

# Exelon Nuclear

## Job Performance Measure

STARTUP OF A SECOND RECIRCULATION PUMP  
WITH FAILURE OF THE DISCHARGE VALVE TO OPEN

JPM Number: S-N-a

Revision Number: 02

Date: 09/08

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date

## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 01** Bank JPM.

**Revision 02** Revised for 2009 NRC Exam.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator to an IC with the Reactor in cold shutdown.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Trip the 2B Recirc Pump.

3. Close the 2B Recirc Pump discharge valve (MO 2-202-5B) and return c/s to NORMAL.

4. Insert following Malfunctions and/or Remotes:

- IOR RRD5BCLS    CLOSE
- IOR RRD5BOPN    OFF
- IOR RRD5BJP5    OFF
- IOR RRD5BJ1P    OFF

5. Place the Recirc Pumps in individual manual control.

6. Complete DOP 0202-01 up through Step G.5.

7. Verify Individual Recirc Controllers are set to Minimum.

8. Verify RPV water level  $\geq$  30 inches and stable.

9. Place DW/TORUS DP CONTRL PIC 2-1602-14 and DW PRESS CONTRL PIC 2-8540-1 to MANUAL and close the associated valves.

### **DOCUMENT PREPARATION**

1. Mark up a copy of DOP 0202-01 up to and including step G.5.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. 2B Recirc Pump was inadvertently tripped one (1) hour ago during testing.
3. The immediate actions of DOA 0202-01 have been completed.
4. All prerequisites of DOP 0202-01 have been met.
5. Seal Purge to the 2B Recirc Pump has been established.
6. An NLO is staged at the 2B MG SET.
7. Another NSO will acknowledge annunciators not associated with this task.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to restart the 2B Recirc Pump IAW DOP 0202-01 starting at step G.6.
2. Inform the Unit Supervisor when the task is complete.

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**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

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## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

| PERFORMANCE CHECKLIST   | STANDARDS | SAT   | UNSAT  | Comment                 |
|---|-----------|---|--|-------------------------|
| <p><b><u>NOTE:</u></b></p> <p>Provide the examinee with the provided copy of DOP 0202-01.</p>   |           |   |  |                         |
| *   | 1.        | Start the 2B MG by holding 2B MG SET DRIVE MOTOR switch in START for 3 seconds.   | Turns 2B M-G Set Drive Motor Control switch to START and holds for 3 seconds.  | _____<br>_____<br>_____ |
| <p><b><u>NOTE:</u></b></p> <p><i>Time Recirc Pump Started: _____.</i></p> <p>MG set starts ~8 seconds before pump motor.<br/>Pump start can be verified by Pump DP increasing and/or amps increasing.</p> |           |   |  |                         |
|   | 2.        | Observe the following: <ul style="list-style-type: none"> <li>• 2B M-G SET DRIVE MOTOR breaker indicates CLOSED.</li> <li>• 2B RECIRC PP SPEED CONTRL, speed indication rises to a peak of 60% to 80%.</li> <li>• 2B M-G SET FIELD BKR CLOSES seven seconds after M-G SET DRIVE MOTOR breaker closes.</li> <li>• RECIRC PP SPEED CONTRL speed indication settles out and then decays to approximately 30%.</li> </ul> | Observes or monitors the following: <ul style="list-style-type: none"> <li>• 2B M-G Set Drive Motor Blue On light illuminated.</li> <li>• Monitors speed on Percent speed meter.</li> <li>• MG Field breaker Blue Closed light illuminated.</li> <li>• Monitors speed on Percent speed meter.</li> </ul> | _____<br>_____<br>_____ |
| <p><b><u>NOTE:</u></b></p> <p><u>IF</u> dual valve position indication is <u>NOT</u> obtained within 2 minutes of pump start, <u>THEN</u> trip the Recirc Pump.</p>                                       |           |   |  |                         |

## Job Performance Measure (JPM)

| PERFORMANCE CHECKLIST  | STANDARDS  | SAT  | UNSAT | Comment |
|--|--|--|-------|---------|
| <b><u>CUE:</u></b>   |  |  |       |         |
| Respond as needed, as the NLO in the field.  |  |  |       |         |
| 3.   | While observing APRM response <u>AND</u> Recirc loop flow indications after each individual open step (jog), perform the following: <ul style="list-style-type: none"> <li>• Open, MO 2-202-5B, 2B PP DISCH VLV, just to the point of dual valve position indication.</li> </ul> | Attempts to OPEN MO 2-202-5B, 2B PP DISCH VLV by either or both of the following: <ul style="list-style-type: none"> <li>• Jog open by using 2B PP DISCH VLV Jog control.</li> <li style="text-align: center;"><u>OR</u></li> <li>• Throttling open with 2B PP DISCH VLV c/s.</li> </ul> | _____ | _____   |
| <b>BEGIN ALTERNATE PATH</b>  |  |  |       |         |
| <b><u>NOTE:</u></b>  |  |  |       |         |
| The MO 2-202-5B, 2B PP DISCH VLV, will <u>NOT</u> OPEN.                                |  |  |       |         |
| *  | 4. If dual valve position indication is <u>NOT</u> obtained within 2 min of pump start, <u>THEN</u> trip the recirc pump.  | Trips 2B Recirc Pump within 2 min of pump start. (not MG start)  | _____ | _____   |
| <b><u>NOTE:</u></b>  |  |  |       |         |
| Time Recirc Pump Secured: _____ (Pump must be tripped within 2 minutes of pump start). |  |  |       |         |
| 5.   | Reports to the Unit 2 Supervisor that the MO 2-202-5B, 2B PP DISCH VLV, did not have dual indication and the 2B Recirc Pump was tripped.   | Unit 2 Supervisor notified.  | _____ | _____   |
| <b><u>CUE:</u></b>   |  |  |       |         |
| Acknowledge report of task completion.   |  |  |       |         |
| END  |  |  |       |         |

JPM Stop Time: \_\_\_\_\_

**Job Performance Measure (JPM)**

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: Startup of a second Recirculation Pump with failure of the discharge valve to open.

Revision Number: 02

JPM Number: S-N-a

Task Number and Title: 202L002, Perform a Unit 2 Recirculation system startup.

