to establish control from the MCR</u>. All emergency response personnel report to your assigned stations. All other personnel report to your Emergency Assembly Area” <i>(or words to this effect)</i></p> <p>2) Repeat RNO 5.b.1.</p> <p>3) GO TO Step 6.</p> <p><b><u>Evaluator Note</u></b></p> <p><b>If asked:</b> As Unit 2 sound the emergency alarm for 15 seconds.</p> <p><b>If asked:</b> Accountability was not previously conducted.</p> <p><b><u>Evaluator's Comments</u></b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
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<p>EPIP-1.01</p> <p>STEP 7: Step 6. INITIATE SUPPORTING PROCEDURES:</p> <p><b><u>Standards</u></b></p> <p>Reviews the following CAUTION: All further instructions should be continued unless otherwise directed.</p> <p>a) Determine if a radiological release is in progress:</p> <p>RNO a) RNO actions: IF radiological release NOT in progress, THEN GO TO Step 6.b.</p> <p>b) Inform Emergency Communicators of the following:</p> <ul style="list-style-type: none"> <li>• Emergency Classification</li> <li>• Emergency Action Level</li> <li>• Time of Declaration</li> <li>• Radiological release status</li> <li>• PARs, if applicable</li> </ul> <p>c) Direct Emergency Communicators to initiate the following:</p> <p>1) EPIP-2.01, NOTIFICATIONS OF STATE AND LOCAL GOVERNMENTS</p> <p>2) EPIP-2.02, NOTIFICATION OF NRC</p> <p><b><u>Evaluator's Cue</u></b></p> <p>Provide the previously completed EPIP-2.01 to the Candidate. Check that Declaration Time filled entered in Item 2 and Item 4 of the attachment before providing to Candidate.</p> <p><b><u>Evaluator Note</u></b></p> <p>Candidate determines that EPIP-2.01 is incorrectly filled out. Alert is checked instead of Site Area Emergency and category is checked as "S" instead of "H".  <b>(CRITICAL TASK)</b></p> <p><b><u>Evaluator's Comments</u></b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
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**Operator Directions Handout  
(TO BE READ TO CANDIDATE BY EXAMINER)**

**Task**

- Task may be PERFORMED in the simulator or classroom.

**Directions**

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task.

**Initial Conditions:**

- This is a **TIME CRITICAL JPM**.
- You are the Nuclear Shift Manager.
- With both units at 100% power, a fire broke out in the main control room that necessitated control room evacuation (MCR personnel have left the Main Control Room).
- When the fire in the control room was announced, smoke from the control room fire was observed in the Emergency Switchgear Room; craft personnel in the area responded by dumping Halon in **BOTH** Unit One and Unit Two Emergency Switchgear Rooms.
- The Incident Commander has determined that the entire Emergency Switchgear room is uninhabitable until the area can be ventilated. It is estimated that this process will be complete in 25 minutes.
- You and the Emergency Communicators have re-located to the TSC.

**Initiating Cues**

- Here is a copy of EPIP-1.01, Emergency Manager Controlling Procedure. I need you to perform EPIP-1.01 and determine if this event should be classified.
- If a classification is warranted, complete EPIP-1.01 until you have reviewed and approved EPIP-2.01, Notification of State and Local Governments.
- On-site weather instruments indicate wind is from the North East (45 degrees) with an average wind speed of 10 mph.
- If performed in the classroom, announcing classification (if required) out loud is not required.
- When you finish the actions necessary to accomplish this, please inform me of your findings and classification, if applicable.

**Operator Directions Handout  
(TO BE GIVEN TO CANDIDATE)**

**Initial Conditions:**

- This is a **TIME CRITICAL JPM**.
- You are the Nuclear Shift Manager.
- With both units at 100% power, a fire broke out in the main control room that necessitated control room evacuation (MCR personnel have left the Main Control Room).
- When the fire in the control room was announced, smoke from the control room fire was observed in the Emergency Switchgear Room; craft personnel in the area responded by dumping Halon in **BOTH** Unit One and Unit Two Emergency Switchgear Rooms.
- The Incident Commander has determined that the entire Emergency Switchgear room is uninhabitable until the area can be ventilated. It is estimated that this process will be complete in 25 minutes.
- You and the Emergency Communicators have re-located to the TSC.

