


Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Downshift Reactor Recirculation Pumps

Revision: NRC 2005

Task Number: 2029150101

Approvals:

 \_\_\_\_\_  
General Supervisor Date 4/2/05  
Operations Training (Designee)

NA EXAMINATION SECURITY \_\_\_\_\_  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY \_\_\_\_\_  
Configuration Control Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform \_\_\_\_\_ Simulate

Evaluation Location: \_\_\_\_\_ Plant  Simulator

Expected Completion Time: 20 minutes Time Critical Task: NO Alternate Path Task: NO

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location:

Simulator

Simulator Set-up:

Reset to IC-44

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-OP-29 G.1.0
2. NUREG K/A 202001 A4.01 3.7/3.7

Tools and Equipment:

1. None

Task Standard:

Recirculation pumps 1A and 1B running in slow speed with their flow control valves full open.

Initial Conditions:

1. The plant is at 41% power.
2. The Rod line is at 60%.
3. Hydrogen injection has been secured.
4. Evaluator to ask the operator for any questions.

Initiating cue:

**RO** - "(Operator's name), "Transfer Recirc Pumps from high speed to low speed per N2-OP-29 section G.1.0."

**SRO** - "(Operator's name), "Transfer Recirc Pumps from high speed to low speed."

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	<input type="checkbox"/> Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat
<b>RECORD START TIME _____</b>		
2. Obtain a copy of the reference procedure and review/utilize the correct section.	<input type="checkbox"/> N2-OP-29 obtained. Precautions & Limitations reviewed and section G.1.0 referenced	Sat/Unsat
3. Verify the following:		
<input type="checkbox"/> BRKR 1A/B control switches in NORMAL.	<input type="checkbox"/> Observes BRKR 1A and 1B control switches in NORMAL	Sat/Unsat
<input type="checkbox"/> BRKR 2A/B are open AND control switches in NORMAL.	<input type="checkbox"/> Observes BRKR 2A and 2B control switches in NORMAL	Sat/Unsat
<input type="checkbox"/> LFMG generator AND pump motor lockout AND relays are reset at RECIRCULATION SYSTEM LFMG SET AUXILIARY RELAY PANEL B35-P001A(B).	<b>Cue: When asked, report that LFMG generator &amp; pump motor lockout and relays are reset</b>	Sat/Unsat Sat/Unsat
4. At 2NPS-SWG004 (SWG005), confirm breaker 1, REACTOR RECIRCULATION PUMP MOTOR BRKR – 2A(B) 2RCS-M1A(B) is charged as indicated by yellow indicator on lower left of breaker.	<b>Cue: Acknowledge request and report that breaker 1 on both NPS-SWG004 and 005 are charged.</b>	
5. Position AND hold BRKR 5A(B) control switch to TRANSFER MG, THEN position the remaining BRKR 5B(A) control switch to TRANSFER MG	<input type="checkbox"/> Rotates BRKR 5A control switch – TRANSFER MG <input type="checkbox"/> Rotates BRKR 5B control switch – TRANSFER MG	Pass/Fail Pass/Fail
	The following annunciators alarm not requiring action: <input type="checkbox"/> 603139 "Reactor Water Level High" (in/clear)	

Performance Steps	Standard	Grade
	<ul style="list-style-type: none"> <li>❑ 603218 "OPRM Trip Enabled" (clears)</li> <li>❑ 842310 "HWC Trouble" (reflashes)</li> <li>❑ 851456 "Cnst System Trouble No Backup Pmp Available (in/clear)</li> </ul>	
6. Observe the following:		
<ul style="list-style-type: none"> <li>❑ BRKR 5A trips.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Observes BRKR 5A red light – OFF</li> <li>❑ Observes BRKR 5A green light – ON</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> <li>Sat/Unsat</li> </ul>
<ul style="list-style-type: none"> <li>❑ BRKR 5B trips.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Observes BRKR 5B red light – OFF</li> <li>❑ Observes BRKR 5B green light – ON</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> <li>Sat/Unsat</li> </ul>
<ul style="list-style-type: none"> <li>❑ BRKR 1A AND BRKR 1B close.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Observes BRKR 1A red light – ON</li> <li>❑ Observes BRKR 1A green light – OFF</li> <li>❑ Observes BRKR 1B red light – ON</li> <li>❑ Observes BRKR 1B green light – OFF</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> <li>Sat/Unsat</li> <li>Sat/Unsat</li> <li>Sat/Unsat</li> </ul>
<ul style="list-style-type: none"> <li>❑ Pump speed lowers to between 460 AND 350 rpm.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Observes speed on B35-651A and B drop &lt;460 but &gt;350 rpm</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> </ul>
<ul style="list-style-type: none"> <li>❑ BRKR 2A AND BRKR 2B close.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Observes BRKR 2A red light – ON</li> <li>❑ Observes BRKR 2A green light – OFF</li> <li>❑ Observes BRKR 2A red light – ON</li> <li>❑ Observes BRKR 2A green light – OFF</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> <li>Sat/Unsat</li> <li>Sat/Unsat</li> <li>Sat/Unsat</li> </ul>
<ul style="list-style-type: none"> <li>❑ Pump speed stabilizes at about 445 rpm.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Observes speed on B35-651A and B at about 445 rpm</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> </ul>
7. Using RECIRC LOOP A <b>AND</b> B FLOW CONTROL stations, raise output signal to 100% (about 85 on A loop % VALVE POSITION indicated).	<ul style="list-style-type: none"> <li>❑ Positions RECIRC LOOP A and B FLOW CONTROL to raise.</li> <li>❑ Observe loop A VALVE POSITION at about 85%</li> <li>❑ Observe loop B VALVE POSTION at about 95%</li> </ul>	<ul style="list-style-type: none"> <li><b>Pass/Fail</b></li> <li>Sat/Unsat</li> <li>Sat/Unsat</li> </ul>
	<p>The following annunciators alarm not requiring action:</p> <ul style="list-style-type: none"> <li>❑ 603218 "OPRM Trip Enabled" alarms</li> </ul>	
8. Monitors recirculation pump and LFMG parameters.	<ul style="list-style-type: none"> <li>❑ Observe about 73 amps on AM-2RCSA(B)60</li> <li>❑ Observe 445 rpm on B35-R651A(B).</li> <li>❑ Dispatches an Auxiliary Operator to report LFMG generator voltage and amperage.</li> </ul>	<ul style="list-style-type: none"> <li>Sat/Unsat</li> <li>Sat/Unsat</li> <li>Sat/Unsat</li> </ul>
	<p><b>Cue: As the Auxiliary Operator, report that LFMG 'A' generator indicates 1250 volts and 95 amps. Also, LFMG 'B' generator indicates 1250 volts and 94 amps.</b></p>	

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
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9. Reports that Recirc pumps have been transferred to slow speed.

**Cue: Acknowledges the report.**

**TERMINATING CUE:** Recirc pumps 1A and 1B running in slow speed.

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

Initial Conditions:

1. The plant is at 41% power.
2. The Rod line is at 60%.
3. Hydrogen injection has been secured.
4. Evaluator to ask the operator for any questions.

Initiating cue:

**RO** - "(Operator's name), "Transfer Recirc Pumps from high speed to low speed per N2-OP-29 section G.1.0."

**Candidate:**      *Direct ALL communications and announcements through the JPM Evaluator, first.*

Initial Conditions:

1. The plant is at 41% power.
2. The Rod line is at 60%.
3. Hydrogen injection has been secured.
4. Evaluator to ask the operator for any questions.

Initiating cue:

**SRO** - "(Operator's name), "Transfer Recirc Pumps from high speed to low speed."

**Candidate:**     *Direct ALL communications and announcements through the JPM Evaluator, first.*


Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: RCIC Injection With Oscillations (Faulted)

Revision: NRC 2005

Task Number: 2179150101

Approvals:

  
\_\_\_\_\_  
General Supervisor  
Operations Training (Designee)

4/21/05  
\_\_\_\_\_  
Date

NA EXAMINATION SECURITY  
\_\_\_\_\_  
General Supervisor  
Operations (Designee)

\_\_\_\_\_  
Date

NA EXAMINATION SECURITY  
\_\_\_\_\_  
Configuration Control  
Date

Performer: \_\_\_\_\_(RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform  Simulate

Evaluation Location:  Plant  Simulator

Expected Completion Time: 15 min. Time Critical Task: No Alternate Path Task: Yes

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator's Signature: \_\_\_\_\_

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



Recommended Start Location:  
Simulator

Simulator Set-up:

1. Reset to any hot IC
2. RPV pressure >300 psig
3. Malfunction RC04, TRUE, Event Trigger 049 [Relatives]  
FALSE, Event Trigger 050
4. Reactor in MODE 3 with Main Turbine off-line, or RCIC-Turbine trip bypassed.

**CAUTION: Do not use setup disk or snapshot. Load the Malfunction and relative each time, to ensure proper JPM event trigger operation.**

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SSS, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - Additional verification shall be demonstrated.

References:

1. N2-OP-35, Section F.2.0
2. NUREG K/A 217000 A4.01 3.7/3.7

Tools and Equipment:  
None

Task Standard:

RCIC Flow Controller in manual and with RCIC injecting to RPV at approximately 600 gpm.

Initial Conditions:

1. Reactor pressure is (report digital pressure reading on P603)
2. RPV level is lowering.

Initiating Cues:

"(Operator's name), initiate RCIC, inject into the RPV and establish rated flow, per N2-OP-35, Section F.2.0."