K/A Number and Importance: 202001.A4.01 3.7 / 3.7

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 14 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DOP 0202-01, rev 58

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. 2B Recirc Pump was inadvertently tripped one (1) hour ago during testing.
3. The immediate actions of DOA 0202-01 have been completed.
4. All prerequisites of DOP 0202-01 have been met.
5. Seal Purge to the 2B Recirc Pump has been established.
6. An NLO is staged at the 2B MG SET.
7. Another NSO will acknowledge annunciators not associated with this task.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to restart the 2B Recirc Pump IAW DOP 0202-01 starting at step G.6.
2. Inform the Unit Supervisor when the task is complete.



# Exelon Nuclear

## Job Performance Measure

PLACE A FRV IN SERVICE IN AUTO DURING UNIT STARTUP

JPM Number: S-N-b

Revision Number: 03

Date: 09/08

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date

## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 02** Bank JPM.

**Revision 03** Revised for 2009 NRC Exam.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator to IC 08.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Verify BOTH FW REG ISOL VALVES are OPEN:

- MO 3206A
- MO 3206B

3. Verify 2A & 2B REG VLV CONTROL STATIONS in MAN and CLOSED.

4. Verify MASTER CONTROL STATION is in MAN.

5. Low Flow Reg Valve is controlling level at 30" in AUTO.

6. Insert following Malfunctions and/or Remotes:

- None.

7. Setup the following Triggers:

- None.

### **DOCUMENT PREPARATION**

1. Clean copy of DOP 0600-06.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Unit Startup is in progress.
3. The FWLCS is controlling level with the Low Flow Reg Valve.
4. 2A & 2B REG VLV CONTROL STATIONS are closed in manual mode.
5. 2A & 2B FRVs have been pre-operationally tested.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to place 2B FRV in service (Unit Startup) in the Master Automatic mode in accordance with DOP 0600-06 per step G.2.
2. Inform the Unit Supervisor when the task is complete.

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**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

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- Denotes critical elements of a critical step.

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The timeclock starts when the candidate acknowledges the initiating cue.

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## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

|   | PERFORMANCE CHECKLIST   | STANDARDS   | SAT   | UNSAT | Comment |
|---|---|---|-------|-------|---------|
| <b>NOTE:</b>  |   |   |       |       |         |
| Provide the examinee with the provided copy of DOP 0600-06. |   |   |       |       |         |
|   | 1. Verify 2A and 2B FWRVs have been pre-operationally tested per Step G.1.  | Condition met in initial conditions.  | _____ | _____ | _____   |
|   | 2. Verify the following valves are open: <ul style="list-style-type: none"> <li>• MO 2-3205A, FW LINE STOP.</li> <li>• MO 2-3205B, FW LINE STOP.</li> <li>• MO 2-3206A, 2A FW REG ISOL.</li> <li>• MO 2-3206B, 2B FW REG ISOL.</li> </ul> | GREEN lights illuminated on the following: <ul style="list-style-type: none"> <li>• MO 2-3205A</li> <li>• MO 2-3205B</li> <li>• MO 2-3206A</li> <li>• MO 2-3206B</li> </ul> | _____ | _____ | _____   |
|   | 3. Adjust MASTER CONTROL STATION OR RX LO FLOW CONTROL STATION, setpoint to match actual RPV level.   | Depresses appropriate pushbutton to verify setpoint to match actual RPV level on MASTER CONTROL STATION <u>OR</u> RX LO FLOW CONTROL STATION.                               | _____ | _____ | _____   |
|   | 4. Select appropriate FWLCS RPV level signal per Section G.17.  | Depresses appropriate FWLCS RPV level signal pushbutton.  | _____ | _____ | _____   |
|   | 5. Place RX LO FLOW CONTROL STATION to AUTO.  | Verifies AUTO light illuminated on RX LO FLOW CONTROL STATION.  | _____ | _____ | _____   |
| *   | 6. Place one REG VLV CONTROL STATION in AUTO.   | Depresses AUTO pushbutton on 2B REG VLV CONTROL STATION.  | _____ | _____ | _____   |

## Job Performance Measure (JPM)

|   | PERFORMANCE CHECKLIST | STANDARDS                                    | SAT   | UNSAT | Comment |       |
|---|-----------------------|--|---|-------|---------|-------|
|   | 7.                    | Verify other REG VLV CONTROL STATION in MAN. | Verifies MAN light illuminated on 2A REG VLV CONTROL STATION. | _____ | _____   | _____ |
| *   | 8.                    | Place MASTER CONTROL STATION in AUTO.        | Depresses AUTO pushbutton on FWLC MASTER CONTROL STATION.     | _____ | _____   | _____ |
| <p><b><u>NOTE:</u></b></p> <p>The LOW FLOW FWRV will automatically transfer to the 2B FWRV when the LOW FLOW FWRV position is 85% feedwater flow.</p> |                       |  |   |       |         |       |
|   | 9.                    | Informs Unit Supervisor task is complete.    | Examinee notifies the Unit Supervisor.                        | _____ | _____   | _____ |
| <p><b><u>CUE:</u></b></p> <p>Acknowledge report of task completion.</p>   |                       |  |   |       |         |       |
|   |                       |  | END   |       |         |       |

**JPM Stop Time:** \_\_\_\_\_

**Job Performance Measure (JPM)**

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: PLACE A FRV IN SERVICE IN AUTO DURING UNIT STARTUP

Revision Number: 03

JPM Number: S-N-b

Task Number and Title: 259L021, Place FRV in service in AUTO (unit startup).

K/A Number and Importance: 259002.A4.03 3.8 / 3.6

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 15 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DOP 0600-06 , rev 34

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Unit Startup is in progress.
3. The FWLCS is controlling level with the Low Flow Reg Valve.
4. 2A & 2B REG VLV CONTROL STATIONS are closed in manual mode.
5. 2A & 2B FRVs have been pre-operationally tested.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to place 2B FRV in service (Unit Startup) in the Master Automatic mode in accordance with DOP 0600-06 per step G.2.
2. Inform the Unit Supervisor when the task is complete.



# Exelon Nuclear

## Job Performance Measure

TURBINE BYPASS VALVE UTILIZATION

JPM Number: S-N-c

Revision Number: 00

Date: 09/08

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date

## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 00** New JPM created for 2009 NRC Exam.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator to any IC with the Reactor shutdown, but at full pressure.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Ensure that neither DEHC monitor is on the pressure control screen.
3. Insert following Malfunctions and/or Remotes:
  - None.
4. Setup the following Triggers:
  - None.

