

**Exelon Nuclear**

**Job Performance Measure**

CRD - CROSSTIE FOR ALTERNATE INJECTION

JPM Number: S-N-i

Revision Number: 07

Date: 02/12

# **EXAM MATERIAL**

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

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

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

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

**Revision 06** Bank JPM.

**Revision 07** Revised for ILT 11-1 (2012-301) NRC Exam.

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

### **SIMULATOR SETUP INSTRUCTIONS**

1. None, this is an in-plant JPM.

### **DOCUMENT PREPARATION**

1. Clean copy of DEOP 0500-03.

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

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Unit 2 has been manually scrammed following a loss of Feedwater.
3. The 2B CRD pump is OOS AND the 2A pump has tripped AND CANNOT be restarted.
4. HPCI was started AND returned Reactor water level to +15" before an oil leak developed requiring HPCI to be shutdown.
5. The 3A CRD pump is OOS.
6. The 3B CRD pump is running.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to IMMEDIATELY perform the in-plant manipulations to crosstie Unit 2 to the Unit 3 CRD pump discharge header for Unit 2 RPV injection in accordance with DEOP 0500-03 steps G.6.a-g.
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
<b><u>NOTE:</u></b>				
Provide the examinee with the supplied copy of DEOP 0500-03.				
1.	Verify the Unit 3 CRD system parameters of current and cooling flow.	Establishes communication with the Unit 3 control room.	_____	_____
<b><u>CUE:</u></b>				
.Report the following parameters: 3B CRD Pump current of 25 amps and cooling flow of 45 gpm.				
<b><u>NOTE:</u></b>				
.CRD system key is required to open locked valves. Do NOT allow examinee to check out key.				
2.	Verify 3-0301-1B CRD PMP DISCH VLV is OPEN.	Verifies 3-0301-1B rising stem full out AND/OR handwheel is full CCW.	_____	_____
<b><u>CUE:</u></b>				
The component is in the condition you described.				
*	3. Closes 3-0399-604, U3 CRD PMP DISCH HDR MIN FLOW THROTTLING VLV.	Rotates 3-0399-604 handwheel CW until handwheel is full CW.	_____	_____
<b><u>CUE:</u></b>				
The component is in the condition you described.				
*	4. Open 2/3-0301-163 U2 & U3 CRD SYS CROSSTIE VLV.	Rotates 2/3-0301-163 handwheel CCW until handwheel is full CCW.	_____	_____

## Job Performance Measure (JPM)

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	Comment	
<b><u>CUE:</u></b>					
The component is in the condition you described.					
5.	Throttle open 2/3-0301-162 U2 & U3 CRD SYS CROSSTIE VLV while maintaining CRD pp current <39 amps and CRD Suction pressure >18" Hg vacuum.	Adjusts 2/3-0301-162 handwheel CCW in small increments, while maintaining communication other Operators to ensure amps and suction pressure stay within limits.	_____	_____	_____
<b><u>CUE:</u></b>					
<ul style="list-style-type: none"> <li>2/3-0301-162 handwheel is full CCW.</li> <li>Unit 3 CRD system cooling water flow is 45 gpm.</li> <li>Unit 2 CRD system cooling water flow is 44 gpm.</li> <li>3B CRD pump current is 35 amps.</li> <li>3B CRD pump suction pressure is 5" Hg vacuum.</li> </ul>					
<b><u>NOTE:</u></b>					
The above cues are intended to inform the examinee that the 2/3-0301-162 handwheel is full open and all parameters are within band.					
6.	Reports to the Unit Supervisor that the task is complete.	Unit 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: CRD - CROSSTIE FOR ALTERNATE INJECTION

Revision Number: 07

JPM Number: S-N-i

Task Number and Title: 295L092, Crosstie CRD systems for alternate injection.

K/A Number and Importance: 295031.A1.08 3.8 / 3.9

**Suggested Testing Environment:** In-Plant

**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:** 10 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DEOP 0500-03, rev 20

### **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 has been manually scrammed following a loss of Feedwater.
3. The 2B CRD pump is OOS AND the 2A pump has tripped AND CANNOT be restarted.
4. HPCI was started AND returned Reactor water level to +15" before an oil leak developed requiring HPCI to be shutdown.
5. The 3A CRD pump is OOS.
6. The 3B CRD pump is running.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to IMMEDIATELY perform the in-plant manipulations to crosstie Unit 2 to the Unit 3 CRD pump discharge header for Unit 2 RPV injection in accordance with DEOP 0500-03 steps G.6.a-g.
2. Inform the Unit Supervisor when the task is complete.