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary.</i>	Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat

**RECORD START TIME \_\_\_\_\_**

2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure.	<input type="checkbox"/> N2-OP-35 obtained. Precautions & limitations reviewed and Section F.2.0 referenced.	Sat/Unsat
3. Initiate RCIC.	<input type="checkbox"/> At P601, rotate RCIC manual initiation pushbutton collar to armed position.	<b>Pass/Fail</b>
	<input type="checkbox"/> Depress RCIC manual initiation pushbutton.	<b>Pass/Fail</b>
4. Verify RCIC System response.	<input type="checkbox"/> Verifies <b>RCIC</b> has started properly by verifying the following:	
	<input type="checkbox"/> Gland Seal System Air Compressor <b>STARTS</b> .	Sat/Unsat
	<input type="checkbox"/> ICS*MOV116, Lube Oil Cooling Water Supply, <b>OPENS</b> .	Sat/Unsat
	<input type="checkbox"/> ICS*MOV120, Turbine Steam Supply Valve, <b>OPENS</b> .	Sat/Unsat
	<input type="checkbox"/> ICS*MOV126, RCIC Pump discharge to the Reactor, <b>OPENS</b> .	Sat/Unsat
	<input type="checkbox"/> ICS*MOV143, RCIC Pump minimum flow to the Suppression Pool. <b>OPENS</b> and then <b>CLOSES</b> once discharge flow is greater than 220 gpm.	Sat/Unsat
	<input type="checkbox"/> ICS*AOV 156 and 157, RCIC Injection Outboard and Inboard Isolation Valves, <b>OPEN</b> once System Pressure is greater than Reactor Pressure.	Sat/Unsat

5. Observe and respond to failure of the RCIC System flow controller in "AUTO".	<ul style="list-style-type: none"> <li>❑ Recognizes as RCIC Flow is increasing that the flow to the Reactor Vessel is <b>OSCILLATING</b>.</li> </ul>	<b>Pass/Fail</b>
	<ul style="list-style-type: none"> <li>❑ Places ICS*FC101, RCIC Flow Controller in "MANUAL" and <b>ESTABLISHES</b> approximately 600 gpm flow rate.</li> </ul>	<b>Pass/Fail</b>
6. Reports to the SM;		
<ul style="list-style-type: none"> <li>❑ <b>RCIC</b> is injecting to the Reactor Vessel at 600 gpm in the <b>MANUAL</b> mode.</li> </ul>	<b>CUE: As the SM, respond to the Candidates report on the RCIC System.</b>	Sat/Unsat
<ul style="list-style-type: none"> <li>❑ The Flow Controller, 2ICS*FC101, <b>IS NOT</b> in the <b>AUTOMATIC</b> mode due to flow oscillations during startup of the RCIC System.</li> </ul>	<b>CUE: As the SM, respond to the Candidates report on the RCIC System.</b>	Sat/Unsat
<ul style="list-style-type: none"> <li>❑ Current Reactor Vessel Level.</li> </ul>	<b>CUE: If asked, tell the Candidate that RCIC flow is still required, and to monitor the RCIC System for any further signs of malfunctions.</b>	Sat/Unsat/ NA

**Terminating Cue:** The RCIC System is injecting in the manual mode at rated flow conditions.

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

Initial Conditions:

1. Reactor pressure is (report digital pressure reading on P603)
2. RPV level is lowering.

Initiating Cues:

“(Operator’s name), initiate RCIC per N2-OP-35, Section F.2.0, inject into the RPV and establish rated flow.”


***Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.***

Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Restore RHS in Shutdown Cooling Mode (Alternate)  
Task Number: 2050030101

Revision: NRC 2005

Approvals:

  
\_\_\_\_\_  
General Supervisor  
Operations Training (Designee)

4/21/05  
\_\_\_\_\_  
Date

NA EXAMINATION SECURITY  
\_\_\_\_\_  
General Supervisor  
Operations (Designee)

\_\_\_\_\_  
Date

NA EXAMINATION SECURITY  
\_\_\_\_\_  
Configuration Control  
Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform  Simulate

Evaluation Location:  Plant  Simulator

Expected Completion Time: 10 Mins. Time Critical Task: NO Alternate Path Task: YES

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

**NOTE:** A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator's Signature: \_\_\_\_\_

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

Recommended Start Location:

Unit 2 Simulator

Simulator Set-up:

1. Place Simulator in IC-43
2. Shutdown the 'B' RHS Loop per N2-OP-31, Section H.3.0
3. Set up the following I/O and Event Trigger: - (P14/35), ET#51.
  - a. I/O 2RHS\*MOV40B control switch (Page 14/36) in 'Neutral' and trigger (ET-51) with the red open indication for 2RHS\*MOV40B.  
(P601-B22H-S44-A, RHR Shutdown Cooling Injection Isol Vlv MOV 40B, NEUTRAL ET01)

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - Additional verification shall be demonstrated.

References:

1. N2-OP-31, Section H.3.0 and H.4.0
2. N2-ARP-01, Attachment 6, ARP for window 601648
3. NUREG 1123, 205000 A4.01 3.7/3.7 Shutdown Cooling System (RHR Shutdown Cooling Mode)

Tools and Equipment:

None required

Task Standard: RHS\*P1B tripped within 40 seconds of start

Initial Conditions:

1. Plant is in mode 4.
2. SDC Loop 'B' has been shut down per N2-OP-31, section H.3.0.
3. SDC Loop 'B' has been shut down for 15 minutes.
4. RDS Back fill is in service.
5. Instructor to ask operator for any questions.

Initiating Cues:

**RO-** "(Operator's name), Restore RHS Loop 'B' in Shutdown Cooling per N2-OP-31."

**SRO-** "(Operator's name), Restore RHS Loop 'B' in Shutdown Cooling."

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary.</i>	<input type="checkbox"/> Proper communications used for repeat back (GAP-OPS-01/Operations Manual).	Sat/Unsat

**RECORD START TIME \_\_\_\_\_**

2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure.	<input type="checkbox"/> N2-OP-31 obtained. Precautions & limitations reviewed & section H.4.0 referenced.	Sat/Unsat
3. IF RDS Backfill Injection is out of service to one OR more RPV Level reference Legs in Mode 3, THEN perform the following: a. Enter N2-OP-101C, Attachment 1. b. Perform concurrently with this Subsection to monitor for possible RPV level instrumentation notching. c. IF observed, take the proper actions.	<input type="checkbox"/> Determines that RDS backfill is in service and no action is required,	Sat/Unsat
4. CAUTION: The RHR pump is without minimum flow protection, Minimum flow of > 1000 gpm must be established within 40 seconds of pump start. Use of a stopwatch is recommended to ensure the pump is tripped within the required time if minimum flow is not achieved. Do not allow pump to run for > 15 seconds deadheaded.	<input type="checkbox"/> Obtains stopwatch.	Sat/Unsat

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
5. Start 2RHS*P1B at Panel 601.	<input type="checkbox"/> Rotates RHS*P1B control switch to start and releases to Normal-After-Start. <input type="checkbox"/> Starts the stopwatch <input type="checkbox"/> Observes control switch red flagged. <input type="checkbox"/> Observes RHS*P1B red light – ON <input type="checkbox"/> Observes RHS*P1B green light – OFF	<b>Pass/Fail</b>  Sat/Unsat Sat/Unsat Sat/Unsat Sat/Unsat
6. Throttle open RHS*MOV40B, SDC B RETURN THROTTLE to > 1000 gpm.	<input type="checkbox"/> Places RHS*MOV40B control switch to OPEN (requires key). <input type="checkbox"/> Observes RHS*MOV40B red light – ON <input type="checkbox"/> Observes RHS*MOV40B green light – ON	<b>Pass/Fail</b>  Sat/Unsat Sat/Unsat
7. IF RHS*MOV40B does not begin to open in 15 seconds OR system flow is NOT > 1000 gpm 40 seconds after pump start. Place RHS*P1B control switch to STOP, THEN release to Normal-After-Stop.	<input type="checkbox"/> Observes no rising flow indication on meter E12-R603B <input type="checkbox"/> Prior to 40 seconds after RHS*P1B is started, places RHS*P1B control switch to STOP and releases to Normal-After-Stop.	Sat/Unsat  <b>Pass/Fail</b>
8. Report to CRS inability to obtain required minimum flow on RHS*P1B and that the pump has been tripped.	<input type="checkbox"/> Report made to CRS of inability to obtain satisfactory min-flow and that RHS*P1B has been tripped.	Sat/Unsat

***Cue: As the CRS, Acknowledge the report.***

**Terminating Cue: RHS\*P1B tripped within 40 seconds of start.**

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



Initial Conditions:

1. Plant is in mode 4.
2. SDC Loop 'B' has been shut down per N2-OP-31, section H.3.0.
3. SDC Loop 'B' has been shut down for 15 minutes.
4. RDS Back fill is in service.
5. Instructor to ask operator for any questions.

Initiating Cues:

**RO-** "(Operator's name), Restart RHS Loop 'B' in Shut Down Cooling per N2-OP-31."

**Candidate:**     *Direct ALL communications and announcements through the JPM Evaluator, first.*

Initial Conditions:

1. Plant is in mode 4.
2. SDC Loop 'B' has been shut down per N2-OP-31, section H.3.0.
3. SDC Loop 'B' has been shut down for 15 minutes.
4. RDS Back fill is in service.
5. Instructor to ask operator for any questions.

Initiating Cues:

**SRO-** "(Operator's name), Restart RHS Loop 'B' in Shut Down Cooling."

**Candidate:**     *Direct ALL communications and announcements through the JPM Evaluator, first.*

Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Initiate Containment Venting Through  
Standby Gas Treatment (GTS)

Revision: NRC 2005

Task Number: 2000070501

Approvals:

 \_\_\_\_\_  
General Supervisor Date 4/21/05  
Operations Training (Designee)

NA EXAMINATION SECURITY \_\_\_\_\_  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY \_\_\_\_\_  
Configuration Control Date

Performer: \_\_\_\_\_(RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform  Simulate

Evaluation Location:  Plant  Simulator

Expected Completion Time: 15 minutes Time Critical Task: NO Alternate  
Path Task: NO

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location:

Simulator

Simulator Set-up:

This JPM can be run from any IC. No setup is required.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-OP-61A, "Primary Containment Ventilation Purge & Nitrogen System", Section H.1.0
2. NUREG K/A: 295024, EA1.20 3.5 / 3.6

Tools and Equipment:

None required

Task Standard:

SBGTS Train "A" running, aligned to the Drywell in accordance with applicable procedures.

Initial Conditions:

1. EOPs have been entered due to high suppression pool temperature.
2. Conditions require standby gas be placed on the drywell to reduce pressure.
3. Drywell and Suppression Chamber vent samples have been obtained and are satisfactory.
4. There is no Nitrogen makeup to the Primary Containment in progress.
5. Instructor to ask operator for any questions.