### **DOCUMENT PREPARATION**

1. Clean copy of DGP 02-03 Attachment E (hard card).

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. A transient has occurred and the Unit Supervisor is anticipating Emergency Depressurization.
3. Another NSO will acknowledge annunciators not associated with this task.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to utilize the Turbine Bypass valves in anticipation of Emergency Depressurization, in accordance with DGP 02-03 Attachment E (hard card).
2. Inform the Unit Supervisor when the task is complete.

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**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

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The timeclock starts when the candidate acknowledges the initiating cue.

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## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

|  | PERFORMANCE CHECKLIST | STANDARDS   | SAT  | UNSAT | Comment |
|--|-----------------------|---|--|-------|---------|
| <b><u>NOTE:</u></b>  |                       |   |  |       |         |
| Examinee should locate the hard card, then provide the included copy.                        |                       |   |  |       |         |
| All the below actions can be performed on <u>either</u> of the Digital EHC control stations. |                       |   |  |       |         |
| *  | 1.                    | Select <CONTROL>.   | Utilizing the trackball controller, clicks on <CONTROL>.         | _____ | _____   |
| *  | 2.                    | Select <BPV JACK>.  | Utilizing the trackball controller, clicks on <BPV JACK>.        | _____ | _____   |
| *  | 3.                    | Select <Stpt/Ramp>.   | Utilizing the trackball controller, clicks on <STPT/RAMP>.       | _____ | _____   |
| *  | 4.                    | Input 100% for setpoint.  | Utilizing the keyboard, enters 100%.                             | _____ | _____   |
| *  | 5.                    | Input 100% / min for ramp rate.                                 | Utilizing the keyboard, enters 100%.                             | _____ | _____   |
| *  | 6.                    | Select <OK>.  | Utilizing the trackball controller, clicks on <OK>.              | _____ | _____   |
| *  | 7.                    | Confirm 100% and 100% / min have been inputted and select <OK>. | Examinee confirms proper values are inputted and clicks on <OK>. | _____ | _____   |
|  | 8.                    | Verify all Bypass valves are fully opening.                     | All 9 valve boxes filled green.                                  | _____ | _____   |
|  | 9.                    | Informs Unit Supervisor task is complete.                       | Examinee notifies the Unit Supervisor.                           | _____ | _____   |
| <b><u>CUE:</u></b>   |                       |   |  |       |         |
| Acknowledge report of task completion.   |                       |   |  |       |         |
|  |                       |   | END  |       |         |

JPM Stop Time: \_\_\_\_\_

## Job Performance Measure (JPM)

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: TURBINE BYPASS VALVE UTILIZATION.

Revision Number: 00

JPM Number: S-N-c

Task Number and Title: 29501LP040, Respond to a Reactor Scram IAW DGP 02-03.

K/A Number and Importance: 241000.A4.06 3.9 / 3.9

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 12 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DGP 02-03 Attachment E (hard card), rev 82

### **EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. A transient has occurred and the Unit Supervisor is anticipating Emergency Depressurization.
3. Another NSO will acknowledge annunciators not associated with this task.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to utilize the Turbine Bypass valves in anticipation of Emergency Depressurization, in accordance with DGP 02-03 Attachment E (hard card).
2. Inform the Unit Supervisor when the task is complete.

# Exelon Nuclear

## Job Performance Measure

STARTUP THE ISOLATION CONDENSER WITH A FAILURE OF THE  
MAKEUP SYSTEM

JPM Number: S-N-d

Revision Number: 00

Date: 01/09

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date



## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 00** New JPM developed for the 2009 NRC Exam.

## Job Performance Measure (JPM)

### SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any IC.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Verify the Isolation Condenser is in its normal standby lineup.
3. Ensure 2/3A Clean Demin Pump is operating.
4. Ensure 2/3B Clean Demin Pump is **NOT** operating.
5. Place 2/3B ISOL CNDR M U PP control switch in PTL.
6. Place a CO tag on the 2/3B ISOL CNDR M U PP control switch.
7. Enter the following Simulator Expert commands which trips the 2/3A Diesel Driven Iso Makeup Pump a few seconds after starting:
  - `trgset 1 "wmsdp(1)" { Trigger 1 Activates when 2A IC M-U PP is started}`
  - `imf wmpmpaf (1 2) { After 2 sec, inserts a trip of 2A IC M-U PP}`
8. Verify Reactor Pressure is < 1050 psig.
9. Acknowledge / Reset alarms.

### DOCUMENT PREPARATION

1. Marked up copy of DOP 1300-03.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. The U2 Isolation Condenser (IC) has been verified in Standby per DOP 1300-01.
3. A pressure transient has occurred which requires the manual initiation of the U2 IC.
4. An NLO is in the field to monitor operation of the U2 IC.
5. 2/3B ISOL CNDR M U PP is OOS for pump replacement.
6. The time of IC initiation in Unit 2 Reactor Log Book will be recorded by another NSO.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to startup the U2 Isolation Condenser to full flow per DOP 1300-03 Step G.4.
2. Hard Cards are NOT authorized.
3. Inform the Unit Supervisor when the task is complete.

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**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

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- Denotes critical elements of a critical step.

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## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