**Initiating Cues**

- Here is a copy of EPIP-1.01, Emergency Manager Controlling Procedure. I need you to perform EPIP-1.01 and determine if this event should be classified.
- If a classification is warranted, complete EPIP-1.01 until you have reviewed and approved EPIP-2.01, Notification of State and Local Governments.
- On-site weather instruments indicate wind is from the North East (45 degrees) with an average wind speed of 10 mph.
- If performed in the classroom, announcing classification (if required) out loud is not required.
- When you finish the actions necessary to accomplish this, please inform me of your findings and classification, if applicable.

Surry Power Station

Audit Examination  
**Administrative** Job Performance Measure G2.4.39  
**TIME CRITICAL**

Applicant \_\_\_\_\_

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

Examiner \_\_\_\_\_

Date \_\_\_\_\_

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

**Title**

Complete EPIP-2.01, Attachment 3, Update Message.

**K/A: G.2.4.39 – Knowledge of RO responsibilities in emergency plan implementation. (3.9/3.8)**

**Applicability**

**Estimated Time**

**Actual Time**

RO

10 Minutes

**Conditions**

- Task is to be PERFORMED in the CLASSROOM.

**Standards**

- Site Area Emergency declared in accordance with EPIP-1.01.

**Initiating Cues**

- Significant event notification.
- EPIP-1.01, Emergency Manager Controlling Procedure.

**Terminating Cues**

- EPIP 2.01, Attachment 2 update message completed.

**Tools and Equipment**

- EPIP-2.01, Notification of State and Local Governments, Revision 41
- EMCOMM Printout for MET Data
- EPIP-2.01, Message #2 copy
- EPIP-2.01, Attachment 2, Blank Form

**Safety Considerations**

- None

**Initial Conditions:**

- Unit 1 and 2 at 100% power. Unit 1 manually tripped and safety injection actuated due to a Steam Generator Tube Rupture on "B" SG.
- When 1-MS-TV-101B closed, 1-MS-RV-101B failed to operate causing 1-MS-SV-101B to lift and subsequently failed to close.

**Initiating Cues**

- This is a **TIME CRITICAL JPM**.
- I am the SEM and you are the State and Local Communicator. Currently located in the TSC
- A Site Area Emergency was declared based on FS1.1 at 1000, today.
- When "B" SG MSTV manually closed, "B" SG PORV failed to operate causing 1-MS-SV-101B to lift and subsequently failed to close. A team is currently being briefed to attempt to gag 1-MS-SV-101B.
- Forty-Five (45) minutes have elapsed since the start time of Message #2, which you completed at 1010. You are to complete Message #3 and submit it to me for approval. You are currently at Step 16 of EPIP-2.01, Notification of State and Local Governments.
- The WEB EOC program is out of service for software maintenance.
- Here is a copy of the last message transmitted.
- When you finish the actions necessary to accomplish this, please inform me.

**PERFORMANCE CHECKLIST**

**Notes to the Evaluator**

- Task critical elements are bolded.
- **START TIME (critical time start):** \_\_\_\_\_

<p><b>STEP 1:</b>    Reviews Step 17 of EPIP-2.01, and returns to step 3.</p> <p style="text-align: center;">OR</p> <p>              Reviews Continuous Actions Page of EPIP-2.01, Item 1.b 2), Report of Emergency Change Criteria, and returns to Step 3.</p> <p><b>STANDARD:</b></p> <p>a)    Returns to EPIP-2.01, Step 3.</p> <p><b>EVALUATOR NOTES:</b></p> <ul style="list-style-type: none"> <li>•    None</li> </ul> <p><b>COMMENTS:</b></p>	<p style="text-align: right;">_____ <b>SAT</b></p> <p style="text-align: right;">_____ <b>UNSAT</b></p>
<p><b>STEP 2:</b>    Reviews notes prior to step 3:</p> <ul style="list-style-type: none"> <li>• The initial notification of any emergency classification must be made (meaning contact initiated with the first agency) within 15 minutes of declaring the emergency class.</li> <li>• Attachment 1, Instructions for Completing Report of Emergency to State and Local Governments, may be referenced as needed.</li> <li>• Items 5 through 9 on the Report of Emergency to State and Local Governments are optional for a message reporting initial entry into the Emergency Plan or an emergency class change.</li> </ul> <p><b>STANDARD:</b></p> <p>a)    Acknowledges notes.</p> <p><b>EVALUATOR NOTES:</b></p> <ul style="list-style-type: none"> <li>•    If asked: Classification remains Alert, FS1.1.</li> </ul> <p><b>COMMENTS:</b></p>	<p style="text-align: right;">_____ <b>SAT</b></p> <p style="text-align: right;">_____ <b>UNSAT</b></p>

