

Exelon Nuclear

Job Performance Measure

DC Load Shed after Station Blackout

JPM Number: SRO/RO-i.

Revision Number: 00

Date: 05/05/2010

Developed By: _____
Facility Author Date

Approved By: _____
Facility Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 8 and 12 below.

- _____ 1. Task description and number, JPM description and number are identified.
- _____ 2. Knowledge and Abilities (K/A) references are included.
- _____ 3. Performance location specified. (in-plant, control room, simulator, or other)
- _____ 4. Initial setup conditions are identified.
- _____ 5. Initiating cue (and terminating cue if required) are properly identified.
- _____ 6. Task standards identified and verified by SME review.
- _____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
- _____ 8. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure _____ Rev: _____
Procedure _____ Rev: _____
Procedure _____ Rev: _____
- _____ 9. Verify cues both verbal and visual are free of conflict.
- _____ 10. Verify performance time is accurate
- _____ 11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME/Instructor	Date
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SME/Instructor	Date
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SME/Instructor	Date
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Revision Record (Summary)

1. **Revision 00:** This JPM was written by G.W. Beale for the 2007 NRC Annual Examination.
2. **Revision 01:** This revision was for procedure and JPM template changes.
3. **Revision 00** Revised from rev. 1 for ILT NRC exam.

Materials

1. The following material is required to be provided to examinee:
 - a. One copy of Attachment N of LOA-AP-201
 - b. One laser pointer.

NOTE

This JPM is to be started just inside the 4 line in the RCA on the 710'TB for uniformity of time taken.

NOTE

After the examinee acknowledges the cue, **provide** examinee with copy of LOA-AP-201, Attachment N.

INITIAL CONDITIONS

You are an extra NSO

- A switchyard fault has caused both Units to Scram due to a loss of Offsite Power.
- DGs 1A, 2A and 0 have failed to start.

INITIATING CUE

The Unit Supervisor has directed you perform Step 1 of Attachment N of LOA-AP-201.

You are to inform the Unit Supervisor when Step 1 is complete.

This is a time critical JPM.

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.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UN	SAT	ent	Nu
NOTE This JPM has a critical time of 30 minutes							
NOTE This JPM is to be started just inside the 4 line in the RCA on the 710'TB for uniformity of time taken.							
NOTE After the examinee acknowledges the cue, provide examinee with copy of LOA-AP-201, Attachment N.							
NOTE The following Breakers are on 211X (2DC10E) AB710. They may be opened in any order							
*1.	CB2 FEED WATER PUMP TURB 2A CONTROL	Examinee simulates opening CB2	—	—	—		
CUE The breaker you have indicated is in the position you describe.							
*2.	CB12 TURB BLDG LIGHTING CAB #241	Examinee simulates opening CB12	—	—	—		
CUE The breaker you have indicated is In the position you describe.							
NOTE The following Breakers are on 211Y (2DC11E) AB710. They may be opened in any order							
*3.	CB11 RX BLDG LIGHTING CAB #240	Examinee simulates opening CB11	—	—	—		
CUE The breaker you have indicated is in the position you described.							
*4.	CB14 LFMG AUX RLY PNL 2B33-P001A	Examinee simulates opening CB14	—	—	—		

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UN SAT	ent Nu
<p align="center">CUE</p> <p align="center">The breaker you have indicated is in the position you described.</p>					
<p align="center">NOTE</p> <p align="center">The following Breakers are on 212X (2DC12E) AB731. They may be opened in any order</p>					
*5.	CB1 FEED WATER PUMP 2B TURB CONTROL	Examinee simulates opening CB1	—	—	—
<p align="center">CUE</p> <p align="center">The breaker you have indicated is in the position you described.</p>					
*6.	CB2 FEED WATER CONTR SYS PNL 2H13-P613	Examinee simulates opening CB2	—	—	—
<p align="center">CUE</p> <p align="center">The breaker you have indicated is in the position you described.</p>					
*7.	CB4 H2 & STATOR CLNG CABINET 2PL19J	Examinee simulates opening CB4	—	—	—
<p align="center">CUE</p> <p align="center">The breaker you have indicated is in the position you described.</p>					
*8.	CB19 TURB BLDG LIGHTING CAB #243	Examinee simulates opening CB19	—	—	—
<p align="center">CUE</p> <p align="center">The breaker you have indicated is in the position you described.</p>					
<p align="center">NOTE</p> <p align="center">The following Breakers are on 212Y (2DC13E) AB731. They may be opened in any order</p>					
*9.	CB9 REACTOR PNL RECIRC SYS "RR" 2B33-P001B	Examinee simulates opening CB9	—	—	—
<p align="center">CUE</p> <p align="center">The breaker you have indicated is in the position you described.</p>					