**Exelon Nuclear**

**Job Performance Measure**

ISO COND - LOCAL MAKEUP PUMP OPERATION,  
WITH COOLING WATER FAILURE

JPM Number: S-N-j

Revision Number: 00

Date: 02/12

# **EXAM MATERIAL**

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

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

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

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

**Revision 00** New JPM developed for ILT 11-1 (2012-301) NRC Exam.

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

### **SIMULATOR SETUP INSTRUCTIONS**

1. None, this is an in-plant JPM.

### **DOCUMENT PREPARATION**

1. Clean copy of DSSP 0100-CR, attachment I.

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

### **INITIAL CONDITIONS**

1. You are the Unit 2 Aux NSO.
2. Smoke in the Control Room has led to a Control Room Evacuation.
3. The Unit 2 Isolation Condenser is in service and makeup to the shell side is required.
4. The 2-4399-74, CLEAN DEMIN VLV, valve is open.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to start an Isolation Condenser Makeup Pump in accordance with DSSP 0100-CR Attachment I.
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 supplied copy of DSSP 0100-CR, attachment I.                      CB-1 key is required for entry into the Iso Cond makeup pump building.                      The candidate may choose to start either engine.</p>				
*	1.	Place the REMOTE-OFF-RUN toggle switch for either engine in RUN.	Switch at panel 2223-126A or B, placed in RUN.	_____
<p><b><u>CUE:</u></b></p> <p>The component is in the condition you described.</p>				
	2.	Verify engine starts and comes up to stable speed.	Engine RPM indicator on panel 2223-126A or B is checked.	_____
<p><b><u>CUE:</u></b></p> <p>The engine has started and is running.</p>				
<p><b><u>NOTE:</u></b></p> <p>The indicator is an LCD display that scrolls through the parameters, (only while the engine is running).</p>				
	3.	Monitor the following engine parameters to ensure limits are NOT exceeded: <ul style="list-style-type: none"> <li>• Oil Pressure</li> <li>• Water Temperature</li> <li>• RPM</li> </ul>	Checks the parameters on the LCD display.	_____
<b>BEGIN ALTERNATE PATH</b>				
<p><b><u>CUE:</u></b></p> <p>Provide the following engine parameter values:</p> <ul style="list-style-type: none"> <li>• Oil pressure: 55 psi</li> <li>• Water Temperature 215°F</li> <li>• RPM 1802 rpm</li> </ul>				
	4.	Recognizes that water temperature has exceeded the high limit.	> 205°F.	_____

## Job Performance Measure (JPM)

PERFORMANCE CHECKLIST		STANDARDS	SAT	UNSAT	Comment
*	5. Stops running engine by placing the REMOTE-OFF-RUN toggle switch to OFF.	Switch at panel 2223-126A or B, placed in OFF.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					
*	6. Starts the opposite IC Makeup Pump, than was originally started.	Switch at panel 2223-126A or B, placed in RUN.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					
	7. Verify engine starts and comes up to stable speed.	Engine RPM indicator on panel 2223-126A or B is checked.	_____	_____	_____
<b><u>CUE:</u></b> The engine has started and is running.					
	8. Monitor the following engine parameters to ensure limits are NOT exceeded: <ul style="list-style-type: none"> <li>• Oil Pressure</li> <li>• Water Temperature</li> <li>• RPM</li> </ul>	Checks the parameters on the LCD display.	_____	_____	_____
<b><u>CUE:</u></b> Provide the following engine parameter values: <ul style="list-style-type: none"> <li>• Oil pressure: 59 psi</li> <li>• Water Temperature 185°F</li> <li>• RPM 1799 rpm</li> </ul>					
	9. Notifies SM/U2 US that an Iso Cond Makeup Pump is in operation.	Notifies appropriate individual.	_____	_____	_____

**Job Performance Measure (JPM)**

PERFORMANCE CHECKLIST		STANDARDS	SAT	UNSAT	Comment
<b><u>CUE:</u></b> Inform the candidate that another Operator will perform monitoring duties.					
10.	Reports to the SM/U2 US that the task is complete.	SM/U2 US 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: ISO COND - LOCAL MAKEUP PUMP OPERATION, WITH COOLING WATER FAILURE

Revision Number: 00

JPM Number: S-N-j

Task Number and Title: 207N020, Start Isolation Condenser Makeup Pump.