|   | <b>PERFORMANCE CHECKLIST</b>   | <b>STANDARDS</b>   | <b>SAT</b> | <b>UNSAT</b> | <b>Comment</b> |
|---|--|--|------------|--------------|----------------|
| <b><u>NOTE:</u></b>   |  |  |            |              |                |
| Provide the examinee with the provided copy of DOP 1300-03.   |  |  |            |              |                |
| *   | 1. Place AO 2-1301-17 AO 2-1301-20, VENT VLV, control switch in CLOSE and verify closed.                     | Both RED lights illuminated.                                   | _____      | _____        | _____          |
|   | 2. Rotate RX INLET ISOL VLV HAND/RESET to HAND.  | Places switch to HAND position and releases.                   | _____      | _____        | _____          |
|   | 3. Verify annunciator 902-3 B-4, ISOL CONDR VLVS OFF NORMAL, alarms.   | Annunciator 902-3 B-4, ISOL CONDR VLVS OFF NORMAL illuminated. | _____      | _____        | _____          |
| *   | 4. Open AND throttle MO 2-1301-3, RX INLET ISOL, as necessary.   | RED light illuminated.   | _____      | _____        | _____          |
|   | 5. Monitor IC shell level using ISOL CONDR LVL, LI 2-1340-2, on Panel 902-3.                                 | Pointer in normal GREEN band.                                  | _____      | _____        | _____          |
|   | 6. Open MO 2-4399-74, CLEAN DEMIN VLV.   | RED light illuminated.   | _____      | _____        | _____          |
|   | 7. Start 2/3A ISOL CNDR M-U PP.  | RED Light illuminated.   | _____      | _____        | _____          |
| <b><u>NOTE:</u></b>   |  |  |            |              |                |
| 2/3A ISOL CNDR M U PP will trip a few seconds after starting, due to a malfunction inserted in setup. |  |  |            |              |                |
| <b>BEGIN ALTERNATE PATH</b>   |  |  |            |              |                |
| *   | 8. Directs NLO to close 2-4399-756, 2/3 ISOL CDSR CLEAN DEMIN MAKEUP SYS DISCH HDR TO U2 ISOL CDSR ISOL VLV. | Directs NLO to close the valve.                                | _____      | _____        | _____          |

## Job Performance Measure (JPM)

| PERFORMANCE CHECKLIST   | STANDARDS | SAT   | UNSAT                                     | Comment |
|---|-----------|---|---|---------|
| <b><u>CUE:</u></b>  |           |   |   |         |
| 2-4399-756, ISOL CDSR CLEAN DEMIN M/U SYS DISCH HDR TO U2 ISOL CDSR ISOL VLV is closed. |           |   |   |         |
| *   | 9.        | Starts 2/3B CLEAN DEMIN water Pump.   | BLUE light illuminated.                   | _____   |
| *   | 10.       | Directs NLO to unlock and open 2-4399-72, U2 ISOL CDSR CLEAN DEMIN WTR SUPPLY.  | Directs NLO to unlock and open the valve. | _____   |
| <b><u>CUE:</u></b>  |           |   |   |         |
| 2-4399-72, U2 ISOL CDSR CLEAN DEMIN WTR SUPPLY valve is unlocked and open.              |           |   |   |         |
| <b><u>NOTE:</u></b>   |           |   |   |         |
| IC level requires a long time for level to increase.                                    |           |   |   |         |
|   | 11.       | Cycle MO 2-4399-74, CLEAN DEMIN VALVE, <b>as needed</b> to maintain LI 2-1340-2, ISOL CONDR LVL, in green band.   | Maintains level in green band.            | _____   |
| <b><u>CUE:</u></b>  |           |   |   |         |
| Inform examinee that another NSO will now assume duties for the IC.                     |           |   |   |         |
|   | 12.       | Informs Unit Supervisor the Clean Demin Pumps did NOT start and is currently maintaining IC level with the Clean Demin valves and that the task is complete | Examinee notifies the Unit Supervisor.    | _____   |
| <b><u>CUE:</u></b>  |           |   |   |         |
| Acknowledge report of task completion.  |           |   |   |         |
|   |           |   | END                                       |         |

**JPM Stop Time:** \_\_\_\_\_

## Job Performance Measure (JPM)

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: Startup the Isolation Condenser with A Failure of The Makeup System.

Revision Number: 00

JPM Number: S-N-d

Task Number and Title: DRE207LN008, Given a set of conditions, analyze the conditions and determine the corrective actions required to return the Isolation Condenser to a stable condition. .

K/A Number and Importance: 207000.A4.01 3.7 / 3.8

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 15 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DOP 1300-03, rev 27

### **EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. The U2 Isolation Condenser (IC) has been verified in Standby per DOP 1300-01.
3. A pressure transient has occurred which requires the manual initiation of the U2 IC.
4. An NLO is in the field to monitor operation of the U2 IC.
5. 2/3B ISOL CNDR M U PP is OOS for pump replacement.
6. The time of IC initiation in Unit 2 Reactor Log Book will be recorded by another NSO.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to startup the U2 Isolation Condenser to full flow per DOP 1300-03 Step G.4.
2. Hard Cards are NOT authorized.
3. Inform the Unit Supervisor when the task is complete.

# Exelon Nuclear

## Job Performance Measure

VERIFY SPURIOUS GROUP 3 ISOLATION - INCOMPLETE

JPM Number: S-N-e

Revision Number: 00

Date: 09/08

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date



## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 00** Modified from a different JPM.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator to any shutdown IC.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Insert a spurious Group 3 isolation.
3. Manually OPEN the following valves (ensure can be re-closed):
  - MO 2-1001-4A
  - MO 2-1001-5A

### **DOCUMENT PREPARATION**

1. Clean copy of DAN 902-5 D-5 Hard Card.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. A spurious Group 3 isolation has occurred.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to verify the Group 3 isolation is complete, utilizing the hard card.
2. Inform the Unit Supervisor when the task is complete.

---

**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

---

## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

| PERFORMANCE CHECKLIST   | STANDARDS                              | SAT                      | UNSAT | Comment |
|---|--|--------------------------|-------|---------|
| <p><b><u>NOTE:</u></b></p> <p>Examinee should locate the hard card, then provide the included copy.</p> <p>The following steps may be performed in any order.</p> |  |                          |       |         |
| 1.  | Examinee verifies CLOSED MO 2-1201-1.  | RED light illuminated.   | _____ | _____   |
| 2.  | Examinee verifies CLOSED MO 2-1201-1A. | GREEN light illuminated. | _____ | _____   |
| 3.  | Examinee verifies CLOSED MO 2-1201-2.  | RED light illuminated.   | _____ | _____   |
| 4.  | Examinee verifies CLOSED MO 2-1201-3.  | GREEN light illuminated. | _____ | _____   |
| 5.  | Examinee verifies CLOSED MO 2-1201-7.  | RED light illuminated.   | _____ | _____   |
| 6.  | Examinee verifies CLOSED MO 2-1001-1A. | GREEN light illuminated. | _____ | _____   |
| 7.  | Examinee verifies CLOSED MO 2-1001-1B. | GREEN light illuminated. | _____ | _____   |
| 8.  | Examinee verifies CLOSED MO 2-1001-2A. | GREEN light illuminated. | _____ | _____   |
| 9.  | Examinee verifies CLOSED MO 2-1001-2B. | GREEN light illuminated. | _____ | _____   |
| 10.   | Examinee verifies CLOSED MO 2-1001-2C. | GREEN light illuminated. | _____ | _____   |