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UN SAT	ent Nu
*10.	CB13 RX BLDG LIGHTING CAB #242	Examinee simulates opening CB13	—	—	—
<p style="text-align: center;">CUE</p> <p style="text-align: center;">The breaker you have indicated is in the position you described.</p>					
11.	Reports to the Unit Supervisor.	Tells the Unit Supervisor that the Step 1 of Attachment N is complete.	—	—	—
<p style="text-align: center;">TERMINATING CUE</p> <p>Acknowledge report as Unit Supervisor. Inform the Examinee that the JPM is complete. Record the JPM Stop Time in the blank below.</p>					

JPM Stop Time: _____

Operator's Name: _____
Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: DC Load Shed after Station Blackout

JPM Number: _SRO/RO-i. **Revision Number:** _00

Task Number and Title: 5.013 Respond to a Total Loss of AC Power_

K/A Number and Importance: 263000, A4.01, 3.3/3.5

Suggested Testing Environment: 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

Critical Time: 30 minutes

Validation Time 14 minutes **Actual Time:** _____ minutes

References:

LOA-AP-201, Unit 2 AC Power Abnormal, Revision 27; UFSAR 15.9.3.2 and Table 15.9-2

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:** _____

INITIAL CONDITIONS

You are an extra NSO

- A switchyard fault has caused both Units to Scram due to a loss of Offsite Power.
- DGs 1A, 2A and 0 have failed to start.

INITIATING CUE

The Unit Supervisor has directed you perform Step 1 of Attachment N of LOA-AP-201.

You are to inform the Unit Supervisor when Step 1 is complete.

This is a time critical JPM.

Exelon Nuclear

Job Performance Measure

Fill the Standby Liquid Control System Solution Tank with an alternate source of water for alternate injection

JPM Number: SRO/RO-j.

Revision Number: 00

Date: 05/05/2010

Developed By: _____
Facility Author

Date

Approved By: _____
Facility Representative

Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 8 and 12 below.

- _____ 1. Task description and number, JPM description and number are identified.
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- _____ 3. Performance location specified. (in-plant, control room, simulator, or other)
- _____ 4. Initial setup conditions are identified.
- _____ 5. Initiating cue (and terminating cue if required) are properly identified.
- _____ 6. Task standards identified and verified by SME review.
- _____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
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 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
- _____ 9. Verify cues both verbal and visual are free of conflict.
- _____ 10. Verify performance time is accurate
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- _____ 12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Rev. 11	8/31/98	Added this page. Revised JPM to reflect Rev. 4 of LGA-SC-02 (hose routing and securing methods). Incorporated new JPM format.
Rev. 12		LGA-SC-102 Rev. 1
Rev. 13	07/15/08	Revised for formatting and procedure revisions.
Rev.00		Rev. from Rev. 13 for 09-1 ILT NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. N/A

INITIAL CONDITIONS

- LGA-001 in progress, all control rods fully inserted.
- RPV water level stable at –130 inches.
- RPV pressure is 45 psig.
- The Standby Liquid Control System is the only available injection system and is injecting into the reactor vessel.
- The Standby Liquid Control System Storage Tank is nearly empty; the NSO calculates that the Standby Liquid Control System pump will lose suction in about 20 minutes.
- You have a plant radio.
- Radiological conditions are normal.

INITIATING CUE

The NSO has directed you to fill the Unit 1 Standby Liquid Control System Storage Tank with an alternate source of water per the Alternate Vessel Injection Using Standby Liquid Control System Procedure, LGA-SC-102, Step C.5.d.

You are to notify the Control Room when you have the alternate system lined up.

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.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

