

Exelon Nuclear

Job Performance Measure

Inhibit and Prevent with a failure of the Division1 Injection Override Switch

JPM Number: S-RH-29

Revision Number: 00

Date: 6 / 4 / 2018

Developed By: C. Betken/s 8/8/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/9/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LPGP-PSTG-01S14 Rev: 8
 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, Developed for 17-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 358 Password 0358

<p>NOTE: It is okay 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.</p>

2. Load and run Smart Scenario S-RH-29.ssf.
3. Verify the Inhibit and Prevent Hardcard is Clean.
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Balance of Plant and Unit 1 has experienced an ATWS and LGA-010 has been entered.

INITIATING CUE

The Unit Supervisor has ordered you to Inhibit ADS and Prevent ECCS Injection and to inform them when 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.

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.

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JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE	The Examinee may obtain a copy of the "Inhibit and Prevent" Hardcard				
NOTE	The IC is a High Power ATWS and Pressure/Level will not Lower, therefore takes Pumps to OFF will not work as there is no Auto-start signal present.				
*1	PREVENT HPCS Injection: <ul style="list-style-type: none"> ○ OVERRIDE 1E22-C001, HPCS Pump, Off. ○ PLACE 1E22-C001, HPCS Pump, in PTL. 	Examinee takes 1E22-C001 to: <ul style="list-style-type: none"> • PTL 	_____	_____	_____
*2	PREVENT All LPCI Injection: <ul style="list-style-type: none"> ○ PLACE Div 2 Inj Override Switch to ATWS <ul style="list-style-type: none"> • Verify the Div. 2 Red Injection Override Switch Light Illuminated. • Verify White Manual Override Light for 1E12-F042B AND 1E12-F042C Illuminated. ○ OVERRIDE 1E12-C002C, 1C RHR Pump, Off. ○ PLACE 1E12-C002C, 1C RHR Pump, in PTL. ○ OVERRIDE 1E12-C002B, 1B RHR Pump, Off. ○ PLACE 1E12-C002B, 1B RHR Pump, in PTL. ○ At 500 psig in the RPV, OVERRIDE Closed 1E12-F042B, 1B RHR LPCI Injection Valve, if desire to use 1B RHR to cool pool/containment. 	Examinee prevents Div 2 LPCI: <ul style="list-style-type: none"> ○ PLACE Div 2 Inj Override Switch to ATWS <ul style="list-style-type: none"> • Verify the Div. 2 Red Injection Override Switch Light Illuminated. • Verify White Manual Override Light for 1E12-F042B AND 1E12-F042C Illuminated. OR <ul style="list-style-type: none"> ○ PLACE 1E12-C002C, 1C RHR Pump, in PTL. ○ PLACE 1E12-C002B, 1B RHR Pump, in PTL. 	_____	_____	_____
ALTERNATE PATH BEGINS HERE					

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE	When the Div 1 Injection Override Switch is taken to the ATWS position It will fail. This will be noticed by the Red light above the switch not illuminated AND the white light above the injection valves not illuminated.				
NOTE	If the Examinee attempts to take Div 1 Pump Switches to PTL instead of the Injection Override Switch, the Pump Switches will fail and the Div 1 Injection Override Switch will work. (This is not the expected course for the examinees to take)				
*3	PLACE Div 1 Inj Override Switch to ATWS <ul style="list-style-type: none"> Verify the Div. 1 Red Injection Override Switch Light Illuminated. Verify White Manual Override light for 1E12-F042A AND 1E21-F005 Illuminated 	Examinee places the Div 1 Injection Override Switch to the ATWS position and notes the Failure of the Div 1 Injection Override Switch	—	—	—
4	OVERRIDE 1E12-C002A, 1A RHR Pump, Off.	Examinee recognizes no ECCS Initiation signal is present and this method will not work.	—	—	—
*5	PLACE 1E12-C002A, 1A RHR Pump, in PTL.	Examinee takes 1E12-C002A to PTL	—	—	—
6	At 500 psig in the RPV, OVERRIDE Closed 1E12-F042A, 1A RHR LPCI Injection Valve, if desire to use 1A RHR to cool pool/containment.	Examinee recognizes pressure is not currently lowering.	—	—	—
7	OVERRIDE 1E21-C001, LPCS Pump, Off.	Examinee recognizes no ECCS Initiation signal is present and this method will not work.	—	—	—
*8	PLACE 1E21-C001, LPCS Pump, in PTL.	Examinee takes 1E21-C001 to PTL	—	—	—
*9	PLACE Div 1 ADS Inhibit switch in INHIBIT.	Examinee places the Div 1 ADS inhibit Switch to Inhibit.	—	—	—
*10	PLACE Div 2 ADS Inhibit switch in INHIBIT.	Examinee places the Div 2 ADS inhibit Switch to Inhibit.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
11	Inform Unit Supervisor	The Examinee informs Unit Supervisor that ADS is Inhibited and ECCS is prevented.	—	—	—
CUE	As Unit Supervisor acknowledge the report. JPM is complete.				