## Job Performance Measure (JPM)

| PERFORMANCE CHECKLIST  | STANDARDS                                     | SAT   | UNSAT | Comment |
|--|---|---|-------|---------|
| <b>BEGIN ALTERNATE PATH</b>                                  |   |   |       |         |
| *  | 11. Examinee verifies CLOSED MO 2-1001-4A.    | Examinee recognizes that MO 2-1001-4A did NOT close.  | _____ | _____   |
| *  | 12. Examinee CLOSES MO 2-1001-4A.             | Takes manual action for failed auto action by placing MO 2-1001-4A, c/s in the CLOSED position. | _____ | _____   |
|  | 13. Examinee verifies CLOSED MO 2-1001-4B.    | GREEN light illuminated.  | _____ | _____   |
|  | 14. Examinee verifies CLOSED MO 2-1001-4C.    | GREEN light illuminated.  | _____ | _____   |
| *  | 15. Examinee verifies CLOSED MO 2-1001-5A.    | Examinee recognizes that MO 2-1001-5A did NOT close.  | _____ | _____   |
| *  | 16. Examinee CLOSES MO 2-1001-5A.             | Takes manual action for failed auto action by placing MO 2-1001-5A, c/s in the CLOSED position. | _____ | _____   |
|  | 17. Examinee verifies CLOSED MO 2-1001-5B.    | GREEN light illuminated.  | _____ | _____   |
|  | 18. Informs Unit Supervisor task is complete. | Reports Group 3 complete and MO 2-1001-4A and 2-1001-5A failed to close automatically.          | _____ | _____   |
| <b><u>CUE:</u></b><br>Acknowledge report of task completion. |   |   |       |         |
|  |   | END   |       |         |

**JPM Stop Time:** \_\_\_\_\_

**Job Performance Measure (JPM)**

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: Verify Spurious Group 3 Isolation - Incomplete

Revision Number: 00

JPM Number: S-N-e

Task Number and Title: 295L022, Initiate/Verify automatic actuations of Emergency Systems.

K/A Number and Importance: 223002.A4.01 3.6 / 3.5

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 5 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DAN 902-5 D-5 (hard card), rev 13

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. A spurious Group 3 isolation has occurred.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to verify the Group 3 isolation is complete, utilizing the hard card.
2. Inform the Unit Supervisor when the task is complete.

# Exelon Nuclear

## Job Performance Measure

TRANSFER POWER TO TR-22 FROM TR-21

JPM Number: S-N-f

Revision Number: 01

Date: 09/08

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date



## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 00** New JPM.

**Revision 01** Revised for 2009 NRC Exam.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator any IC with only 2 RFPs and 3 Cond/Cond Booster Pumps operating.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Insert following Malfunctions and/or Remotes:

- None.

3. Setup the following Triggers:

- None.

4. Ensure ONLY 2 RFPs operating.

5. Ensure ONLY 3 Cond/Cond Booster Pumps operating.

### **DOCUMENT PREPARATION**

1. Marked up copy of DOP 6500-01.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Unit 2 was operating at rated power when the TR-21 trouble alarm is received.
3. The NLO, dispatched to TR-21, reported that the TR-21 cooling fans are not all operating and the transformer temperature is rising.
4. The Unit Supervisor has decided to unload TR-21 by transferring auxiliary power to TR-22.
5. Another operator will verify TR-86 Load Tap Changer positions and loading remains below the restrictions of the procedure.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to transfer Bus 21 and Bus 23 to TR-22 from TR-21 in accordance with DOP 6500-01.
2. Inform the Unit Supervisor when the task is complete.

---

**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

---

## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

| PERFORMANCE CHECKLIST  | STANDARDS | SAT  | UNSAT  | Comment |
|--|-----------|--|--|---------|
| <p><b><u>NOTE:</u></b></p> <p>Provide the examinee with the provided copy of DOP 6500-01.</p> <p>This task has two parts, which can be performed in any order.</p> |           |  |  |         |
| <p><b><u>CUE:</u></b></p> <p>IF the incoming and running voltages are NOT approximately equal, inform examinee that they ARE approximately equal.</p>              |           |  |  |         |
| <b>TRANSFER BUS 21 TO TR-22</b>  |           |  |  |         |
| *  | 1.        | Position TR-22 to Bus 21 SYNCHROSCOPE selector switch to ON.   | Switch in ON position.   | _____   |
|  | 2.        | Verify:<br>INCOMING VOLTS and RUNNING VOLTS meters approximately equal.<br>SYNCHRONIZING meter at 12 o'clock position and <u>NOT</u> rotating.<br>SYNCHRONIZING meter lights <u>NOT</u> glowing. | Voltages approximately equal.<br>Meter <u>NOT</u> rotating.<br>White lights extinguished.  | _____   |
| *  | 3.        | Position TR-22 to Bus 21 breaker control switch to CLOSE.  | RED light illuminated.   | _____   |
|  | 4.        | Verify:<br>SYNCHRONIZING meter at 12 o'clock position.<br>TR-22 to Bus 21 breaker indicates CLOSED.<br>Annunciator 902-8 D-1 in alarm.   | Meter <u>NOT</u> rotating.<br>RED light illuminated.<br>Annunciator 902-8 D-1 illuminated. | _____   |