Initiating Cues:

**RO-** "(Operator's name), place Standby Gas Train "A" on the Drywell per N2-OP-61A, Section H.1.0."

**SRO-** "(Operator's name), place Standby Gas Train "A" on the Drywell."

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary.</i>	<input type="checkbox"/> Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat

**RECORD START TIME \_\_\_\_\_**

2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure.	<input type="checkbox"/> N2-OP-61A obtained. Precautions & Limitations reviewed & section H.1.0 referenced.	Sat/Unsat
3. IF required, as determined by Chemistry Supervision, notify Chemistry to sample the containment for the prevent acceptance criteria of ODCM Table D3.2.1-1 per Precaution and Limitation D.13.0 guidance:	<input type="checkbox"/> Determines that Chemistry samples have been obtained and analysis is completed	
4. IF time permits, concurrently with the following steps, fill out Attachment 3 for the valves operated (ODCM DSR 3.2.6.1). The listed position shall be the position of the valve following completion of the step.	<b>Cue: Time does not permit the filling out of attachment 3.</b>	
5. IF desired to reduce Drywell or Suppression Chamber pressure, open the following:		
<input type="checkbox"/> IAS*SOV168 at 2CEC*PNL851.	<input type="checkbox"/> Places IAS*SOV168 control switch clockwise to OPEN.	<b>Pass/Fail</b>
	<input type="checkbox"/> Observes IAS*SOV168 red light – ON	Sat/Unsat
	<input type="checkbox"/> Observes IAS*SOV168 green light - OFF	Sat/Unsat
<input type="checkbox"/> IAS*SOV180 at 2CEC*PNL851.	<input type="checkbox"/> Places IAS*SOV180 control switch clockwise to OPEN	<b>Pass/Fail</b>
	<input type="checkbox"/> Observes IAS*SOV180 red light – ON	Sat/Unsat
	<input type="checkbox"/> Observes IAS*SOV180 green light – OFF	Sat/Unsat

<b>Performance Steps</b>	<b>Standard</b>	<b>Grade</b>
6. Start at least one of the GTS trains by placing TRAIN A (B) INITIATION Control Switch to START position at 2CEC*PNL870 (871) AND verify the following:	<input type="checkbox"/> rotates the "Train A Initiation" switch clockwise to the start position <input type="checkbox"/> Observes Train A Initiation red light – ON <input type="checkbox"/> Observes Train A Initiation green light – OFF	<b>Pass/Fail</b>
<input type="checkbox"/> GTS*MOV1A (B), INLET FROM RX BLDG VENTILATION - Opens.	<input checked="" type="checkbox"/> Observes GTS*MOV1A red light – ON <input type="checkbox"/> Observes GTS*MOV1A green light – OFF	Sat/Unsat Sat/Unsat
<input type="checkbox"/> GTS*AOV2A (B), TRAIN A (B) INLET VLV - Opens.	<input type="checkbox"/> Observes GTS*MOV2A red light – ON <input type="checkbox"/> Observes GTS*MOV2A green light – OFF	Sat/Unsat Sat/Unsat
<input type="checkbox"/> GTS*AOV3A (B), FAN 1A (B) DISCH ISOL VLV - Opens.	<input checked="" type="checkbox"/> Observes GTS*MOV3A red light – ON <input checked="" type="checkbox"/> Observes GTS*MOV3A green light – OFF	Sat/Unsat Sat/Unsat
<input type="checkbox"/> GTS*FN1A (B), SBGTS FAN - Starts.	<input checked="" type="checkbox"/> Observes GTS*FN1A red light – ON <input type="checkbox"/> Observes GTS*FN1A green light – OFF	Sat/Unsat Sat/Unsat
7. Verify that Chemistry is standing by to <u>start</u> the sampling required <u>during</u> the vent (ODCM Table D3.2.1-1).	<input type="checkbox"/> Requests Chemistry Technician commence sampling	Sat/Unsat
	<b><i>Cue: If requested, inform Operator that Chemistry has started sampling during the vent.</i></b>	
8. IF GTS operation is affecting Reactor Building differential pressure, adjust controller 2GTS*PDIK5A (B), REACTOR BLDG INLET/OUTLET DIFF PRESS, to throttle 2GTS*PV5A (B), RX BLDG PRESSURE CONTROL as necessary.	<input type="checkbox"/> Verify Reactor Building pressure $\leq$ -.6" WG on GTS*PDIK5A. <input checked="" type="checkbox"/> If necessary, throttle pressure valve 2GTS*PDIK5A as necessary to maintain $\leq$ -.6" WG Reactor Building pressure.	Sat/Unsat <b>Pass/Fail</b>

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
9. At CEC*PNL873, verify the following valves closed:		
<input type="checkbox"/> CPS*AOV104	<input type="checkbox"/> Observe CPS*AOV104 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV104 red light – OFF	Sat/Unsat
<input type="checkbox"/> CPS*AOV105	<input type="checkbox"/> Observe CPS*AOV105 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV105 red light – OFF	Sat/Unsat
<input type="checkbox"/> CPS*AOV110	<input type="checkbox"/> Observe CPS*AOV110 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV110 red light – OFF	Sat/Unsat
<input type="checkbox"/> CPS*AOV111	<input type="checkbox"/> Observe CPS*AOV111 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV111 red light – OFF	Sat/Unsat
<input type="checkbox"/> GTS*SOV102	<input type="checkbox"/> Observe CPS*AOV102 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV102 red light – OFF	Sat/Unsat
<input type="checkbox"/> GTS*AOV101	<input type="checkbox"/> Observe CPS*AOV101 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV101 red light – OFF	Sat/Unsat
10. At CEC*PNL875, verify the following valves closed:		
<input type="checkbox"/> CPS*AOV106	<input type="checkbox"/> Observe CPS*AOV106 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV106 red light – OFF	Sat/Unsat
<input type="checkbox"/> CPS*SOV132/AOV107	<input type="checkbox"/> Observe CPS*SOV132/AOV107 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*SOV132/AOV107 red light – OFF	Sat/Unsat
<input type="checkbox"/> CPS*AOV108	<input type="checkbox"/> Observe CPS*AOV108 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*AOV108 red light – OFF	Sat/Unsat
<input type="checkbox"/> CPS*SOV133/AOV109	<input type="checkbox"/> Observe CPS*SOV133/AOV109 green light – ON	Sat/Unsat
	<input type="checkbox"/> Observe CPS*SOV133/AOV109 red light – OFF	Sat/Unsat
11. Notify Chemistry to start ODCM required sampling.	<b><i>Cue: If requested, inform Operator that Chemistry has started sampling during the vent.</i></b>	

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
12. At CEC*PNL873, open 2GTS*SOV102.	<input type="checkbox"/> Rotates 2GTS*SOV102 control switch clockwise to – OPEN <input checked="" type="checkbox"/> Observe 2GTS*SOV102 red light – ON <input type="checkbox"/> Observe 2GTS*SOV102 green light – OFF	<b>Pass/Fail</b> Sat/Unsat Sat/Unsat
13. At CEC*PNL873/875, open the following:		
<input type="checkbox"/> CPS*AOV108	<input type="checkbox"/> Rotate CPS*AOV108 control switch clockwise to OPEN <input type="checkbox"/> Observe CPS*AOV108 red light – ON <input type="checkbox"/> Observe CPS*AOV108 green light – OFF	<b>Pass/Fail</b> Sat/Unsat Sat/Unsat
<input type="checkbox"/> CPS*AOV110	<input type="checkbox"/> Rotate CPS*AOV110 control switch clockwise to OPEN <input checked="" type="checkbox"/> Observe CPS*AOV110 red light – ON <input type="checkbox"/> Observe CPS*AOV110 green light – OFF	<b>Pass/Fail</b> Sat/Unsat Sat/Unsat
14. Reports that GTS Train A is running on the Drywell.	<b>Cue: Acknowledge the report</b>	

**TERMINATING CUE:** SBGTS Train “A” running on the Drywell.

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



Initial Conditions:

1. EOPs have been entered due to high suppression pool temperature.
2. Conditions require standby gas be placed on the drywell to reduce pressure.
3. Drywell and Suppression Chamber vent samples have been obtained and are satisfactory.
4. There is no Nitrogen makeup to the Primary Containment in progress.
5. Instructor to ask operator for any questions.

Initiating Cues:

**RO-** "(Operator's name), place Standby Gas Train "A" on the Drywell per N2-OP-61A, Section H.1.0."

*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*

Initial Conditions:

1. EOPs have been entered due to high suppression pool temperature.
2. Conditions require standby gas be placed on the drywell to reduce pressure.
3. Drywell and Suppression Chamber vent samples have been obtained and are satisfactory.
4. There is no Nitrogen makeup to the Primary Containment in progress.
5. Instructor to ask operator for any questions.

Initiating Cues:

**SRO-** "(Operator's name), place Standby Gas Train "A" on the Drywell."

*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*

Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Energize Reserve Station Transformer 1B and NPS-SWG003. Revision: NRC 2005  
Task Number: 2000350501

Approvals:

D. [Signature]      4/21/05  
General Supervisor      Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
General Supervisor      Date  
Operations (Designee)

NA EXAMINATION SECURITY  
Configuration Control      Date

Performer: \_\_\_\_\_(RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform      \_\_\_\_\_ Simulate

Evaluation Location: \_\_\_\_\_ Plant       Simulator

Expected Completion Time: 20 minutes      Time Critical Task: NO      Alternate  
Path Task: NO

Start Time: \_\_\_\_\_      Stop Time: \_\_\_\_\_      Completion Time: \_\_\_\_\_

JPM Overall Rating:      Pass      Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location:

Simulator

Simulator Set-up:

Reset to IC 46

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-SOP-03

Tools and Equipment:

1. None

Task Standard:

Reserve Transformer 1B energized from Line 6 and NPS-SWG003 and NNS-SWG013 energized from Reserve Transformer 1B.

Initial Conditions:

1. The plant experienced a Loss of Line 6.
2. The plant was manually scrambled.
3. Immediate and Subsequent Actions of N2-SOP-3 are complete.
4. Fault Identification and Isolation per Attachment 1 Section 1.4 are complete.
5. Power has been restored to Line 6 and Power Control has verified its reliability.
6. Ask the operator for any questions.

Initiating cue:

**RO-** " (Operator's name), Energize Reserve Station Transformer 1B from Line 6, then restore power to

2NPS-SWG003 and NNS-SWG013 per N2-SOP-3 Attachment 1 Section 1.5 Power Restoration."

**SRO-** " (Operator's name), Energize Reserve Station Transformer 1B from Line 6, then restore power to

2NPS-SWG003 and NNS-SWG013 per N2-SOP-3."

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	<input type="checkbox"/> Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat
<b>RECORD START TIME _____</b>		
2. Obtain a copy of the reference procedure and review/utilize the correct section.	<input type="checkbox"/> N2-SOP-3 obtained. Precautions & Limitations are reviewed and Attachment 1 Section 1.5 referenced.	Sat/Unsat
3. Review Attachment 1 Section 1.5 Power Restoration to determine applicable Attachment to Energize Reserve Transformer 1B	<input type="checkbox"/> Per step 1.5.2, determines performance of Attachment 6 is required.	Sat/Unsat
4. At Panel 808 (CB 288'), verify reset 86-2SPRY01 (RES STA SER XFMR 1B PRIM PROT LO RELAY).	<input type="checkbox"/> Verifies 86 device is reset <b><i>Cue: If asked, inform the candidate that 86-SPRY01 is reset.</i></b>	Sat/Unsat
5. At Panel 809 (CB 288'), verify reset 86-2SPRZ08 (RES STA SER XFMR 1B BU PROT LOCKOUT RELAY).	<input type="checkbox"/> Verifies 86 device is reset <b><i>Cue: If asked, inform the candidate that 86-SPRZ08 is reset.</i></b>	Sat/Unsat
6. Determine step 6.2 is N/A	<input type="checkbox"/> Marks N/A block for step 6.2	Sat/Unsat
7. Determine section 6.3 is applicable	<input type="checkbox"/> Carries out the actions of section 6.3	Sat/Unsat