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.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
01	Obtain LGA-SC102 procedure and Remote LGA locker key (LA Key).	Obtain or describe where procedure and Remote LGA locker key can be obtained.	—	—	—
02	Obtain Unit 1 LGA-SC-102 Equipment Bag bag containing 2 crescent wrenches, velco straps and locked valve key.	The examinee simulates obtaining the necessary equipment. (outside U-2 AEER 731' AB)	—	—	—
CUE	You have obtained the equipment that you identified..				
NOTE	Locked valve keys are also located in the Unit Supervisor's or WEC desk.				
CUE:	If the examinee checks tank level and begins to wait until the tank is almost empty, inform the examinee that the tank has pumped down.				
NOTE	<p>The intent of the above cue is to inform the examinee that steps to fill the tank with MC or FP may continue. The procedure has the operator wait until the tank is empty before adding water.</p> <p>Based on the initial conditions the operator would expect several hundred gallons to be left in the tank upon initial arrival. This cue is to avoid an awkward waiting period between when the operator is ready to add water and when the procedure requires water to be added.</p>				
CUE:	Inform the examinee that the Control Room reports MC is available.				
NOTE	The examinee may get to this step without obtaining the locked valve key and realize that one is required. If this happens, ask the examinee to tell you where he would obtain the key. If he correctly states "The Unit Supervisor", penalize 5 minutes total transit time, and that he now has the key. The valve is located at eye level on the skid next to the storage tank on 820', southeast corner of the Reactor Building.				
3	UNLOCK and OPEN 1(2)C41-F304, SBLC Storage Tank Clean Demin Water Supply Valve per Attachment 1A of the procedure.	The examinee identifies the correct valve, and simulates repositioning it.	—	—	—
CUE	<p>Inform the examinee that the lock is removed and the valve is open.</p> <p>Then inform the examinee that no flow noise is observed and the Control Room has found that the MC pump discharge pressure equals 0 psig.</p> <p>If examinee references the local level indicator, looks in the tank or reads head tank level, tell him there is no level increase noted.</p>				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
04	Remove manway cover.	States manway cover to be removed.	—	—	—
CUE:	Inform the examinee that the manway cover is removed.				
NOTE	There are two fire hoses that can be used. The location of these fire hoses is provided in the procedure.				
05	The examinee locates one of the following fire hoses: F109 (U1) FB108 (U1)	The examinee locates fire hose.	—	—	—
06	COMPLETELY UNWIND fire hose.	The examinee simulates unwinding the fire hose.	—	—	—
*07	Route fire hose up side of Storage Tank and secure to side of ladder with velcro straps.	Examinee verbalizes routing and securing of hose to side of Storage Tank ladder.	—	—	—
CUE	After the fire hose is placed in the Storage Tank, inform the examinee that the SBLC pump has started to cavitate. When the nozzle is opened and isolation valve opened, inform the examinee that water is flowing freely from the nozzle.				
*8.	Open OR remove NOZZLE, IF APPLICABLE, AND PLACE HOSE INTO Storage Tank through manway at least 2' into tank.	Examinee verbalizes opening or removing nozzle and placement into tank.	—	—	—
9.	Install manway cover carefully to prevent constricting hose when pressurized.	Examinee verbalizes installation of manway.	—	—	—
*10.	ADD water to the Storage Tank using the fire hose.	The examinee simulates opening the Fire Hose Isolation Valve.	—	—	—
CUE	When the nozzle is opened and isolation valve opened, inform the examinee that water is flowing freely from the nozzle.				
11.	Inform the Control Room.	Control Room informed.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE	The JPM is considered complete when the examinee simulates opening the fire hose isolation valve and informs the Control Room.				

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Job Title:** ☐ EO ☐ RO ☐ SRO ☐ FS
☐ STA/IA ☐ SRO Cert

JPM Title: Fill the Standby Liquid Control System Solution Tank with an alternate source of water for alternate injection.

JPM Number: SRORO-j. Revision Number:00

Task Number and Title: 414.010, Control RPV water level using SBLC IAW LGA-SC-102.

K/A Number and Importance: 295031.2, EA1.08, 3.8/3.9

Suggested Testing Environment: Plant

Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No

Reference(s): LGA-SC-102, Rev. 1,

Actual Testing Environment: ☐ Simulator ☐ Control Room ☒ In-Plant ☐ Other

Testing Method: ☒ Simulate ☐ Perform

Estimated Time to Complete: 20 minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments:_____

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Evaluator's Name: _____ (Print)

Evaluator's Signature: _____ **Date:** _____

INITIAL CONDITIONS

- LGA-001 in progress, all control rods fully inserted.
- RPV water level stable at –130 inches.
- RPV pressure is 45 psig.
- The Standby Liquid Control System is the only available injection system and is injecting into the reactor vessel.
- The Standby Liquid Control System Storage Tank is nearly empty; the NSO calculates that the Standby Liquid Control System pump will lose suction in about 20 minutes.
- You have a plant radio.
- Radiological conditions are normal.

INITIATING CUE

The NSO has directed you to fill the Unit 1 Standby Liquid Control System Storage Tank with an alternate source of water per the Alternate Vessel Injection Using Standby Liquid Control System Procedure, LGA-SC-102, Step C.5.d.

You are to notify the Control Room when you have the alternate system lined up.

Exelon Nuclear
Job Performance Measure

**Manually isolate a stuck open Primary Containment Vacuum
Breaker**

JPM Number: SRO/RO-k.