<p><b>STEP 3:</b></p> <p>Step 3 - CHECK EMERGENCY - REMAINS IN EFFECT:</p> <p><b>STANDARD:</b>  a) Reviews initial conditions or asks Evaluator if emergency remains in effect.</p> <p><b>EVALUATOR NOTES:</b>  If asked: Alert, FS1.1 in effect.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><b>Step 4:</b></p> <p>Step 4: RECORD INFORMATION ON REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) Candidate obtains a copy of EPIP-2.01, Attachment 2.</li> <li>b) Candidate uses Message #2 (provided) as necessary for pertinent information.</li> <li>c) Candidate uses EPIP-2.01 as necessary to complete attachment 2.</li> </ul> <p><b>EVALUATOR NOTES:</b>  If asked: Alert, FS1.1 in effect.</p> <p><b>COMMENTS:</b></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>



<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 5:</b> Candidate fills out top of form:</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"><li>a) <b>Records Message #3 on MESSAGE # line.</b></li><li>b) <b>Selects checkbox TSC.</b></li><li>c) <b>Leaves APPROVAL line, Roll Call checkboxes, and The time is: line, blank.</b></li></ul> <p><b>EVALUATOR NOTES:</b> None.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 6:</b> Candidate completes Item 1. Status</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"><li>a) <b>Checks Actual Event box.</b></li></ul> <p><b>EVALUATOR NOTES:</b> None.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 7:</b> Candidate completes Item 2. Emergency Classification.</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) <b>Checks Site Area Emergency box.</b></li> <li>b) <b>Checks Category F box.</b></li> <li>c) <b>Checks Classification S box.</b></li> <li>d) <b>Enters FS1.1 Declared at 1000 on TODAYS DATE.</b></li> <li>e) <b>Checks Fission Product Barriers Affected, Reactor Coolant, and Containment boxes.</b></li> </ul> <p><b>EVALUATOR NOTES:</b></p> <ul style="list-style-type: none"> <li>a) through c) – None</li> <li>d) If asked: What is todays date, answer with current date.</li> <li>e) If asked: Reactor Coolant and Containment barriers affected.</li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 8:</b> Candidate completes Item 3. Release of Radioactive Material</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) <b>Checks B. Radiological release in progress. Will transmit Report of Radiological Conditions to Virginia EOC.</b></li> </ul> <p><b>EVALUATOR NOTES:</b></p> <ul style="list-style-type: none"> <li>a) If asked: Radiological release in progress.</li> </ul> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 9:</b> Candidate completes Item 4. Meteorological Data.</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) <b>Checks Based On On-Site Measurements box.</b></li> <li>b) Candidate places time in appropriate blank.</li> <li>c) <b>Candidate Enters 260.2 in AVE Wind Direction From ____ degrees (0° to 360 °) blank.</b></li> <li>d) <b>Candidate enters 13.5 in AVE Wind Speed ____ mph blank.</b></li> </ul> <p><b>EVALUATOR NOTES:</b>  <b>Provide candidate with a printout of EMCOMM Page</b>  <b>If asked:</b> Item a), Time of EMCOMM printout, 15 minutes ago.  <b>If asked:</b> For Peer Check on Wind direction and Wind Speed, items c) and d), Acknowledge request for Peer check.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 10:</b> Candidate acknowledges Note: <b>NOTE:</b> Items 5 - 9 optional for message reporting initial Emergency Plan entry or emergency classification change and "Excluded from message" may be checked. <b>"Items 5 - 9 are excluded from message"</b> may be read in lieu of reading each item.</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) Candidate determines Note is not applicable.</li> </ul> <p><b>EVALUATOR NOTES:</b>  <b>None.</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 11:</b> Candidate completes Item 5. Assistance requested or Being Provided.</p> <p><b>Standard:</b></p> <p>a) <b>Candidate Checks None box.</b></p> <p><b>EVALUATOR NOTES:</b> If asked: No offsite assistance has been requested.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 12:</b> Candidate completes Item 6. Emergency Response Actions Underway.