## Job Performance Measure (JPM)

| PERFORMANCE CHECKLIST   |     | STANDARDS  | SAT   | UNSAT | Comment |       |
|---|-----|--|---|-------|---------|-------|
| *   | 5.  | Position TR-21 to Bus 21 breaker control switch to TRIP.   | GREEN light illuminated.  | _____ | _____   | _____ |
|   | 6.  | Verify:<br>TR-21 to Bus 21 breaker indicates OPEN.<br>Annunciator 902-8 D-1 clears.  | GREEN light illuminated.<br>Annunciator 902-8 D-1 extinguished.                           | _____ | _____   | _____ |
|   | 7.  | Position TR-22 to Bus 21 synchroscope selector switch to OFF.  | Switch in OFF position.   | _____ | _____   | _____ |
|   | 8.  | Verify Bus 21 AMMETER and VOLTMETER indications are normal.  | Verifies Bus 21 amps and volts are normal.  | _____ | _____   | _____ |
| <b><u>NOTE:</u></b>   |     |  |   |       |         |       |
| Amps may vary depending on conditions, and volts are normally ~ 4160. |     |  |   |       |         |       |
| <b>TRANSFER BUS 23 TO TR-22</b>                                       |     |  |   |       |         |       |
| *   | 9.  | Position TR-22 to Bus 23 SYNCHROSCOPE selector switch to ON.   | Switch in ON position.  | _____ | _____   | _____ |
|   | 10. | Verify:<br>INCOMING VOLTS and RUNNING VOLTS meters approximately equal.<br>SYNCHRONIZING meter at 12 o'clock position and <u>NOT</u> rotating.<br>SYNCHRONIZING meter lights <u>NOT</u> glowing. | Voltages approximately equal.<br>Meter <u>NOT</u> rotating.<br>White lights extinguished. | _____ | _____   | _____ |
| *   | 11. | Position TR-22 to Bus 23 breaker control switch to CLOSE.  | RED light illuminated.  | _____ | _____   | _____ |

## Job Performance Measure (JPM)

|   | PERFORMANCE CHECKLIST  | STANDARDS  | SAT   | UNSAT | Comment |
|---|--|--|-------|-------|---------|
|   | 12. Verify:<br>SYNCHRONIZING meter at 12 o'clock position.<br>TR-22 to Bus 23 breaker indicates CLOSED.<br>Annunciator 902-8 C-3 in alarm. | Meter <u>NOT</u> rotating.<br><br>RED light illuminated.<br><br>Annunciator 902-8 C-3 illuminated. | _____ | _____ | _____   |
| *   | 13. Position TR-21 to Bus 23 breaker control switch to TRIP.   | GREEN light illuminated.   | _____ | _____ | _____   |
|   | 14. Verify:<br>TR-21 to Bus 23 breaker indicates OPEN.<br>Annunciator 902-8 C-3 clears.  | GREEN light illuminated.<br><br>Annunciator 902-8 C-3 extinguished.                                | _____ | _____ | _____   |
|   | 15. Position TR-22 to Bus 23 synchroscope selector switch to OFF.  | Switch in OFF position.  | _____ | _____ | _____   |
|   | 16. Verify Bus 23 AMMETER and VOLTMETER indications are normal.  | Verifies Bus 23 amps and volts are normal.   | _____ | _____ | _____   |
| <b><u>NOTE:</u></b>   |  |  |       |       |         |
| Amps may vary depending on conditions, volts are normally ~ 4160. |  |  |       |       |         |
|   | 17. Informs Unit Supervisor task is complete.  | Examinee notifies the Unit Supervisor.   | _____ | _____ | _____   |
| <b><u>CUE:</u></b>  |  |  |       |       |         |
| Acknowledge report of task completion.                            |  |  |       |       |         |
| END   |  |  |       |       |         |

**JPM Stop Time:** \_\_\_\_\_

**Job Performance Measure (JPM)**

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: Auxiliary Power to TR-22 from TR-21

Revision Number: 01

JPM Number: S-N-f

Task Number and Title: 262L024, Transfer a 4160 volt bus between power supplies.

K/A Number and Importance: 262001.A4.04 3.6 / 3.7

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 14 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DOP 6500-01, rev 10

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Unit 2 was operating at rated power when the TR-21 trouble alarm is received.
3. The NLO, dispatched to TR-21, reported that the TR-21 cooling fans are not all operating and the transformer temperature is rising.
4. The Unit Supervisor has decided to unload TR-21 by transferring auxiliary power to TR-22.
5. Another operator will verify TR-86 Load Tap Changer positions and loading remains below the restrictions of the procedure.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to transfer Bus 21 and Bus 23 to TR-22 from TR-21 in accordance with DOP 6500-01.
2. Inform the Unit Supervisor when the task is complete.



# Exelon Nuclear

## Job Performance Measure

Drive TIP Detector to the Isolation Test Position

JPM Number: S-N-g

Revision Number: 02

Date: 01/09

Developed By: \_\_\_\_\_  
Instructor Date

Approved By: \_\_\_\_\_  
Facility Representative Date

## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 01** Bank JPM.

**Revision 02** Revised to current procedure revision for 2009 NRC Exam.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator to IC 12.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Ensure NO Group 2 isolation is present.

3. Insert following Malfunctions and/or Remotes:

- None.

4. Setup the following Triggers:

- None.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Post Maintenance Testing is required on the 2A TIP machine.
3. The Radiation Protection Department has been notified of the pending evolution.
4. All personnel are clear of TIP room, Shield Chamber, Index Machine and CRD areas.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to drive Channel "A" TIP Detector to the ISOLATION TEST POSITION per DOP 0700-06 step G.3.
2. Inform the Unit Supervisor when the task is complete.

---

**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

---

## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

| PERFORMANCE CHECKLIST  | STANDARDS  | SAT   | UNSAT | Comment # |
|--|--|-------|-------|-----------|
| <p><b><u>NOTE:</u></b><br/>Provide the Examinee a copy of DOP 0700-06</p>  |  |       |       |           |
| 1. Verify all BALL VALVES closed at Panel 902(3)-13:<br><ul style="list-style-type: none"> <li>• VLV CONTROL CH 1</li> <li>• VLV CONTROL CH 2</li> <li>• VLV CONTROL CH 3</li> <li>• VLV CONTROL CH 4</li> <li>• VLV CONTROL CH 5</li> </ul> | White indicating lights illuminated for:<br><ul style="list-style-type: none"> <li>• VLV CONTROL CH 1</li> <li>• VLV CONTROL CH 2</li> <li>• VLV CONTROL CH 3</li> <li>• VLV CONTROL CH 4</li> <li>• VLV CONTROL CH 5</li> </ul> | _____ | _____ | _____     |
| 2. Select DRIVE CONTROL CH A to insert detector.   | Selects DRIVE CONTROL CH A.  | _____ | _____ | _____     |
| 3. * Place MODE switch in MAN.   | Rotate switch to the MAN position.   | _____ | _____ | _____     |
| 4. * Place MAN. VALVE CONTROL in OPEN.   | Rotate switch to the OPEN position.  | _____ | _____ | _____     |
| 5. At VLV CONTROL CH 1, verify BALL VALVE OPEN light is illuminated.   | Red light is illuminated.  | _____ | _____ | _____     |
| <p><b><u>NOTE:</u></b><br/>Cycling of the mode switch, per step G.3.h, should not be necessary.</p>  |  |       |       |           |
| 6. * Place MANUAL switch in REV.   | Rotate switch to the REV position.   | _____ | _____ | _____     |
| 7. * Place MANUAL switch in OFF.   | Rotate switch to the OFF position.   | _____ | _____ | _____     |
| 8. Verify READY light LIT.   | White light is illuminated.  | _____ | _____ | _____     |
| 9. Place CORE LIMIT selector in TOP.   | Rotate switch to the TOP position.   | _____ | _____ | _____     |