Revision Number: 00

Date: 05/05/2010

Developed By: _____
Facility Author **Date**

Approved By: _____
Facility Representative **Date**

Job Performance Measure (JPM)**JOB PERFORMANCE MEASURE VALIDATION CHECKLIST**

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- _____ 5. Initiating cue (and terminating cue if required) are properly identified.
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SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Job Performance Measure (JPM)**Revision Record (Summary)**

1. **Revision 09,** Revised to new JPM format and incorporated changes for Revision
2. **Revision 10** Revised for formatting, removed unit specific and procedure revision.
3. **Revision 00** Revised from rev. 10 for 09-1 ILT NRC Exam. Changed from High Rad area to non-high rad to add second crit step of closing second isolation valve.

SPECIAL

Once it is determined which unit this JPM will be performed on – the unit designee should be written in the locations necessary within this JPM, including the initial conditions on the next and last pages.

Job Performance Measure (JPM)**INITIAL CONDITIONS**

During a loss of coolant accident (LOCA) on Unit 1 the following conditions exist:

- 1) A Suppression Pool to Drywell Vacuum Breaker is open as indicated in the Control Room.
- 2) Control Room Panel 1H13-P601 indication for Primary Containment Vacuum Breaker 1PC001C shows the valve as not fully CLOSED.
- 3) Reactor Building radiation levels are normal.
- 4) A Radiation Technician is standing by to assist you.
- 5) You have a plant radio.

INITIATING CUE

The Unit 1 NSO has directed you to close the 'C' vacuum breaker IAW LOA-PC-101 "Primary/Secondary Containment Trouble" Section B.2. Step 1.1

You are to notify the Control Room when the vacuum breaker is closed.

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.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	COMMENT	NUMBER
NOTE:	The examiner will act as Rad Tech. Dose rates for plant areas are normal.					
NOTE:	The following determination may not be evident until the Examinee completes the task.					
1.	Assess Reactor Building radiation levels.	The Examinee should determine that based on the initial conditions both isolation valves should be closed.	—	—	—	
NOTE:	Locked Valve Keys can be obtained from the WEC or US if not already in possession.					
2.	Obtain a locked valve key.	If required, the Examinee obtains a locked valve key.	—	—	—	
NOTE:	The Examiner may choose to simulate having the Examinee obtain a small crescent wrench. Vacuum Breaker is just off RB elevator on 740' elevation.					
*3	CLOSE the “C” Vacuum Breaker using a small crescent wrench.	The Examinee simulates closing the “C” Vacuum Breaker using a small crescent wrench.	—	—	—	
CUE:	The Vacuum Breaker does NOT close.					
ALTERNATE PATH BEGINS HERE.						
NOTE:	The Examinee should use Attachment B to locate the correct isolation valves for the “C” Vacuum Breaker					
NOTE:	Based on Area Radiation Readings the examinee should close both isolation valves – 1PC003C and 1PC002C.					
*4	UNLOCK and CLOSE 1PC003C on 725'6 RB SW on DW N of elevator above DW equipment Drain Pumps.	The Examinee simulates unlocking and closing either 1PC003C,	—	—	—	

Job Performance Measure (JPM)

STEP	ELEMENT	STANDARD	SAT	UNSAT	COMMENT NUMBER
CUE:	The valve is unlocked and closed		—	—	—
*5	UNLOCK and CLOSE 1PC002C on 751' RB SW on DW, N of elevator.		—	—	—
6	The Examinee exits the radiation area and notifies the Unit NSO that the "C" Vacuum Breaker is ISOLATED.	The Examinee exits the area and simulates notifying the Unit NSO that the "C" Vacuum Breaker is ISOLATED.	—	—	—
TERMINATING CUE:	Acknowledge the Report and inform the examinee that the JPM is complete.				
NOTE:	The Examinee may make a notification of Tech Spec and TRM due to procedural steps in LOA-PC-1(2)01.				

JPM Stop Time: _____

Job Performance Measure (JPM)**INITIAL CONDITIONS**

During a loss of coolant accident (LOCA) on Unit 1 the following conditions exist:

- 1) A Suppression Pool to Drywell Vacuum Breaker is open as indicated in the Control Room.
- 2) Control Room Panel 1H13-P601 indication for Primary Containment Vacuum Breaker 1PC001C shows the valve as not fully CLOSED.
- 3) Reactor Building radiation levels are normal.
- 4) A Radiation Technician is standing by to assist you.
- 5) You have a plant radio.

INITIATING CUE

The Unit 1 NSO has directed you to close the 'C' vacuum breaker IAW LOA-PC-101 "Primary/Secondary Containment Trouble" Section B.2. Step 1.1

You are to notify the Control Room when the vacuum breaker is closed.