Performance Steps	Standard	Grade
8. Close MDS2 - (115 KV MOD SWITCH 63) LINE 6.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Places MDS2 control switch to CLOSE</li> <li><input type="checkbox"/> Observes MDS2 red light – ON</li> <li><input type="checkbox"/> Observes MDS2 green light – OFF</li> </ul>	<p><b>Pass/Fail</b></p> <p>Sat/Unsat</p> <p>Sat/Unsat</p>
9. Close MDS4 - (115 KV CIRCUIT SWITCHER CKT SWITCH 38).	<ul style="list-style-type: none"> <li><input type="checkbox"/> Places MDS4 control switch from PULL-TO-LOCK to NORMAL-AFTER-OPEN</li> <li><input type="checkbox"/> Places MDS4 control switch to CLOSE</li> <li><input type="checkbox"/> Observes MDS4 red light – ON</li> <li><input type="checkbox"/> Observes MDS4 green light – OFF</li> </ul> <p>The following annunciators clear with no required action:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 852421 "MOT Operator CKT 2YUC-MDS4"</li> <li><input type="checkbox"/> 852435 "RES STA SER XFMR 1B Loss of Voltage"</li> </ul>	<p><b>Pass/Fail</b></p> <p><b>Pass/Fail</b></p> <p>Sat/Unsat</p> <p>Sat/Unsat</p>
10. IF required, place in Normal-After-Trip 2NPS-SWG003-1.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Places 3-1 control switch from PULL-TO-LOCK to NORMAL-AFTER-TRIP.</li> <li><input type="checkbox"/> Observes 3-1 green light – ON</li> </ul>	<p><b>Pass/Fail</b></p> <p>Sat/Unsat</p>
11. Return to Attachment 1 Section 1.5.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Per step 1.5.8, determines performance of Attachment 7 is required.</li> </ul>	<p>Sat/Unsat</p>
12. Step 7.1 Prerequisites	<p><b>Cue: If asked, 7.1.4 lockouts have been verified reset. Step 7.1, Prerequisites, are completed</b></p>	
12. Determines section 7.2 is applicable	<ul style="list-style-type: none"> <li><input type="checkbox"/> Carries out the actions of section 7.2</li> </ul>	<p>Sat/Unsat</p>
13. Place 3-14 in Pull-to-Lock.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Places 3-14 control switch in PULL-TO-LOCK</li> <li><input type="checkbox"/> Observes 3-14 green/red lights – OFF</li> </ul> <p>The following annunciator clears with no required action:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 852560 "13.8KV Bus NPS003 ACB 3-1/14/16 Auto Trip/FTC"</li> </ul>	<p><b>Pass/Fail</b></p> <p>Sat/Unsat</p>
14. Place the SYNC switch to ON (SYNCHRONIZE RES STA SVCE XFMR 1B).	<ul style="list-style-type: none"> <li><input type="checkbox"/> Rotates the SYNC switch to ON</li> </ul>	<p><b>Pass/Fail</b></p>

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
15. Close 3-1.	<input type="checkbox"/> Rotates 3-1 control switch to CLOSE <input type="checkbox"/> Observes 3-1 red light – ON <input type="checkbox"/> Observes 3-1 green light – OFF Numerous annunciators clear. Numerous annunciators alarm. Numerous annunciators reflash. None of these requires action.	<b>Pass/Fail</b>  Sat/Unsat Sat/Unsat
16. Place the SYNC switch to OFF.	<input type="checkbox"/> Rotates the SYNC switch to OFF	<b>Pass/Fail</b>
17. Close 13-6.	<input type="checkbox"/> Rotates 13-6 control switch from PULL-TO-LOCK to NORMAL-AFTER-TRIP. <input type="checkbox"/> Observes 13-6 green light – ON <input type="checkbox"/> Rotates 13-6 control switch to CLOSE <input type="checkbox"/> Observes 13-6 red light – ON <input type="checkbox"/> Observes 13-6 green light – OFF The following annunciator clears with no required action: <input type="checkbox"/> 852527 “4KV Bus NNS 013 Undervoltage”	<b>Pass/Fail</b>  Sat/Unsat <b>Pass/Fail</b>  Sat/Unsat Sat/Unsat
18. Return to Attachment 1 Section 1.5.		
19. Reports that Reserve Station Transformer 1B is energized from Line 6, and 2NPS-SWG003 & NNS-SWG013 are energized from Reserve Station Transformer 1B	<b>Cue: Acknowledge report.</b>	

**TERMINATING CUE:** Reserve Station Transformer 1B Powered from Line 6, and NPS-SWG003 & NPS-SWG013 are energized from Reserve Station Transformer 1B.

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

\_\_\_\_\_

Initial Conditions:

1. The plant experienced a Loss of Line 6.
2. The plant was manually scrambled.
3. Immediate and Subsequent Actions of N2-SOP-3 are complete.
4. Fault Identification and Isolation per Attachment 1 Section 1.4 are complete.
5. Power has been restored to Line 6 and Power Control has verified its reliability.
6. Ask the operator for any questions.

Initiating cue:

**RO-** “ (Operator’s name), Energize Reserve Station Transformer 1B from Line 6, then restore power to 2NPS-SWG003 and NNS-SWG013 per N2-SOP-3 Attachment 1 Section 1.5 Power Restoration.”

*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*



Initial Conditions:

1. The plant experienced a Loss of Line 6.
2. The plant was manually scrambled.
3. Immediate and Subsequent Actions of N2-SOP-3 are complete.
4. Fault Identification and Isolation per Attachment 1 Section 1.4 are complete.
5. Power has been restored to Line 6 and Power Control has verified its reliability.
6. Ask the operator for any questions.

Initiating cue:

**SRO-** " (Operator's name), Energize Reserve Station Transformer 1B from Line 6, then restore power to 2NPS-SWG003 and NNS-SWG013 per N2-SOP-3."

*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*


Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: PERFORM TURBINE CONTROL VALVE (CV2 and 3)  
CYCLING SURVEILLANCE

Revision: NRC 2005

Task Number: 2129050201

Approvals:

 4/21/05  
General Supervisor Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY  
Configuration Control Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform  Simulate

Evaluation Location:  Plant  Simulator

Expected Completion Time: 25 minutes Time Critical Task: NO Alternate Path Task: YES

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location:

Simulator

Simulator Set-up:

1. Reset to a full power IC (such as IC-20).
2. Malfunction RP02,TRUE F3

Directions to Evaluator:

1. Reduce recirc flow to reduce power to 85 % by APRM's
2. Set the MAX COMBINED FLOW LIMITER to 7.50.
3. This JPM will require an instructor to role-play as a second RO. The second RO will hold the test pushbutton, allowing the candidate to verify indications.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-OSP-RPS-Q001
2. NUREG K/A 212000 A2.03 3.5/3.5

Tools and Equipment:

1. None

Task Standard:

Cycle CV3 results in a RPS failure, then insert a manual trip of RPS B2 logic.

Initial Conditions:

1. The plant is at 85% power.
2. No equipment is out of service.
3. N2-OSP-RPS-Q001 Control Valve Cycling surveillance is in progress.
4. Testing for Control Valve CV1 is complete.
5. A second RO is available to assist with surveillance performance.
6. Ask the operator for any questions.

Initiating cue:

“(Operator’s name), Continue performing Turbine Control Valve Cycling per N2-OSP-RPS-Q001 for CV2 and CV3. The surveillance is in progress and step 8.1.5.1, in preparation for cycling CV2, is the next step to be performed.”

Performance Steps	Standard	Grade
-------------------	----------	-------

- |  |  |           |
|--|--|-----------|
| 1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i> | <input type="checkbox"/> Proper communications used for repeat back (GAP-OPS-O1) | Sat/Unsat |
|--|--|-----------|

**RECORD START TIME \_\_\_\_\_**

- |  |  |           |
|--|--|-----------|
| 2. Provide candidate with a marked-up working copy of Surveillance Test N2-OSP-RPS-Q001. | <input type="checkbox"/> N2-OSP-RPS-Q001 section 8.0 is referenced | Sat/Unsat |
| 3. Commences test at step 8.1.5.1  | <input type="checkbox"/> Commences test at step 8.1.5.1            | Sat/Unsat |
|  | <input type="checkbox"/> Verifies no trips on RPS B trip system.   | Sat/Unsat |

**NOTES:**

- |   |  |                  |
|---|--|------------------|
| 4. Closing 2MSS-CV2 may cause bypass valve(s) to open to maintain pressure. | <input type="checkbox"/> Informs CRS and/or CSO of expected annunciators | Sat/Unsat/<br>NA |
|---|--|------------------|

Closing 2MSS-CV2 will cause the following annunciators to alarm:

- 603104 RPS A TURB CONT VLV FAST CLOSE TRIP
- 603110 RPS A AUTO TRIP

**Cue: As the CRS/CSO acknowledge the annunciator report.**

- |   |  |                  |
|---|--|------------------|
| 5. Depress and HOLD, CV-2 TEST pushbutton, (hold depressed until directed to release), when position indicator indicates valve is fully closed (0% indicated), verify following alarms and indications: | <input type="checkbox"/> Depresses the CV-2 TEST pushbutton on panel 2CEC*PNL842 | <b>Pass/Fail</b> |
|---|--|------------------|

**Cue: Instructor role play to hold the TEST pushbutton allowing the candidate to verify indications.**

- |  |   |           |
|--|---|-----------|
| <input type="checkbox"/> Annunciator 603104 RPS A TURB CONT VLV FAST CLOSE TRIP alarmed. | <input type="checkbox"/> Observes 603104 annunciator window is lit. | Sat/Unsat |
|--|---|-----------|

Performance Steps	Standard	Grade
<input type="checkbox"/> Annunciator 603110 RPS A AUTO TRIP alarmed.	<input type="checkbox"/> Observes 603110 annunciator window is lit.	Sat/Unsat
<input type="checkbox"/> PILOT SCRAM VALVE SOLENOIDS A,C,E,G indicating lights on 2CEC*PNL603 are OFF.	<input type="checkbox"/> Observes Pilot SCRAM valve solenoids white lights A, C, E & G – OFF	Sat/Unsat
<input type="checkbox"/> REACTOR SCRAM TRIP LOGIC A1 indicating light on 2CEC*PNL609 is OFF.	<b>Cue: If asked, state that the Reactor SCRAM Trip Logic A1 white light Located on P609 is OFF.</b>	Sat/Unsat
<input type="checkbox"/> RECIRC PUMP TRIP SYSTEM A indicating light C72A-DS7 on 2CEC*PNL609 is OFF, C72A-DS8 on 2CEC*PNL611 becomes brighter.	<b>Cue: If asked, state that the Recirc Pump Trip System B light C72A-DS7 on P609 is OFF and C72A-DS8 on P611 is BRIGHTER.</b>	Sat/Unsat
<input type="checkbox"/> Process points MSSUC09 and RPSUC03 are generated.	<input type="checkbox"/> Observes computer alarms MSSUC09 and RPSUC03 on the process computer	Sat/Unsat
<b>NOTES:</b>		
Opening 2MSS-CV2 will cause the following annunciators to clear:	<input type="checkbox"/> Informs CRS and/or CSO of expected annunciators	Sat/Unsat
<input type="checkbox"/> 603104 RPS A TURB CONT VLV FAST CLOSE TRIP <input type="checkbox"/> 603110 RPS A AUTO TRIP	<b>Cue: As the CRS/CSO acknowledge the annunciator report.</b>	
6. Release CV-2 Test pushbutton and observe position indicator until valve returns to pre-test position.	<input type="checkbox"/> Release CV-2 Test pushbutton	Sat/Unsat
7. At panel 2CEC*PNL603 reset REACTOR SCRAM RESET LOGIC A.	<input type="checkbox"/> At P603 resets RPS A trip using channel A and C reset switches	<b>Pass/Fail</b>
8. Verify following alarms and indications are in indicated status:	Observes the following:	
<input type="checkbox"/> Annunciator 603104 RPS A TURB CONT VLV FAST CLOSE TRIP is clear.	<input type="checkbox"/> Annunciator 603104 RPS A TURB CONT VLV FAST CLOSE TRIP is clear.	Sat/Unsat
<input type="checkbox"/> Annunciator 603110 RPS A AUTO TRIP is cleared.	<input type="checkbox"/> Annunciator 603110 RPS A AUTO TRIP is cleared.	Sat/Unsat
<input type="checkbox"/> PILOT SCRAM VALVE SOLENOIDS A,C,E,G indicating lights on 2CEC*PNL603 are ON.	<input type="checkbox"/> PILOT SCRAM VALVE SOLENOIDS A,C,E,G indicating lights on 2CEC*PNL603 are ON.	Sat/Unsat