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0BInhibit and Prevent with a failure of the Division1 Injection Override Switch

JPM Number: S-RH-29 Revision Number: 00

Task Number and Title: 062.00.21 Given a System Lineup and various plant conditions, predict the system response to various components failures while operating the system

K/A Number and Importance: 203000 RHR/LPCI Injection Mode A4.11 Ability to manually operate and/or monitor in the control room: Indicating lights and alarms

Suggested Testing Environment: Simulator

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

Reference(s): Plant Specific Technical Guidelines Section 14 – LGA-Related Hard Cards
LPGP-PSTG-01S14 Revision 8

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 4 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Balance of Plant and Unit 1 has experienced an ATWS and LGA-010 has been entered.

INITIATING CUE

The Unit Supervisor has ordered you to Inhibit ADS and Prevent ECCS Injection and to inform them when complete.

Exelon Nuclear

Job Performance Measure

Perform LGA-MS-101 Hardcard

JPM Number: S-MS-06

Revision Number: 00

Date: 6 / 4 / 2018

Developed By: C. Betken/s 8/9/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/9/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LGA-MS-101 Rev: 2
 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, Developed for 17-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 358 Password 0358

<p>NOTE: It is okay 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.</p>

2. The LGA-MS-101 Hardcard is clean.
3. Verify keys 84, 85, 86, 87, 252, 253, 254, 255, and 256 are located in the cabinet.
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are an extra NSO

- Unit 1 has experienced an ATWS
- There are no indications of a Main Steam Line break

INITIATING CUE

The Unit Supervisor has ordered you to perform the LGA-MS-101 hard card and inform them when 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.

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
NOTE	Examinee may obtain a copy of the LGA-MS-101 Hard Card				
*1	At 1H13-P609: <ul style="list-style-type: none"> Install key 253 and turn switch 1B21H-S505A to bypass CHAN A1 MSIV RPV LOW LVL ISOL BYPASS S505A. Install key 254 and turn switch 1B21H-S505C to bypass CHAN A2 MSIV RPV LOW LVL ISOL BYPASS S505C. 	Examinee installs and turns keys 253 and 254 at 1H13-P609	—	—	—
*2	At 1H13-P611: <ul style="list-style-type: none"> Install key 255 and turn switch 1B21H-S505B to bypass CHAN B1 MSIV RPV LOW LVL ISOL BYPASS S505B. Install key 256 and turn switch 1B21H-S505D to bypass CHAN B2 MSIV RPV LOW LVL ISOL BYPASS S505D. 	Examinee installs and turns keys 255 and 256 at 1H13-P611	—	—	—
*3	PLACE in OPEN 1N62-F057, Off Gas Discharge To Stack.	Examinee places the 1N62-F057 control switch to OPEN	—	—	—
*4	At 1H13-P632: <ul style="list-style-type: none"> Install key 84 and turn switch 1E31A-S750 to bypass Install key 86 and turn switch 1E31A-S752 to bypass 	Examinee installs and turns keys 84 and 86 at 1H13-P632	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
*5	At 1H13-P642: <ul style="list-style-type: none"> Install key 85 and turn switch 1E31A-S751 to bypass Install key 87 and turn switch 1E31A-S753 to bypass 	Examinee installs and turns keys 85 and 87 at 1H13-P642	—	—	—
*6	At 1PM13J, Install key 252 and turn switch 1HS-IN035, 1IN017 RPV LOW LVL ISOL BYPASS IN035.	Examinee installs and turns key 252 and turns 1HS-IN035 at 1PM13J	—	—	—
*7	At 1PM13J, Open 1IN059 and 1IN060.	Examinee opens 1IN059 and 1IN060 at 1PM13J	—	—	—
8	At 1PM13J, Place and hold 1IN017 control switch in the open position until valve indicated full open.	Examinee holds control switch until 1IN017 is full open or verify already open	—	—	—
9	Inform the Unit Supervisor	Examinee informs Unit Supervisor that LGA-MS-101 Hard Card is complete	—	—	—
CUE	As Unit Supervisor, Acknowledge the report. JPM Complete.				