</p> <p><b>Standard:</b></p> <p>a) <b>Candidate Checks Station emergency personnel called in box.</b> b) <b>Candidate Checks Station monitoring teams dispatched off-site box.</b></p> <p><b>EVALUATOR NOTES:</b> If asked: Station monitoring teams dispatched off-site, and Station emergency personnel called in.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 13:</b> Candidate completes Item 7. Evacuation or Company Dismissal of Site Personnel.</p> <p><b>Standard:</b></p> <p>a) <b>Candidate Checks No box.</b></p> <p><b>EVALUATOR NOTES:</b> If asked: Evacuation or Company Dismissal is currently being evaluated.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 14:</b> Candidate completes Item 8. Prognosis of Situation Since Last Report.</p> <p><b>Standard:</b></p> <p>a) <b>Candidate Checks Stable box.</b></p> <p><b>EVALUATOR NOTES:</b> If asked: Situation is Stable.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 15:</b> Candidate completes Item 9: ADDITIONAL INFORMATION.</p> <p><b>Standard:</b></p> <p>a) Candidate enters: <b>“Isolation of steam release path to atmosphere expected in 45 minutes”</b>.</p> <p><b>EVALUATOR NOTES:</b> If asked: for item 9: “Isolation of steam release path to atmosphere expected in 45 minutes”.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 1</p> <p><b>Step 16:</b> Candidate completes Bottom of form</p> <p><b>Standard:</b></p> <p>a) <b>Candidate enters NAME on This is (name) line.</b></p> <p>b) <b>Candidate checks TSC box.</b></p> <p>c) <b>Candidate enters current Date in appropriate blank.</b></p> <p><b>EVALUATOR NOTES:</b> If asked: Provide Candidate with current Date and Time.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p>Attachment 2, EPIP-2.01, Page 2</p> <p><b>Step 17:</b> Candidate completes Top of form.</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) <b>Candidate enters “3” in Message # line.</b></li> <li>b) <b>Candidate checks TSC box.</b></li> </ul> <p><b>EVALUATOR NOTES:</b> If asked: Provide Candidate with current Date and Time.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 2</p> <p><b>Step 18:</b> Candidate completes Item 10: PROTECTIVE ACTION RECOMMENDATIONS:</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) <b>Candidate checks NONE box</b></li> </ul> <p><b>EVALUATOR NOTES:</b> If asked: Item 10, None.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p>Attachment 2, EPIP-2.01, Page 2</p> <p><b>Step 19:</b> Candidate completes Item 11: SITE ACCESS</p> <p><b>Standard:</b></p> <ul style="list-style-type: none"> <li>a) <b>Candidate checks AVAILABLE box</b></li> </ul> <p><b>EVALUATOR NOTES:</b> If asked: Item 11, Site Access is Available.</p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>



**EVALUATOR'S REFERENCE COPY  
Operator Directions Handout  
(TO BE READ TO APPLICANT BY EXAMINER)**

**Task**

- Task is to be performed in the simulator or in the classroom.

**Directions**

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task.

**Initial Conditions:**

- Unit 1 and 2 at 100% power. Unit 1 manually tripped and safety injection actuated due to a Steam Generator Tube Rupture on "B" SG.
- When 1-MS-TV-101B closed, 1-MS-RV-101B failed to operate causing 1-MS-SV-101B to lift and subsequently failed to close.

**Initiating Cues**

- This is a **TIME CRITICAL JPM**.
- I am the SEM and you are the State and Local Communicator. Currently located in the TSC
- A Site Area Emergency was declared based on FS1.1 at 1000, today.
- When "B" SG MSTV manually closed, "B" SG PORV failed to operate causing 1-MS-SV-101B to lift and subsequently failed to close. A team is currently being briefed to attempt to gag 1-MS-SV-101B.
- Forty-Five (45) minutes have elapsed since the start time of Message #2, which you completed at 1010. You are to complete Message #3 and submit it to me for approval. You are currently at Step 16 of EPIP-2.01, Notification of State and Local Governments.
- The WEB EOC program is out of service for software maintenance.
- Here is a copy of the last message transmitted.
- When you finish the actions necessary to accomplish this, please inform me.