## Job Performance Measure (JPM)

| PERFORMANCE CHECKLIST  | STANDARDS                                 | SAT   | UNSAT | Comment # |
|--|---|-------|-------|-----------|
| 10. Verify CORE LIMIT display produces a digit symbol in each digit window.                      | A digit is displayed in all four windows. | _____ | _____ | _____     |
| 11. Place CORE LIMIT selector in BOTTOM.   | Rotate switch to the BOTTOM position.     | _____ | _____ | _____     |
| 12. Verify CORE LIMIT display produces a digit symbol in each digit window.                      | A digit is displayed in all four windows. | _____ | _____ | _____     |
| 13. Verify DETECTOR POSITION display produces a digit symbol in each digit window.               | A digit is displayed in all four windows. | _____ | _____ | _____     |
| <b><u>NOTE:</u></b><br>Procedure step G.3.q is not required to be performed.                     |   |       |       |           |
| 14. Verify CORE LIMIT switch in BOTTOM position.   | Switch is in BOTTOM position.             | _____ | _____ | _____     |
| 15. At DRIVE CONTROL CH A, * place MANUAL switch in FWD to start TIP detector insertion.         | Rotate switch to the FWD position.        | _____ | _____ | _____     |
| 16. Verify DETECTOR POSITION rises from the IN-SHIELD position with increasing counts.           | Digits increasing.                        | _____ | _____ | _____     |
| 17. WHEN DETECTOR POSITION has counted approximately 30 digits, THEN place MANUAL switch in OFF. | Rotate switch to the OFF position.        | _____ | _____ | _____     |
| 18. Verify the IN-SHIELD light is OFF at the applicable Drive Unit.                              | White light is extinguished.              | _____ | _____ | _____     |

**Job Performance Measure (JPM)**

| PERFORMANCE CHECKLIST  | STANDARDS                                    | SAT   | UNSAT | Comment # |
|--|--|-------|-------|-----------|
| 19. Informs Unit Supervisor                                  | Examinee notifies the Unit 2 Unit Supervisor | _____ | _____ | _____     |
| <b><u>CUE:</u></b><br>Acknowledge report of task completion. |  |       |       |           |
| END  |  |       |       |           |

JPM Stop Time: \_\_\_\_\_

**Job Performance Measure (JPM)**

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: Drive TIP Detector to Isolation Position

JPM Number: S-N-g

Revision Number: 02

Task Number and Title: 21501LP002, Given plant conditions which require a TIP trace, run a TIP trace in the manual mode of operation.

K/A Number and Importance: 215001.A4.03 3.0 / 3.1

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 15 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DOP 0700-06, rev 24

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name: \_\_\_\_\_ (Print)

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



## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Post Maintenance Testing is required on the 2A TIP machine.
3. The Radiation Protection Department has been notified of the pending evolution.
4. All personnel are clear of TIP room, Shield Chamber, Index Machine and CRD areas.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to drive Channel "A" TIP Detector to the ISOLATION TEST POSIITION per DOP 0700-06 step G.3.
2. Inform the Unit Supervisor when the task is complete.

# Exelon Nuclear

## Job Performance Measure

SBGT POST MAINTENANCE TESTING WITH AN AUTO INITIATION SIGNAL

JPM Number: S-N-h

Revision Number: 07

Date: 09/08

Developed By: \_\_\_\_\_

Instructor

\_\_\_\_\_

Date

Approved By: \_\_\_\_\_

Facility Representative

\_\_\_\_\_

Date

## **Job Performance Measure (JPM)**

### **Revision Record (Summary)**

**Revision 06** Bank JPM.

**Revision 07** Revised for 2009 NRC Exam.

## **Job Performance Measure (JPM)**

### **SIMULATOR SETUP INSTRUCTIONS**

1. Reset the simulator to any low power IC with Reactor Building ventilation operating in a normal lineup.

NOTE: It is acceptable to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Ensure the 2/3A SBTG train is in STBY and the 2/3B SBTG train is in PRI.
3. Place control switches for Unit 2 and 3 DW and Torus Purge fans in **PTL** on 923-5 panel.
4. Insert following Malfunctions and/or Remotes:
  - Trg 1 "vgdstrta"  
(Causes Trigger 1 to activate when 2/3 SBTG control switch is place to START)
  - Imf radrbdah (1 45)  
(fails 'A' channel reactor building vent monitor high, to cause a Group II isolation 45 sec. after 2/3A SBTG switch is placed to START).
5. Setup the following Triggers:
  - None.

### **DOCUMENT PREPARATION**

1. Marked up copy of DOS 7500-02.

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Maintenance has been completed on 2/3 A SBGT train and the train is back in service.
3. The prerequisites of DOS 7500-02 have been completed.
4. IST testing is NOT required
5. Valve timing is NOT required.
6. No painting OR propane equipment operation has happened in the last 24 hours.
7. The Initial Cumulative Run Time has been recorded.

### **INITIATING CUE**

1. The Unit 2 Supervisor has directed you to perform DOS 7500-02 for the 2/3A SBGT train for post maintenance testing.
2. Notify the Unit 2 Supervisor when the task is complete up to step I.12.