Performance Steps	Standard	Grade
<input type="checkbox"/> RECIRC PUMP TRIP SYSTEM A indicating light C72A-DS7 on 2CEC*PNL609 is ON, C72A-DS8 on 2CEC*PNL611 return to normal brightness.	<input type="checkbox"/> RECIRC PUMP TRIP SYSTEM A indicating light C72A-DS7 on 2CEC*PNL609 is ON, C72A-DS8 on 2CEC*PNL611 return to normal brightness.	Sat/Unsat
<b><i>Cue: If asked, state that the Recirc Pump Trip System B light C72A-DS7 on P609 and C72A-DS8 on P611 have returned to normal brightness.</i></b>		
<input type="checkbox"/> Process points MSSUC09 and RPSUC03 are reset.	<input type="checkbox"/> Process points MSSUC09 and RPSUC03 are reset.	Sat/Unsat

**CONSOLE OPERATOR**

**WHEN RPS A is reset enter malfunction RP02 by depressing F3 Key, to prevent RPS B from tripping when CV3 is tested.**

*The following section cycles CV3*

**NOTES:**

1. Closing 2MSS-CV3 may cause bypass valve(to open to maintain pressure.

2. Closing 2MSS-CV3 will cause following annunciators to alarm:

603404 RPS B TURB CONT VLV  
FAST CLOSE TRIP

603410 RPS B AUTO TRIP

9. Verify no trip signals exist in RPS A Trip System.	<input type="checkbox"/> Observes no red annunciators lit on panel 603.	Sat/Unsat
10. Notify CSO of trip to be received in RPS B Trip System.	<input type="checkbox"/> Notifies the CSO of expected half scram initiation in RPS A Trip System.	Sat/Unsat
<b><i>Cue: Acknowledge that a half scram will be received.</i></b>		
11. Depress and HOLD, CV-3 TEST pushbutton, (hold depressed until directed to release), when position indicator indicates valve is fully closed (0% indicated), verify following alarms and	<input type="checkbox"/> Depresses the CV-3 TEST pushbutton on panel 2CEC*PNL842.	<b>Pass/Fail</b>
<b><i>Cue: Instructor role play to hold the</i></b>		

Performance Steps	Standard	Grade
indications:	<b>TEST pushbutton allowing the candidate to verify indications.</b>	
<input type="checkbox"/> Annunciator 603404 RPS B TURB CONT VLV FAST CLOSE TRIP alarmed.	<input type="checkbox"/> Observes 603404 annunciator window is lit.	Sat/Unsat
<input type="checkbox"/> Annunciator 603410 RPS B AUTO TRIP alarmed.	<input type="checkbox"/> Observes 603410 annunciator window is <b>extinguished.</b>	Sat/Unsat
<input type="checkbox"/> PILOT SCRAM VALVE SOLENOIDS B, D, F, H indicating lights on 2CEC*PNL603 are OFF.	<input type="checkbox"/> Observes Pilot SCRAM valve solenoids white lights B, D, F, H – <b>ON.</b>	Sat/Unsat
<input type="checkbox"/> REACTOR SCRAM TRIP LOGIC B2 indicating light on 2CEC*PNL611 is OFF.	<b>Cue: If asked, state that the Reactor SCRAM Trip Logic B2 white light Located on P611 is ON</b>	Sat/Unsat
<p>The next two items may not be physically checked, since the failure is now identified and transition to N2-SOP-97 is appropriate.</p>		
<input type="checkbox"/> RECIRC PUMP TRIP SYSTEM B indicating light C72A-DS15 on 2CEC*PNL609 is OFF, C72A-DS13 on 2CEC*PNL611 becomes brighter.	<b>Cue: If asked, state that the Recirc Pump Trip System B light C72A-DS15 on P609 is OFF and C72A-DS13 on P611 is BRIGHTER.</b>	Sat/Unsat/ NA
<input type="checkbox"/> Process points MSSUC12 and RPSUC04 are generated.	<input type="checkbox"/> Observes computer alarms MSSUC12 and RPSUC04 on the process computer.	Sat/Unsat/ NA
12. Reports to the SM that RPS B did not trip and/or RPS B, D, F, H white lights are still ON.	<b>Cue: As the SM, acknowledge the report of the failure of RPS B to trip.</b>  <b>Cue: If asked, inform the candidate to take the appropriate action.</b>	Sat/Unsat
13. Obtains a copy of N2-SOP-97 flow chart.	<input type="checkbox"/> References N2-SOP-97 flow chart	Sat/Unsat
14. Stop any half scram <u>OR</u> isolation testing	<input type="checkbox"/> Notifies the SM to stop half scram or isolation testing.  NOTE: The candidate may also notify the CRS, or just make the decision that the surveillance test has already been stopped and not inform anyone.  <b>Cue: As the SM, acknowledge the request.</b>	Sat/Unsat

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
15. What was the cause?	<input type="checkbox"/> Determines the cause of the RPS failure is a FAILURE TO TRIP	Sat/Unsat
16. Arm and Depress manual scram switches for the affected channel	<input type="checkbox"/> Rotate REACTOR SCRAM B2 collar clockwise to the ARMED position.	<b>Pass/Fail</b>
	<input type="checkbox"/> Depress REACTOR SCRAM B2 pushbutton.	<b>Pass/Fail</b>
17. Verify the following indications:		
<input type="checkbox"/> PILOT SCRAM SOLENOIDS B, D, F & H indicating lights on 2CEC*PNL603 are OFF	<input type="checkbox"/> Observes Pilot SCRAM valve solenoids white lights B, D, F & H – OFF.	Sat/Unsat
<input type="checkbox"/> REACTOR SCRAM TRIP LOGIC B2 indicating light on 2CEC*PNL611 is OFF	<b>Cue: When asked, state that the Reactor SCRAM Trip Logic B2 white light located on P611 is OFF</b>	Sat/Unsat
18. Reports that RPS B is tripped.	<b>CUE: Acknowledge the report.</b>	

**TERMINATING CUE:** Cycle CV3 results in a RPS failure, then insert a manual trip of RPS B2 logic.

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

\_\_\_\_\_



Initial Conditions:

1. The plant is at 85% power.
2. No equipment is out of service.
3. A second RO is available to assist with surveillance performance.
4. Ask the operator for any questions.

Initiating cue:

“(Operator’s name), Continue performing Turbine Control Valve Cycling per N2-OSP-RPS-Q001 for CV2 and CV3. The surveillance is in progress and step 8.1.5.1, in preparation for cycling CV2, is the next step to be performed.”


*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*

Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Shift Running Instrument Air Compressors (Faulted)  
Task Number: 2780040101

Revision: NRC 2005

Approvals:

 4/21/05  
General Supervisor Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY  
Configuration Control Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform  Simulate

Evaluation Location:  Plant  Simulator

Expected Completion Time: 15 minutes Time Critical Task: NO Alternate Path Task: Yes

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location:  
Simulator

Simulator Set-up:

1. Reset to IC20 or equivalent
2. Verify A-B-C air compressor line-up
3. Enter the following Malfunctions:
  - IA02A, 2IAS-C3A Thermal Overload Trip, TUA = 5 sec ET77
  - IA02B, 2IAS-C3B Thermal Overload Trip, TUA = 1 min ET77
4. Enter the following Instructor Overrides:
  - P851-1B-2IASA01-A, Instrument Air Compressor Selector SW, POS\_4, TUA = 15 sec ET77 (P11/21)
  - P851-1B-2IASA01-A, Instrument Air Compressor Selector SW, POS\_3, ET91 (P11/21)

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-OP-19, Section F.2.0
2. N2-SOP-19
3. NUREG K/A 295019 AA2.01 3.5/3.6

Tools and Equipment:

1. None

Task Standard: IAS-C3C is running and IAS header pressure has recovered above alarm setpoint.

Initial Conditions:

1. The plant is operating at 41% power.
2. 2IAS-C3A is operating but degraded.
3. IAS 120VAC remains energized.
4. Ask the operator for any questions.

Initiating cue:

**RO** - "(Operator's name), Shift Instrument Air Compressors from 'A' running to 'B' running per N2-OP-19 Section

F.2.0.