**Operator Directions Handout  
(TO BE GIVEN TO APPLICANT)**

**Initial Conditions:**

- Unit 1 and 2 at 100% power. Unit 1 manually tripped and safety injection actuated due to a Steam Generator Tube Rupture on "B" SG.
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- The WEB EOC program is out of service for software maintenance.
- Here is a copy of the last message transmitted.
- When you finish the actions necessary to accomplish this, please inform me.

U.S. Nuclear Regulatory Commission  
 Surry Power Station

**Administrative Job Performance Measure GEN2.2.12 (3.7/4.1)**

Applicant \_\_\_\_\_

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

Examiner \_\_\_\_\_

Date \_\_\_\_\_

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

**Title**

**Periodic Test Review 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST**

**K/A: GEN2.2.12 - Knowledge of surveillance procedures.**

**Applicability**

**Estimated Time**

**Actual Time**

SRO(I)/SRO(U)

45 Minutes

**Conditions**

- Task is to be PERFORMED in the classroom.

**Standards**

- Reviews completed 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, for accuracy and determines operability.

**Initiating Cues**

- I am the Shift Manager and you are the Unit Supervisor. Here is a copy of 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, which has just been completed.
- This was a quarterly test.
- Review 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, for completeness and accuracy.
- List ALL discrepancies noted on the ANSWER SHEET provided.
- When you are finished, inform your examiner of ALL problems noted in the procedure and any Technical Specification operability concerns if applicable.

**Terminating Cues**

- Applicant has completed the procedure review and discussed problems with examiner.

**Tools and Equipment**

- Calculator
- Copy of completed 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST.
- Copy of Surry Technical Specifications

**Safety Considerations**

- None

**Notes:**

**PERFORMANCE CHECKLIST**

**Notes to the Evaluator**

- Task critical elements are bolded and noted at the end of the step as CRITICAL STEP.
- **START TIME:**

<p><b>STEP 1:</b></p> <p><b>STEP 1 -</b> Review the purpose of the procedure (Section 1.0)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Reviews purpose of procedure step 1.1.</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 2:</b></p> <p><b>STEP 2 -</b> Review the References section (Section 2.0)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Reviews section 2.1, Source Documents, 2.2 Technical Specifications, 2.3 Technical References, and 2.4 Commitment Documents.</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 3:</b></p> <p><b>STEP 3-</b> Reviews the Initial Conditions section (Section 3.0)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"><li>• Reviews Initial Conditions steps 3.1.</li></ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 4:</b></p> <p><b>STEP 4-</b> Reviews the Precautions and Limitations section (Section 4.0)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"><li>• Reviews precautions and limitations steps 4.1 - 4.4.</li></ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 5:</b></p> <p><b>STEP 5 -</b> Reviews the Special Tools and Equipment section (Section 5.0)</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>Reviews Special Tools and Equipment section steps 5.1 - 5.2.</li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 6:</b></p> <p><b>STEP 6.1 -</b> Reviews Work Preparation section (Section 6.1).</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>Verifies proper placekeeping on all steps.</li> <li>Verifies step 6.1.1 is initialed and SQC numbers and Cal Due Dates are recorded.  <b>CANDIDATE IDENTIFIES THAT ONE STOPWATCH USED IS NOT IN CAL – THIS IS A CRITICAL STEP</b></li> </ul> <p><b>EVALUATOR'S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 7:</b></p> <p><b>STEPS 6.2-6.5 -</b>     Reviews Steps 6.2 - 6.5 of 1-OPT-RS-007</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Verifies proper placekeeping on all steps, notes, and cautions.</li> <li>• Verifies step 6.2. – 6.5 are properly initialed (including substeps).</li> <li>• Verifies step 6.4.3, 6.4.5, 6.5.3, and 6.5.5 are checked <b>SAT</b></li> </ul> <p><b>EVALUATOR’S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 8:</b></p> <p><b>STEP 7.0-</b>             Reviews Follow-On section of procedure (Section 7.1 – 7.4).</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"> <li>• Verifies proper placekeeping on all steps, notes, and cautions.</li> <li>• Evaluates the acceptance criteria in step 7.1.1 by reviewing attachment data referenced for each bulleted item. <b>CANDIDATE IDENTIFIES THAT TWO ITEMS ARE CHECKED AS ACCEPTABLE THAT WERE NOT – THIS IS A CRITICAL STEP</b> <ul style="list-style-type: none"> <li>▪ _____ Test values recorded on Attachment 1 are satisfactory.</li> <li>▪ _____ Test values recorded on Attachment 2 are satisfactory.</li> </ul> </li> <li>• Candidate identifies that step 7.2.4 was N/A by mistake.</li> </ul> <p><b>EVALUATOR’S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>