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**Fill in the JPM Start Time when the student acknowledges the Initiating Cue.**

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

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## Job Performance Measure (JPM)

JPM Start Time: \_\_\_\_\_

| PERFORMANCE CHECKLIST  | STANDARDS  | SAT  | UNSAT | Comment |       |
|--|--|--|-------|---------|-------|
| <p><b><u>NOTE:</u></b></p> <p>Provide the examinee with the provided copy of DOS 7500-02.</p>  |  |  |       |         |       |
| 1.   | Ensure the following: <ul style="list-style-type: none"> <li>• 2/3 A and B AIR HEATERS are OFF.</li> <li>• 2/3 A and B Fans are OFF.</li> </ul>  | Correctly verifies: <ul style="list-style-type: none"> <li>• GREEN lights illuminated.</li> <li>• GREEN lights illuminated.</li> </ul> | _____ | _____   | _____ |
| 2.   | Verifies the following annunciators are NOT in alarm: <ul style="list-style-type: none"> <li>• 923-5 A-6, STBY GAS TRT SYS A TROUBLE</li> <li>• 923-5 B-6, STBY GAS TRT SYS B TROUBLE</li> </ul> | Correctly verifies: <ul style="list-style-type: none"> <li>• NOT illuminated.</li> <li>• NOT illuminated.</li> </ul>                   | _____ | _____   | _____ |
| *  | 3. Verify "B" SBTG SELECT SWITCH in B STBY position.   | Places 2/3 B SBTG SELECT switch in B STBY.   | _____ | _____   | _____ |
| *  | 4. Place 2/3 "A" SBTG SELECT SWITCH to START A position.   | Places the 2/3 "A" SBTG SELECT SWITCH to START A.  | _____ | _____   | _____ |
| <p><b><u>NOTE:</u></b></p> <p>The Initial Run Time data has already been recorded. (in the initial cues).</p>  |  |  |       |         |       |
| 5.   | Records the Initial Run Time data for SBTG Train "A" on Checklist 1.   | Verifies the Initial Run Time data for SBTG Train "A" on Checklist 1.  | _____ | _____   | _____ |
| <p><b><u>NOTE:</u></b></p> <p>45 sec. after the 2/3A SBTG control switch is placed to START, a malfunction is automatically inserted to cause a Reactor Building Hi-Hi Rad condition (auto start signal for SBTG).</p> <p style="text-align: center;">Depending on speed of candidate,<br/>the following step may or may NOT be completed prior to the malfunction being inserted.</p> |  |  |       |         |       |

## Job Performance Measure (JPM)

| PERFORMANCE CHECKLIST   |  | STANDARDS  | SAT   | UNSAT | Comment |
|---|--|--|---|-------|---------|
| 6.  | Verifies the 2/3A SBTG train initiated properly. | Verifies the 2/3A SBTG train is initiated properly.                  | _____   | _____ | _____   |
| <b><u>NOTE:</u></b>   |  |  |   |       |         |
| When Reactor Building Hi-Hi rad signal is received, the examinee should recognize the need to perform the required Limitation and Action steps (which may be performed in any order). |  |  |   |       |         |
| <b><u>CUE:</u></b>  |  |  |   |       |         |
| When Reactor Building Isolates (alarm 902-3 F-14), provide the following cue:<br>"Attention for an update, Reactor Building Vent Channel 'A' Rad Hi-Hi alarm received"                |  |  |   |       |         |
| <b>BEGIN ALTERNATE PATH</b>   |  |  |   |       |         |
| *   | 7.   | Place the SELECT SWITCH for the non-running train to PRI.            | Places the SELECT SWITCH for "B" SBTG train to PRI.   | _____ | _____   |
| *   | 8.   | Place the control switch for the train under test to OFF.            | Places the control switch for "A" SBTG train to OFF.  | _____ | _____   |
|   | 9.   | Verify train in PRI has sufficient flow and the heater is operating. | Nominally ~4000 scfm.                                 | _____ | _____   |
|   | 10.  | Place the Train previously under test to STBY.                       | Places the control switch for "A" SBTG train to STBY. | _____ | _____   |

## Job Performance Measure (JPM)

|  | PERFORMANCE CHECKLIST   | STANDARDS  | SAT   | UNSAT | Comment |
|--|---|--|-------|-------|---------|
| 11.  | Verifies a Reactor Building Isolation has occurred on Panel 923-4, verifying the following: <ul style="list-style-type: none"> <li>• Trip of both units Reactor Building Vent Fans (Panel 923-5)</li> <li>• Trip of both units' Reactor Building Exhaust Fans (Panel 923-5)</li> <li>• Trip of both units Drywell and Torus Purge Fans (Panel 923-5)</li> <li>• Closure of both units Reactor Building Ventilation Isolation Dampers (Panel 923-4)</li> </ul> | Verifies: <ul style="list-style-type: none"> <li>• GREEN lights illuminated.</li> <li>• GREEN lights illuminated.</li> <li>• GREEN lights illuminated.</li> <li>• RED lights illuminated.</li> </ul> | _____ | _____ | _____   |
| 12.  | Informs Unit Supervisor task is complete.   | Examinee notifies the Unit Supervisor.   | _____ | _____ | _____   |
| <b><u>CUE:</u></b><br>Acknowledge report of task completion. |   |  |       |       |         |
| END  |   |  |       |       |         |

**JPM Stop Time:** \_\_\_\_\_



**Job Performance Measure (JPM)**

Operator's Name: \_\_\_\_\_

Job Title: RO  SRO

JPM Title: SGBT POST MAINTENANCE TESTING WITH AN AUTO INITIATION SIGNAL

Revision Number: 07

JPM Number: S-N-h

Task Number and Title: 261L002, Start the SGBT system.

K/A Number and Importance: 261000.A2.13 3.4 / 3.7

**Suggested Testing Environment:** Simulator

**Actual Testing Environment:**  Simulator  Control Room  In-Plant

**Testing Method:**  Simulate  Perform  
Alternate Path:  Yes  No  
SRO Only:  Yes  No

**Time Critical:**  Yes  No

**Estimated Time to Complete:** 15 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DOS 7500-02, rev 44

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily?  Yes  No

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be:  Satisfactory  Unsatisfactory

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

Evaluator's Name (Print): \_\_\_\_\_

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

## **Job Performance Measure (JPM)**

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Maintenance has been completed on 2/3 A SBT train and the train is back in service.
3. The prerequisites of DOS 7500-02 have been completed.
4. IST testing is NOT required
5. Valve timing is NOT required.
6. No painting OR propane equipment operation has happened in the last 24 hours.
7. The Initial Cumulative Run Time has been recorded.

### **INITIATING CUE**

1. The Unit 2 Supervisor has directed you to perform DOS 7500-02 for the 2/3A SBT train for post maintenance testing.
2. Notify the Unit 2 Supervisor when the task is complete up to step I.12.