**SRO**- "(Operator's name), Shift Instrument Air Compressors from 'A' running to 'B'.

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat

**RECORD START TIME \_\_\_\_\_**

2. •Obtain a copy of the reference procedure and review/utilize the correct section.	N2-OP-19 obtained. Precautions & Limitations reviewed and section F.2.0 referenced.	Sat/Unsat
3. For the oncoming 2IAS –C3B: • Verify OFF/OPERATE switch in OPERATE • Verify UNLOAD/NORMAL switch in NORMAL • Confirm fault indicator lamps extinguished	<input type="checkbox"/> Requests an in-plant operator to verify that IAS-C3B is ready to start.  <b><i>Cue: As an operator at the Air Compressor, report that the OFF/OPERATE switch is in OPERATE, the UNLOAD/NORMAL switch is in NORMAL, and all fault indicator lights are OFF</i></b>	Sat/Unsat
4. Slowly open 2CCP-V523	<input type="checkbox"/> Request that the in-plant operator slowly open 2CCP-V523  <b><i>Cue: As an in-plant operator report that 2CCP-V523 is open</i></b>	Sat/Unsat
5. Select 2IAS-C3B as LEAD on Instrument Air Compressor Selector at P851	<input type="checkbox"/> Rotates Instrument Air Compressor Selector Switch to BCA position	<b>Pass/Fail</b>
6. Place 2IAS-C3B control switch in Normal-After Start at P851	<input type="checkbox"/> Rotates IAS-C3B control switch to START <input type="checkbox"/> Observes IAS-C3B red light – ON <input type="checkbox"/> Observes IAS-C3B green light – OFF <input type="checkbox"/> Observes AM-2IASB03 amps – rise to 280 amps and drop back to 175 amps.	Sat/Unsat Sat/Unsat Sat/Unsat
	<input type="checkbox"/> Releases IAS-C3B to the NORMAL-AFTER-START	<b>Pass/Fail</b>

Performance Steps	Standard	Grade
7. IAS-C3A trips on thermal overload	<ul style="list-style-type: none"> <li><input type="checkbox"/> Observes Annunciator 851228, INSTR AIR CPSR 3A/3B/3C AUTO START/ FAIL TO TRIP – LIT</li> <li><input type="checkbox"/> Observes IAS-C3A green light – ON</li> <li><input type="checkbox"/> Observes IAS-C3A red light – OFF</li> <li><input type="checkbox"/> Observes AM-2IASA03 amps – 0</li> </ul> <p>NOTE: Annunciators 851259, INST AIR COMPRESSOR CLG WTR FLOW LOW, and 851260, INST AIR COMPRESSOR COOLING SYS TROUBLE may alarm. These annunciators are of no consequence to the JPM, and the candidates may not responds to them.</p>	Sat/Unsat Sat/Unsat Sat/Unsat Sat/Unsat
8. •Reports to the CRS that IAS-3CA has tripped on thermal overload/motor electrical fault	<b>Cue: Acknowledge the report of IAS-C3A trip</b>	Sat/Unsat
9. •Obtains and references ARP 851228	<ul style="list-style-type: none"> <li><input type="checkbox"/> Enter N2-SOP-19</li> <li><input type="checkbox"/> May dispatch an operator to check the running and tripped air compressor</li> <li><input type="checkbox"/> Rotates and pulls IAS-C3A control switch to PULL-TO-LOCK</li> <li><input type="checkbox"/> Verify the Instrument Air Compressor Selector in the BCA position</li> </ul> <p>NOTE: If IAS-C3A control switch is placed in PULL-TO-LOCK prior to the trip of IAS-C3B, annunciator 851228 will alarm.</p>	Sat/Unsat Sat/Unsat Sat/Unsat Sat/Unsat
10. •IAS-C3B Trips	<ul style="list-style-type: none"> <li><input type="checkbox"/> Observes IAS-C3B green light – ON</li> <li><input type="checkbox"/> Observes IAS-C3B red light – OFF</li> </ul>	Sat/Unsat Sat/Unsat
11. •Reports to the CRS that IAS-3CB has tripped on thermal overload/motor electrical fault	<b>Cue: Acknowledge the report of IAS-C3B trip</b>	Sat/Unsat
12. •Obtains and references N2-SOP-19	<ul style="list-style-type: none"> <li><input type="checkbox"/> Determines the air compressors are tripped or degraded</li> </ul>	Sat/Unsat
13. •Loss of all air compressors due to slow transfer or loss of control power?	<ul style="list-style-type: none"> <li><input type="checkbox"/> Determines that electrical power and control power remain available</li> </ul>	Sat/Unsat
14. •Annunciator 851229, INSTR AIR SYSTEM TROUBLE sounds.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Recognizes that IAS pressure is less than 90 psig.</li> <li><input type="checkbox"/> Recognizes that IAS-C3C did not automatically start.</li> </ul>	Sat/Unsat Sat/Unsat

Performance Steps	Standard	Grade
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15. •If required start/verify auto started air compressors

16. Select IAS-C3C as the LEAD on the Instrument Air Compressor Selector Switch.

Rotates Instrument Air Compressor Selector Switch to the CAB position.

**Pass/Fail**

17. Place 2IAS-C3C control switch in Normal-After Start.

Rotates IAS-C3C control switch to START

**Pass/Fail**

Observes IAS-C3C red light – ON

Sat/Unsat

Observes IAS-C3C green light – OFF

Sat/Unsat

Observes AM-2IAS-C03 amps – rise to 280 amps and drop back to 175 amps.

Sat/Unsat

Releases IAS-C3C to the NORMAL-AFTER-START

**Pass/Fail**

18. Pressure Restored?

Observes 2IAS-PI101 pressure indication rising.

Sat/Unsat

19. Notifies the CRS Instrument Air Compressor 'C' did not start automatically. Instrument Air Compressor 'C' was manually started and Instrument Air pressure is recovering

**Cue: As the CRS, Acknowledge the report**

Sat/Unsat

End of JPM

**TERMINATING CUE:** IAS-C3C is running and IAS header pressure has recovered above alarm setpoint.

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

Initial Conditions:

1. The plant is operating at 41% power.
2. 2IAS-C3A is operating but degraded.
3. IAS 120VAC remains energized.
4. Ask the operator for any questions.

Initiating cue:

**RO -** "(Operator's name), Shift Instrument Air Compressors from 'A' running to 'B' running per N2-OP-19 Section F.2.0.

**Candidate:** *Direct ALL communications and announcements through the JPM Evaluator, first.*

Initial Conditions:

1. The plant is operating at 41% power.
2. 2IAS-C3A is operating but degraded.
3. IAS 120VAC remains energized.
4. Ask the operator for any questions.

Initiating cue:

**SRO-** "(Operator's name), Shift Instrument Air Compressors from 'A' running to 'B'.

**Candidate:**     *Direct ALL communications and announcements through the JPM Evaluator, first.*



Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Manual Initiation of the Control Building Special Filter Train

Revision: NRC 2005

Task Number: 28800201012

Approvals:

[Signature] 4/24/05  
General Supervisor Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY  
Configuration Control Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method:  Perform  Simulate

Evaluation Location:  Plant  Simulator

Expected Completion Time: 15 minutes Time Critical Task: NO Alternate Path Task: NO

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location: (Completion time based on the start location)

Simulator

Simulator Set-up (if required):

Any IC as long as no LOCA or LOOP exists that will automatically start Control Building Special Filter Train.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-OP-53A, Rev 08, Control Building Ventilation System
2. NUREG K/A 290003 A4.01 (3.2/3.2), 295038 EA1.07 (3.6/3.8)

Tools and Equipment:

1. None

Task Standard:

Control Building Special Filter Train A operating in the filtration mode

Initial Conditions:

1. EOP-MSL has been entered.
2. Control Building radiation levels are 6E-6 mci/cc and rising
3. Ask the candidate if they have any questions.

Initiating Cues:

**RO-** "(Operator's name), manually initiate Control Building Special Filter Train A per N2-OP-53A, section H.6.0."

**SRO-** "(Operator's name), manually initiate Control Building Special Filter Train A"

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	<input type="checkbox"/> Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat
<b>RECORD START TIME _____</b>		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure.	<input type="checkbox"/> N2-OP-53A obtained. Precautions & limitations reviewed & section H.6.0 referenced.	Sat/Unsat
3. Close HVC*MOV1A, CONTROL ROOM AC FLT TRAIN BYP VLV at 2CEC*PNL870.	<input type="checkbox"/> Places HVC*MOV1A control switch in CLOSE. <input type="checkbox"/> Observe HCV*MOV1A green light – ON <input type="checkbox"/> Observe HCV*MOV1A red light – OFF	<b>Pass/Fail</b> Sat/Unsat Sat/Unsat
4. Close HVC*MOV1B, CONTROL ROOM AC FLT TRAIN BYP VLV at 2CEC*PNL871	<input type="checkbox"/> Places HVC*MOV1B control switch in CLOSED <input type="checkbox"/> Observe HVC*MOV1B green light – ON <input type="checkbox"/> Observe HVC*MOV1B red light – OFF	<b>Pass/Fail</b> Sat/Unsat Sat/Unsat
5. Start HVC*FN2A, CONTROL ROOM AC BOOSTER FAN at 2CEC*PNL870.	<input type="checkbox"/> Places and holds HVC*FN2A control switch in START <input type="checkbox"/> Observes HVC*FN2A red light – ON <input type="checkbox"/> Observes HVC*FN2A green light – OFF <input type="checkbox"/> Returns the HVC*FN2A control switch to NORMAL-AFTER START (release).	<b>Pass/Fail</b> Sat/Unsat Sat/Unsat Sat/Unsat
6. Observe 2HVC*FR10A FILTER TRAIN HVC*FLT2A INLET AIR FLOW (red pen) should indicate approximately 63% of full scale (corresponds to approximately 2250 scfm).	<input type="checkbox"/> Observes 2HVC*FR10A FILTER TRAIN HVC*FLT2A INLET AIR FLOW (red pen) indicates approximately 63% of full scale.	Sat/Unsat
7. Confirm that Control Room/Atmosphere, d/p is $\geq +0.125$ in WG as read on 2HVC-PDI147, located in the Control Room behind 2CEC-PNL849.	<b>Cue: When operator walks behind Fire Panel 2CEC-PNL849 provide cue that PDI147 indicates +0.2 inches WG.</b>	Sat/Unsat

Performance Steps	Standard	Grade
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- |   |  |                  |
|---|--|------------------|
| <p>8. Observes the following at 2HVC*PNLCH7A:</p> <ul style="list-style-type: none"> <li>• ON INDICATOR red light ON</li> <li>• LOW AIRFLOW INDICATOR green light OFF</li> <li>• OVERTEMPERATURE INDICATOR green light OFF</li> </ul> | <p><input type="checkbox"/> Dispatches Auxiliary Operator to verify indications locally on 2HVC*PNLCH7A:</p> <p>NOTE: May simulate going to the panel instead of sending an Auxiliary Operator</p> <p><b>Cue: When asked, as the Auxiliary Operator Report:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> ON INDICATOR red light ON</li> <li><input type="checkbox"/> LOW AIRFLOW INDICATOR green light OFF</li> <li><input type="checkbox"/> OVERTEMPERATURE INDICATOR green light OFF</li> </ul> | <p>Sat/Unsat</p> |
|---|--|------------------|

- |  |   |  |
|--|---|--|
| <p>9. Notify Radiation Protection to periodically sample the Control Room Atmosphere to ensure proper operation of the Special Filter Train in service.<br/>(Simulate)</p> | <p><b>Cue: Acknowledge the request.</b></p> |  |
|--|---|--|

- |   |  |  |
|---|--|--|
| <p>10. Reports that Control Building Special Filter Train "A" has been initiated.</p> | <p><b>Cue: Acknowledge the report.</b></p> |  |
|---|--|--|

**TERMINATING CUE:** Control Room Special Filter Train "A" initiated.

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

Initial Conditions:

1. EOP-MSL has been entered.
2. Control Building radiation levels are  $6E-6$  mci/cc and rising
3. Ask the candidate if they have any questions.

Initiating Cues:

**RO-** "(Operator's name), manually initiate Control Building Special Filter Train A per N2-OP-53A, section H.6.0."

*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*

Initial Conditions:

1. EOP-MSL has been entered.
2. Control Building radiation levels are  $6E-6$  mci/cc and rising
3. Ask the candidate if they have any questions.