<p><b>STEP 9:</b></p> <p><i>Attachment 1-</i>      Reviews Attachment 1 Data.</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"><li>• Reviews attachment 1 data and <b>IDENTIFIES THAT 1-RS-MOV-156A CLOSE TIME IS UNACCEPTABLE – THIS IS A CRITICAL STEP</b></li><li>•</li></ul> <p><b>EVALUATOR’S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>
<p><b>STEP 10:</b></p> <p><i>Attachment 2-</i>      Reviews Attachment 2 Data.</p> <p><b>STANDARD:</b></p> <ul style="list-style-type: none"><li>• Reviews attachment 1 data and <b>IDENTIFIES THAT 1-RS-MOV-156B CLOSE TIME IS UNACCEPTABLE – THIS IS A CRITICAL STEP</b></li></ul> <p><b>EVALUATOR’S NOTE: N/A</b></p> <p><b>COMMENTS:</b></p>	<p>_____ <b>SAT</b></p> <p>_____ <b>UNSAT</b></p>



**STOP TIME:**

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**ANSWER KEY**  
**NOT FOR TRAINEE**

1-OPT-RS-007 REVIEW

1. **Step 6.1.1 – Listed stopwatch is out of CAL. (CRITICAL TASK)**
2. **Step 7.1.1 – Attachment 1 and 2 are checked as acceptable when they contain UNACCEPTABLE data. (CRITICAL TASK)**
3. Step 7.2.4 - Candidate identifies that step 7.2.4 was N/A by mistake (NOT CRITICAL TASK)
4. **Attachment 1, identifies that 1-RS-MOV-156A close time is unacceptable – (CRITICAL TASK)**
5. **Attachment 2, identifies that 1-RS-MOV-156B close time is unacceptable – (CRITICAL TASK)**
6. **They are in violation of Tech Spec 3.4 because there are NO OPERABLE OUTSIDE RECIRC SPRAY PUMPS. They are in a 6/30 clock iaw Tech Spec 3.0.1. (CRITICAL TASK)**

**Operator Directions Handout  
(TO BE READ TO APPLICANT BY EXAMINER)**

**Task**

- Task is to be performed in the classroom.
- Review 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, for completeness and accuracy.

**Directions**

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task.

**Initial Conditions:**

- Unit 1 is at 100% power.
- 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, which has just been completed.

**Initiating Cues**

- I am the Shift Manager and you are the Unit Supervisor. Here is a copy of 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, which has just been completed.
- This was a quarterly test.
- Review 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, for completeness and accuracy.
- List ALL discrepancies noted on the ANSWER SHEET provided.
- When you are finished, inform your examiner of ALL problems noted in the procedure and any Technical Specification operability concerns if applicable.



**Operator Directions Handout  
(TO BE GIVEN TO APPLICANT)**

**Initial Conditions:**

- Unit 1 is at 100% power.
- 1-OPT-CH-002 (REV 47), CHARGING PUMP OPERABILITY AND PERFORMANCE TEST FOR 1-CH-P-1B, has just been completed..

**Initiating Cues**

- I am the Shift Manager and you are the Unit Supervisor. Here is a copy of 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, which has just been completed.
- This was a quarterly test.
- Review 1-OPT-RS-007 (REV 12), CONTAINMENT OUTSIDE RECIRCULATION SPRAY PUMPS MOV STROKE TEST, for completeness and accuracy.
- List ALL discrepancies noted on the ANSWER SHEET provided.
- When you are finished, inform your examiner of ALL problems noted in the procedure and any Technical Specification operability concerns if applicable.