JPM Stop Time: _____

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JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0BPerform LGA-MS-101 Hardcard

JPM Number: S-MS-06 Revision Number: 00

Task Number and Title: 432.000 Given Unit Supervisor authorization, evaluate plant conditions and Maintain a Heat Sink, IAW Station procedures.

K/A Number and Importance: 239001 A2.03 (4.0/4.2) Ability to (a) predict the impacts of the following on the MAIN AND REHEAT STEAM SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: MSIV closure

Suggested Testing Environment: Simulator

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

Reference(s): LGA-MS-101, Unit 1 Using Main Condenser as Heat Sink in ATWS, Rev 2

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 11 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are an extra NSO

- Unit 1 has experienced an ATWS
- There are no indications of a Main Steam Line break

INITIATING CUE

The Unit Supervisor has ordered you to perform the LGA-MS-101 hard card and inform them when complete.

Exelon Nuclear

Job Performance Measure

Auto Transfer from MDRFP to TDRFP per LOP-RL-01

JPM Number: S-RL-01

Revision Number: 00

Date: 6 / 4 / 2018

Developed By: C. Betken/s 8/8/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/10/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LOP-RL-01 Rev: 26
 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, Developed for 17-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 357 Password 0357

<p>NOTE: It is okay 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.</p>

2. Have a marked up copy of LOP-RL-01.
3. Place the DS001 on the RRFC Screen.
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Unit NSO on Unit 1

- 1A TDRFP is online in manual and ready for operation per LOP-FW-04
- 1B TDRFP and Both Feed Reg Valves are in Auto

INITIATING CUE

The Unit Supervisor has directed you automatically transfer from the FRV to 1A TDRFP per LOP-RL-01.

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
CUE	When the examinee has acknowledged their imitating cue, hand them a copy of LOP-RL-01				
1	Verify FRV is in AUTO control. The LFFRV may also be in AUTO.	Examinee verifies that both FRVs are in auto	—	—	—
2	Verify MDRFP min flow valve M/A station is in AUTO.	Examinee verifies that the MDRFP Min Flow Valve is in Auto	—	—	—
*3	Verify Oncoming TDRFP min flow valve M/A Station is in AUTO.	Examinee places the TDRFP Min Flow Valve in Auto	—	—	—
4	Verify Oncoming TDRFP is ready for operation per LOP-FW-04.	Examinee verifies the 1A TDRFP is ready per LOP-FW-04 per Initial Conditions	—	—	—
*5	At 1DS001 Operator Station RWLC Process Overview screen	Examinee Navigates to the RWLC Process Overview Screen at the DS001	—	—	—
*6	SELECT appropriate transfer sequence "FRV to A TDRFP" and PRESS Start.	Examinee selects the FRV to A TDRFP and clicks start	—	—	—
NOTE TDRFP was feeding prior to transfer.					
7	MONITOR on coming TDRFP and reactor water level control as the oncoming TDRFP accelerates and eventually injects to the reactor vessel	Examinee monitors Reactor water Level and TDRFP Speed	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
8	VERIFY the component(s) in AUTO controls reactor water level as the TDRFP increases its injection rate.	Examinee verifies that the TDRFP controls Reactor Water Level	—	—	—
9	If reactor water level control is compromised, at the 1(2)DS001 Operator Station RWLC Process Overview screen, SELECT the appropriate transfer sequence and press RESET OR enter LOA-FW-101(201) as required.	Examinee validates that RWLC is not compromised	—	—	—
10	ALLOW the oncoming TDRFP demand to ramp to the common control output. WHEN the oncoming TDRFP demand reaches the common control output, the following will occur: <ul style="list-style-type: none"> FRV and LFFRV M/A Station transfers to MANUAL. Oncoming TDRFP M/A Station transfers to AUTO. 	Examinee verifies that the FRV is in Manual and the TDRFP is in Auto	—	—	—
11	After a 3-minute time delay to allow system to stabilize, CHECK the FRV/LFFRV start to ramp closed.	Examinee verifies after 3 minutes that the FRV is closing/closed	—	—	—
12	VERIFY the components in AUTO control reactor water level as the MDRFP decreases its injection rate.	Examinee checks MDRFP flow and verifies it is no longer injecting	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
13	If reactor water level control is compromised, at the 1(2)DS001 Operator Station RWLC Process Overview screen, SELECT the appropriate transfer sequence and press RESET OR ENTER LOA-FW-101(201) as required.	Examinee validates that RWLC is not compromised	—	—	—
14	VERIFY proper operation of the MDRFP min flow valve. The MDRFP min flow valve should start to open below 2.0 Mlb/hr.	Examinee verifies that the MDRFP Min Flow Valve opens below 2.0 Mlb/hr	—	—	—
15	Inform Unit Supervisor	Examinee informs Unit Supervisor that the transfer sequence is complete	—	—	—
CUE	As Unit Supervisor, acknowledge the report. JPM complete.				