Initiating Cues:

**SRO-** "(Operator's name), manually initiate Control Building Special Filter Train A"

*Candidate: Direct ALL communications and announcements through the JPM Evaluator, first.*

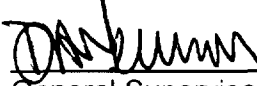
Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Vent Control Rod Overpiston Volume

Revision: NRC 2005

Task Number: 2009620501, 2009620504

Approvals:

 4/21/05  
General Supervisor Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY  
Configuration Control Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method: \_\_\_\_\_ Perform  X  Simulate

Evaluation Location:  X  Plant \_\_\_\_\_ Simulator

Expected Completion Time: 20 minutes Time Critical Task: NO Alternate Path Task: NO

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location: (Completion time based on the start location)

RP Access Area

Simulator Set-up (if required):

None

Directions to the Instructor/Evaluator:

Prior to the performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-EOP-6, Att. 14, Rev. 5, "Alternate Rod Insertions," Sections 3.6
2. NUREG 1123, K/A 295015, AA.1.01 (3.8/3.9)

Tools and Equipment:

EOP box has a breakaway tie-wrap.

Task Standard: Control Rod 26-59 at notch 00 and 2RDS\*V1 shut.



Initial Conditions:

1. A scram has occurred.
2. Several rods have not fully inserted.
3. Communications are established with Control Room.
4. An OD-7, Print out of Rod Positions is **NOT** available.
5. Instructor to ask operator for any questions.

Initiating Cues:

“(Operator's name) using EOP-6, Attachment 14, insert control rod 26-59 to notch 00 by locally venting its overpiston area.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-O1/Operations Manual)	Sat/Unsat
<b>RECORD START TIME _____</b>		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure  Cue: When candidate identifies the equipment required to vent the overpiston area, proceed to the HCU. It is NOT required to open the EOP box.	Open EOP box by removing breakaway tie-wrap and review procedure and enclosures. Reference EOP-6, Att. 14, Section 3.6  Describe and identify the tools necessary to perform the task, but do <b>NOT</b> remove the tools from the EOP Box	Sat/Unsat
3. Locate the correct HCU (26-59).	Physically locate the correct HCU (26-59). Use Figure 14-1, RDS HCU LOCATIONS, as a guide, if required.	<b>Pass/Fail</b>
•4. Remove the drain plug from 2RDS*V1, Withdraw Line Vent Valve.  Cue: Simulate cap removal.	AT HCU, use wrench to remove the Withdraw Line Vent Valve drain plug.	<b>Pass/Fail</b>
•5. Install quick disconnect adapter.  Cue: Simulate drain adapter connected.	At HCU, connect adapter to the correct RDS*V1 by threading in the quick disconnect adapter.	<b>Pass/Fail</b>

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
<p>•6. Connect hose.</p> <p>Cue: Simulate hose connected and routed. If the candidate starts to go down the ladder to secure the hose at the drain, tell them another operator has secured the bottom of the hose.</p>	<p>At HCU, connect hose to the quick disconnect adapter and route to a drain. Secure the hose at the drain against whip.</p>	<b>Pass/Fail</b>
<p>•7. Uncap 2RDS*V1 Valve Operator.</p> <p>Cue: Simulate cap removed.</p>	<p>At HCU, remove cap from RDS*V1 Valve Operator.</p>	<b>Pass/Fail</b>
<p>8. Insert rod.</p> <p>Cue: Simulate RDS*V1 opened and sound of flow noise.</p>	<p>At HCU, slowly open RDS*V1 by inserting the T-handled HCU Vent Tool and rotating counter clockwise, venting the above piston area.</p>	<b>Pass/Fail</b>
<p>9. Report to Control Room.</p> <p>Cue: Acknowledge report and inform the operator that control rod 26-59 has fully inserted</p>	<p>Report that RDS*V1 is opened. Request rod position.</p>	<b>Sat/Unsat</b>
<p>10. Shut RDS*V1.</p> <p>Cue: Simulate RDS*V1 shut.</p>	<p>At HCU, using the T-handled HCU Vent Tool shut RDS*V1 by rotating the operator clockwise.</p>	<b>Pass/Fail</b>
<p>11. Replace the cap on 2RDS*V1 Valve Operator.</p> <p>Cue: Simulate cap replaced.</p>	<p>At HCU, replace the cap on RDS*V1 Valve Operator.</p>	<b>Sat/Unsat</b>

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
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12. Remove high pressure hose from RDS*V1.	At HCU, disconnect and remove hose.	Sat/Unsat
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**NOTE:** At this time the JPM may be stopped.

End of JPM

**TERMINATING CUE:** Control Rod 26-59 at notch 00 and 2RDS\*V1 shut.

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

Initial Conditions:

1. A scram has occurred.
2. Several rods have not fully inserted.
3. Communications are established with Control Room.
4. An OD-7, Print out of Rod Positions is **NOT** available.
5. Instructor to ask operator for any questions.

Initiating Cues:

“(Operator’s name) using EOP-6, Attachment 14, insert control rod 26-59 to notch 00 by locally venting its overpiston area.”

*Candidate:*

*Direct ALL communications and announcements through the JPM Evaluator, first.*


Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Align Fire Water System to Inject to RHR A

Revision: NRC 2005

Task Number: 2009020504

Approvals:

  
\_\_\_\_\_  
General Supervisor                      Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
\_\_\_\_\_  
General Supervisor                      Date  
Operations (Designee)

NA EXAMINATION SECURITY  
\_\_\_\_\_  
Configuration Control                      Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method: \_\_\_\_\_ Perform                       X  Simulate

Evaluation Location:  X  Plant                      \_\_\_\_\_ Simulator

Expected Completion Time: 25 minutes Time Critical Task: NO    Alternate Path Task: NO

Start Time: \_\_\_\_\_                      Stop Time: \_\_\_\_\_                      Completion Time: \_\_\_\_\_

JPM Overall Rating:                      Pass                      Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location: (Completion time based on the start location)

RP Access Area

Simulator Set-up (if required):

N/A

Directions to the Instructor/Evaluator:

Prior to the performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. EOP-6, Rev. 7, Attachment 6, RHR Fire Water System Cross-Tie
2. NUREG 1123, 295031, EA1.08 3.8 / 3.9

Tools and Equipment:

1. PL-3 Key
2. EOP tool boxes are secured with a breakaway tie-wrap

Task Standard:

Fire Water System is aligned to inject to RHR loop A per N2-EOP-6, Attachment 6.

Initial Conditions:

1. All high pressure feed to the RPV is lost.
2. Alternate injection systems are being lined up.
3. Instructor to ask operator for any questions.

Initiating Cues:

“(Operator’s name), Line-up the Fire Water System to RHR loop A, per EOP-6, Attachment 6.”

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary.</i>	Proper communications used for repeat back (GAP-OPS-O1/Operations Manual)	Sat/Unsat

**RECORD START TIME \_\_\_\_\_**

•2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure.	N2-EOP-6, Attachment 6 obtained. Section 3.1 referenced.	Sat/Unsat
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**CUE: Steps 3.1.1, 3.1.2, 3.1.3, 3.1.4 and 3.1.5 are complete.**

**NOTE:** For simulation purposes, actual layout of hoses/flanges and connection to pump or plant equipment is not required. Identification of hose/flange and use along with connection points is all that is required.

3. Verify closed 2RHS*V70, CONDENSATE FLUSH TO 'A' CONTMT SPRAY HDR.  Cue: 2RHS*V70 is closed	2RHS*V70, CONDENSATE FLUSH TO 'A' CONTMT SPRAY HDR is rotated in the clockwise direction to verify it is closed. (Rx Bldg EL 289).	Sat/Unsat
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Performance Steps	Standard	Grade
<p>4. Close 2CNS-V621, CNS TO RHR SUPPLY ISOL.</p> <p>Cue: 2CNS-V621 is closed</p>	<p>2CNS-V621, CNS TO RHR SUPPLY ISOL is rotated in the clockwise direction to verify it is closed. <i>(Rx Bldg, Northside EL289 above 2RHS*MOV24A, LPCI Injection Valve).</i></p>	<p><b>Pass/Fail</b></p>
<p>5. Remove test connection blind flange from between valves 2CNS-V621 <b>AND</b> 2RHS*V70.</p> <p>Cue: Blind flange is removed</p>	<p>Blind Flange is properly removed using the tools from the EOP gang box. <i>(Rx Bldg EL 289)</i></p>	<p><b>Pass/Fail</b></p>
<p>6. Install 2 ½ inch fire hose adapter to test connection.</p> <p>Cue: Adapter is installed.</p>	<p>Adapter installed to test connection flange correctly using tools from the EOP gang box.</p>	<p><b>Pass/Fail</b></p>
<p>7. Connect male end of 2 ½ inch fire hose from EOP box to test connection flange adapter.</p> <p>Cue: Male end of 2 ½ inch fire hose is connected to test connection flange adapter.</p>	<p>Male end of 2 ½ inch fire hose from EOP box is properly connected to test connection flange adapter</p>	<p><b>Pass/Fail</b></p>
<p>8. Disconnect firehose at FHR 93</p> <p>Cue: Firehose is disconnected from FHR 93</p>	<p>Firehose from FHR 93 is properly disconnected using tools from the EOP gang box. <i>(Rx Bldg, EL 289, near North stairwell entrance)</i></p>	<p><b>Pass/Fail</b></p>
<p>9. Connect 2 1/2" firehose from test connection flange adapter to FHR 93.</p> <p>Cue: Firehose is connected to FHR 93</p>	<p>Firehose is properly connected to FHR 93 using tools from the EOP gang box.</p>	<p><b>Pass/Fail</b></p>
<p>10. Open 2FPW-V391, FHR 93 ANGLE VALVE</p> <p>Cue: 2FPW-V391 is open</p>	<p>2FPW-V391, FHR 93 ANGLE VALVE is opened by rotating the handwheel in the counterclockwise direction.</p>	<p><b>Pass/Fail</b></p>

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
11. Unlock <b>AND</b> open 2RHS*V70  Cue: 2RHS*V70 is unlocked and open.	Using the PL-3 Key, unlock <b>AND</b> open 2RHS*V70 by rotating the handwheel in the counterclockwise direction.	<b>Pass/Fail</b>
10. Notify control room that fire water is lined-up to inject via RHR 'A'		Sat/Unsat

End of JPM

**TERMINATING CUE:** Fire Water System is aligned to inject to RHR loop A per N2-EOP-6, Attachment 6.

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

Initial Conditions:

1. All high pressure feed to the RPV is lost.
2. Alternate injection systems are being lined up.
3. Instructor to ask operator for any questions.

Initiating Cues:

“(Operator's name), Line-up the Fire Water System to RHR loop A, per EOP-6, Attachment 6.”