K/A Number and Importance: 207000.A2.05 4.0 / 4.0

**Suggested Testing Environment:** In-Plant

**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:** 10 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:** DSSP 0100-CR, rev 43

### **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. Smoke in the Control Room has led to a Control Room Evacuation.
3. The Unit 2 Isolation Condenser is in service and makeup to the shell side is required.
4. The 2-4399-74, CLEAN DEMIN VLV, valve is open.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to start an Isolation Condenser Makeup Pump in accordance with DSSP 0100-CR Attachment I.
2. Inform the Unit Supervisor when the task is complete.

**Exelon Nuclear**

**Job Performance Measure**

INST AIR - CROSS CONNECT 3C IAC TO UNIT 2 ONLY

JPM Number: S-N-k

Revision Number: 00

Date: 02/12

**EXAM MATERIAL**

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

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

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

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

**Revision 00** New JPM developed for ILT 11-1 (2012-301) NRC Exam.

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

### **SIMULATOR SETUP INSTRUCTIONS**

1. None, this is an in-plant JPM.

### **DOCUMENT PREPARATION**

1. Clean copy of DOP 4700-03.

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

### **INITIAL CONDITIONS**

1. You are an extra NSO.
2. Both units are operating at near rated power.
3. The Unit 2A Instrument Air compressor is O.O.S.
4. The Unit 2B Instrument Air compressor is having difficulty keeping up with the Unit 2 Instrument Air demand.
5. The Unit 3C Instrument Air compressor is operating but is isolated from both units.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to align the Unit 3C Instrument Air compressor to Unit 2 only, per DOP 4700-03, step g.9.
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.

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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: \_\_\_\_\_

	<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 supplied copy of DOP 4700-03.					
1.	Candidate may call control room and ask if the 3C IAC is in operation, with air dryers valved in.	Contacts control room.	_____	_____	_____
<b><u>CUE:</u></b> The 3C Instrument Air Compressor is running, the air dryers are valved in, but the compressor is isolated from both units headers.					
2.	Verify closed 3-4799-501A, 3C IAC DISCH TO U 3 INST AIR HEADER ISOL VLV.	Valve handwheel is in the full CW position.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					
*	3. Close 2/3-4799-424, U2/U3 X TIE SV.	Valve handwheel is in the full CW position.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					
*	4. Open 2/3-4799-425, 3C IAC TO U2 AIR SYS X TIE SV.	Valve handwheel is in the full CCW position.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					
*	5. Open 2-47350-500, U2 INST AIR SYS XTIE FROM THE U3 INST AIR SYS.	Valve handwheel is in the full CCW position.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					

## Job Performance Measure (JPM)

	PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	Comment
*	6. Open 2-47350-329, U2 INST AIR HDR ISOL VLV.	Valve handwheel is in the full CCW position.	_____	_____	_____
<b><u>CUE:</u></b> The component is in the condition you described.					
	7. Reports to the Unit 2 Supervisor that the task is complete.	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: INST AIR - CROSS CONNECT 3C IAC TO UNIT 2 ONLY

Revision Number: 00

JPM Number: S-N-k

Task Number and Title: 278N011, Crosstie the Unit 2 and Unit 3 Instrument Air systems.

K/A Number and Importance: 300000.G.2.1.30 4.4 / 4.0

**Suggested Testing Environment:** In-plant

**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:** DOP 4700-03, rev 16

### **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 an extra NSO.
2. Both units are operating at near rated power.
3. The Unit 2A Instrument Air compressor is O.O.S.
4. The Unit 2B Instrument Air compressor is having difficulty keeping up with the Unit 2 Instrument Air demand.
5. The Unit 3C Instrument Air compressor is operating but is isolated from both units.

### **INITIATING CUE**

1. The Unit Supervisor has directed you to align the Unit 3C Instrument Air compressor to Unit 2 only, per DOP 4700-03, step g.9.
2. Inform the Unit Supervisor when the task is complete.