JPM Stop Time: _____

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JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0BAuto Transfer from MDRFP to TDRFP per LOP-RL-01

JPM Number: S-RL-01 Revision Number: 00

Task Number and Title: 31.009 Given Ubit Supervisor authorization, perform Control Room Actions to transfer RWLC from Manual to Automatic, IAW Station procedures

K/A Number and Importance: 259002 A1.04 (3.6/3.6) Ability to predict and/or monitor changes in parameters associated with operating the REACTOR WATER LEVEL CONTROL SYSTEM controls including: Reactor water level control controller indications

Suggested Testing Environment: Simulator

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

Reference(s): LOP-RL-01, Operation of the Reactor Level Control System, Re. 26

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 12 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Unit NSO on Unit 1

- 1A TDRFP is online in manual and ready for operation per LOP-FW-04
- 1B TDRFP and Both Feed Reg Valves are in Auto

INITIATING CUE

The Unit Supervisor has directed you automatically transfer from the FRV to 1A TDRFP per LOP-RL-01.

Exelon Nuclear

Job Performance Measure

Defeat Refueling Bridge Position Near or Over the Core Limit Switches Interlock

JPM Number: S-RM-02

Revision Number: 01

Date: 6 / 4 / 2018

Developed By: C. Betken/s 8/8/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/9/18
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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- _____ 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LOP-RM-02 Rev: 23
 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, New JPM developed for ILT 15-1 Cert Exam.

Revision 01, Revised JPM for new K/A statement

SIMULATOR SETUP INSTRUCTIONS

1. Reset Simulator to IC # 151.

NOTE: It is okay 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. Have a copy of LOP-RM-02 (pages 1-9, 55-56) ready to provide to the Examinee.
3. VERIFY the ROD SELECT Display is in CONTROL Mode.
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Unit NSO,

- Unit 1 is at rated conditions.
- A Dry Cask Storage Campaign is in-progress on the Refuel Floor.

INITIATING CUE

The Unit Supervisor has directed you to defeat the 'Pc – Refueling Bridge Position Near or Over the Core Limit Switches' IAW LOP-RM-02, Rod Control Management System On Demand Functions, Step E.31 to support the Dry Cask Storage campaign. Notify the Unit Supervisor when complete with E.31.1.8.