*Candidate:*

*Direct ALL communications and announcements through the JPM Evaluator, first.*

Constellation Energy Group  
OPERATOR JOB PERFORMANCE MEASURE

Title: Local Start of Division I Diesel Generator with Emergency Stop  
Task Number:

Revision: NRC 2005

Approvals:

*D. [Signature]* 4/21/05  
General Supervisor Date  
Operations Training (Designee)

NA EXAMINATION SECURITY  
General Supervisor Date  
Operations (Designee)

NA EXAMINATION SECURITY  
Configuration Control Date

Performer: \_\_\_\_\_ (RO/SRO)

Trainer/Evaluator: \_\_\_\_\_

Evaluation Method: \_\_\_\_\_ Perform  X  Simulate

Evaluation Location:  X  Plant \_\_\_\_\_ Simulator

Expected Completion Time: 25 minutes Time Critical Task: NO Alternate Path Task: Yes

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluator Signature: \_\_\_\_\_

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

Recommended Start Location:

Control Building Elev. 261 Diesel Generator Rooms

Simulator Set-up:

N/A

Directions to the Instructor/Evaluator:

Prior to the performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the additional / concurrent verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
  - Self-verification shall be demonstrated.
3. During Training JPM:
  - Self-verification shall be demonstrated.
  - No other verification shall be demonstrated.

References:

1. N2-OP-100A

Tools and Equipment:

1. None

Task Standard: Emergency Shutdown of EDG complete.

Initial Conditions:

1. The plant is shutdown for an outage
2. Division I Diesel Generator 2EGS\*EG1 is in standby
3. 2EGS\*EG1 is to be started to support NNS-SWG16 outage
4. N2-OP-100A steps F.5.1 and F.5.2 are complete
5. Ask the operator for any questions.

Initiating cue:

“(Operator’s name), locally start the Division I Diesel Generator and return control to P852 for remote loading in accordance with N2-OP-100A, section F.5.0.”

Performance Steps	Standard	Grade
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1. Provide repeat back of initiating cue. <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-O1)	Sat/Unsat
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**RECORD START TIME \_\_\_\_\_**

2. •Obtain a copy of the reference procedure and review/utilize the correct section.	<input type="checkbox"/> Obtain copy of N2-OP-100A and reference section F.5.0.	Sat/Unsat
3. At 2CES*IPNL407, GENERATOR CONTROL PANEL, verify Voltage Regulator Switch in AUTO.	<input type="checkbox"/> Confirms Voltage Regulator Switch in AUTO.	Sat/Unsat
4. At 2CES*IPNL406 (408), ENGINE CONTROL PANEL, place CONTROL MODE keylock switch in LOCAL AND verify the white LOCAL indicating light is illuminated.	<input type="checkbox"/> <b>SIMULATE:</b> Place CONTROL MODE keylock switch in LOCAL. <input type="checkbox"/> Verify the white LOCAL indicating light is illuminated.	<b>Pass/Fail</b>  Sat/Unsat

**CUE: CONTROL MODE switch is in LOCAL AND the white LOCAL indicating light is illuminated.**

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
5. At 2CEC*PNL852, ELECTRIC CONTROL BOARD, perform the following:	<input type="checkbox"/> Contacts Control Room to direct performance of steps at P852.	Sat/Unsat
<input type="checkbox"/> Verify DIVISION 1 2EGS*EG1 START switch in Normal-After-STOP.	<input type="checkbox"/> Directs DIVISION 1 2EGS*EG1 START switch verified in Normal-After-STOP.	Sat/Unsat
<b>CUE: Report DIVISION 1 2EGS*EG1 START switch in Normal-After-STOP</b>		
<input type="checkbox"/> Verify 2EGS*SWG101-N1, NEUTRAL BREAKER 101-N1, closed.	<input type="checkbox"/> Directs 2EGS*SWG101-N1, NEUTRAL BREAKER 101-N1, verified closed.	Sat/Unsat
<b>CUE: Report 2EGS*SWG101-N1 , NEUTRAL BREAKER 101-N1, closed</b>		
<input type="checkbox"/> Verify EMERGENCY DSL GEN 1 VOLTAGE REGULATOR MODE SELECT switch in AUTO.	<input type="checkbox"/> Directs EMERGENCY DSL GEN 1 VOLTAGE REGULATOR MODE SELECT switch verified in AUTO.	Sat/Unsat
<b>CUE: Report EMERGENCY DSL GEN 1 VOLTAGE REGULATOR MODE SELECT switch in AUTO</b>		
6. At 2CEC*PNL852, place EMERGENCY DSL GEN 1 PARALLEL switch to ON.	<input type="checkbox"/> Directs EMERGENCY DSL GEN 1 PARALLEL switch to ON.	Sat/Unsat
<b>CUE: Report EMERGENCY DSL GEN 1 PARALLEL switch in ON</b>		
7. At 2CES*IPNL406, depress ENGINE CONTROL START pushbutton.	<input type="checkbox"/> <b>SIMULATE:</b> Depresses ENGINE CONTROL START pushbutton	<b>Pass/Fail</b>
<b>CUE: Report sound of engine acceleration heard from engine room.</b>		
8. At 2CES*IPNL407, verify the following Diesel Generator start indications:		

<i>Performance Steps</i>	<i>Standard</i>	<i>Grade</i>
<input type="checkbox"/> Diesel Speed as indicated on 12ESI-2EGSA04 ENGINE SPEED, rises to 600 RPM.	<input type="checkbox"/> Confirms Diesel Speed as indicated on 12ESI-2EGSA04 ENGINE SPEED, rises to 600 RPM.	Sat/Unsat
<b>CUE: Diesel Speed is 600 RPM</b>		
<input type="checkbox"/> Generator Voltage as indicated on GVM-2EGPA22 VOLTS GENERATOR, rises to 4160 A-C VOLTS.	<input type="checkbox"/> Confirms Generator Voltage as indicated on GVM-2EGPA22 VOLTS GENERATOR, rises to 4160 A-C VOLTS.	Sat/Unsat
<b>CUE: Generator Voltage is 4160 Volts AC</b>		
<input type="checkbox"/> Generator Frequency as indicated on FM-2EGPA22 FREQUENCY GENERATOR, rises to 60 HERTZ.	<input type="checkbox"/> Confirms Generator Frequency as indicated on FM-2EGPA22 FREQUENCY GENERATOR, rises to 60 HERTZ.	Sat/Unsat
<b>CUE: Generator Frequency is 60 Hz</b>		
<input type="checkbox"/> Generator Field Current as indicated on GFAM-2EGPA21 AMPS FIELD, indicates about 91 DC AMPERES.	<input type="checkbox"/> Confirms Generator Field Current as indicated on GFAM-2EGPA21 AMPS FIELD, indicates about 91 DC AMPERES.	Sat/Unsat
<b>CUE: Generator Field Current indicates about 91 DC AMPERES</b>		
9. At 2CEC*PNL852, observe the following Diesel Generator start indications:	<input type="checkbox"/> Contacts Control Room to determine, the following:	
<input type="checkbox"/> SWP*MOV66A, SERVICE WTR OUTLET, opens.	<input type="checkbox"/> SWP*MOV66A position	Sat/Unsat
<input type="checkbox"/> Diesel Service Water Flow as indicated on 2SWP*FI76A, SERVICE WTR FLOW, is $\geq$ 800 GPM.	<input type="checkbox"/> SWP flow	Sat/Unsat
<input type="checkbox"/> Annunciator 852117, EDG 1 RUNNING, alarms.	<input type="checkbox"/> Annunciator 852117 status	Sat/Unsat
<b>CUE: Report SWP*MOV66A is open and flow is 1000 gpm. Annunciator 852117 is in alarm.</b>		



Performance Steps	Standard	Grade
<p>AFTER ENGINE IS STARTED, ALTERNATE PATH STEPS ARE INITIATED BY EVALUATOR</p>		
<p>ALTERNATE PATH</p>		
<p><b>CUE: Inform candidate that there is audible alarm sound at 2CES*IPNL406.</b></p>		
<p><b>CUE: WHEN candidate asks for indications of the alarming condition, state that 406-1-1 and 406-3-3 are alarming.</b></p>		
<p><b>CUE: WHEN candidate checks LUBE OIL PRESSURE indication report pressure at 15 psig</b></p>		
<p>10. Alarm 406-1-1 Step 1 directs "verify automatic response occurs". Determines engine shutdown should have occurred, but did not. Initiates actions to shutdown the engine.</p>	<p>☐ Refers to annunciator response 406- 3-3 and 406-1-1 and determines engine shutdown with lube oil pressure &lt; 30 psig did not occur.</p>	<p><b>Pass/Fail</b></p>
<p>11. Reports conditions to the Control Room.</p>		
<p><b>CUE: IF candidate requests direction, advise the candidate to trip the diesel.</b></p>		
<p><b>CUE: IF candidate attempts to stop the engine using normal STOP pushbuttons or contacts the control room to stop the engine from P852, report the engine is still running after these methods are attempted.</b></p>		
<p>12. Determines Emergency Stop per N2-OP-100A, H.1.0 is required</p>	<p>☐ Refers to N2-OP-100A, H.1.0</p>	<p>Sat/Unsat</p>
<p>13. At 2CES*IPNL406 ENGINE CONTROL PANEL, depress EMERGENCY STOP red STOP pushbutton.</p>		<p>Sat/Unsat</p>

Performance Steps	Standard	Grade
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**CUE: Diesel Generator is NOT stopped**

14. IF Diesel does NOT stop, perform one of the following:	Shutdown engine by performing any one of the following:	
<input type="checkbox"/> Depress button AND pull Manual Fuel Control Quadrant Handle down AND hold down UNTIL Diesel Generator comes to a complete stop.	<input type="checkbox"/> Depress button AND pull Manual Fuel Control Quadrant Handle down AND hold down UNTIL Diesel Generator comes to a complete stop.	<b>Pass/Fail/NA</b>  <b>OR</b>
<input type="checkbox"/> Trip Turbocharger Air Inlet Butterfly Valve closed by pushing Overspeed Governor output arm towards Turbocharger with foot.	<input type="checkbox"/> Trip Turbocharger Air Inlet Butterfly Valve closed by pushing Overspeed Governor output arm towards Turbocharger with foot.	<b>Pass/Fail/NA</b>  <b>OR</b>
<input type="checkbox"/> Pull out latching rod of Overspeed Trip Valve at Overspeed Governor.	<input type="checkbox"/> Pull out latching rod of Overspeed Trip Valve at Overspeed Governor.	<b>Pass/Fail/NA</b>

**CUE: WHEN candidate performs any one of the emergency stop methods, report that the engine is beginning to coast down. The JPM is complete.**

End of JPM

**TERMINATING CUE:** Emergency Shutdown of EDG complete.

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

Initial Conditions:

1. The plant is shutdown for an outage
2. Division I Diesel Generator 2EGS\*EG1 is in standby
3. 2EGS\*EG1 is to be started to support NNS-SWG16 outage
4. N2-OP-100A steps F.5.1 and F.5.2 are complete
5. Ask the operator for any questions.

Initiating cue:

“(Operator’s name), locally start the Division I Diesel Generator and return control to P852 for remote loading in accordance with N2-OP-100A, section F.5.0.”