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
NOTE: After the Examinee has demonstrated where to obtain a copy of the procedure, provide them with a copy of LOP-RM-02.					
1	Obtain a copy of the procedure.	Examinee demonstrates where to obtain a copy of the procedure.	—	—	—
*2	SELECT 'SET PARAMETERS' at the ROD SELECT Display or the STATUS Display, whichever is in the CONTROL mode.	Examinee SELECTS 'SET PARAMETERS' at the Display that is in the CONTROL mode.	—	—	—
*3	SELECT 'SET SYS PARAM'.	Examinee SELECTS 'SET SYS PARAM'.	—	—	—
CUE	If the examinee requests the password, inform the examinee that the password is "zero".				
*4	ENTER the correct password and SELECT 'ENTER', on the keypad that appears.	Examinee ENTERS password and SELECTS 'ENTER'.	—	—	—
*5	SCROLL down the display menu using the UP/DOWN arrows to HIGHLIGHT 'Pc- REFUELING BRIDGE POSITION NEAR OR OVER THE CORE LIMIT SWITCHES (SET TO NOT OTC/RESTORE TO ACTUAL)'.	Examinee SCROLLS down the display menu to HIGHLIGHT 'Pc- REFUELING BRIDGE POSITION NEAR OR OVER THE CORE LIMIT SWITCHES (SET TO NOT OTC/RESTORE TO ACTUAL)'. (can also touch)	—	—	—
*6	SELECT 'SET TO NOT OTC' using the LEFT/RIGHT arrows on the display.	Examinee SELECTS 'SET TO NOT OTC' using the LEFT/RIGHT arrows on the display. (can also touch)	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
7	SET TO NOT OTC will be highlighted in the area next to the description 'Pc – REFUELING BRIDGE POSITION NEAR OR OVER THE CORE LIMIT SWITCHES (SET TO NOT OTC/RESTORE TO ACTUAL'.	Examinee place keeps procedure step.	—	—	—
*8	SELECT 'ACCEPT' to defeat the interlock and ACKNOWLEDGES the pop-up confirmatory message..	Examinee SELECTS 'ACCEPT' to defeat the interlock and ACKNOWLEDGES the pop-up confirmatory message.	—	—	—
9	NOTIFY Unit Supervisor the interlock is defeated.	Examinee NOTIFES the Unit Supervisor the interlock is defeated.	—	—	—
CUE	As Unit Supervisor, acknowledge report. JPM is complete.				

JPM Stop Time: _____

.....

JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0BDefeat Refueling Bridge Position Near or Over the Core Limit Switches Interlock

JPM Number: S-RM-02 Revision Number: 01

Task Number and Title: 30.001 Given Unit Supervisor authorization, perform Control Room actions to support the movement of a fuel bundle or control rod blade guide within and between the Reactor and the Spent Fuel Pools.

K/A Number and Importance: 201002 K1.08 (3.2/3.6) Knowledge of the physical connections and/or cause –effect relationships between REACTOR MANUAL CONTROL SYSTEM and the following: Refueling interlocks

Suggested Testing Environment: Simulator

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

Reference(s): LOP-RM-02, Rod Control Management System On Demand Functions, Rev 23

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 5 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Unit NSO,

- Unit 1 is at rated conditions.
- A Dry Cask Storage Campaign is in-progress on the Refuel Floor.

INITIATING CUE

The Unit Supervisor has directed you to defeat the 'Pc – Refueling Bridge Position Near or Over the Core Limit Switches' IAW LOP-RM-02, Rod Control Management System On Demand Functions, Step E.31 to support the Dry Cask Storage campaign. Notify the Unit Supervisor when complete with E.31.1.8.

Exelon Nuclear

Job Performance Measure

Perform a Loss of 142Y Hard Card with a Failure of the first ACB to Close

JPM Number: S-AP-08

Revision Number: 00

Date: 6 / 4 / 2018

Developed By: C. Betken/s 8/8/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/9/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LOA-AP-101 Rev: 58
 Procedure _____ Rev: _____
 Procedure _____ Rev: _____
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, Developed for 17-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to 356 Password 0356.

<p>NOTE: It is okay 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.</p>

2. Load and Run Smart Scenario S-AP-08.ssf.
3. Verify the Loss of 142Y Hardcard is clean.
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Assist NSO

- A loss of 142Y has occurred
- 1A WR Pump is running and operating properly
- 1A CRD Pump is running and operating properly
- 1H13-P603-A204, CRD Charging Wtr Press Lo is NOT in alarm
- RPS Quick Swap Hardcard is complete
- IA to IN Cross-Tie Hardcard is complete

INITIATING CUE

The Unit Supervisor has directed to you to Re-energize bus 142Y using the “Loss of 142Y” Hardcard and to inform them when 142Y is energized.

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>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
NOTE Examinee may obtain the Loss of 142Y hardcard.					
NOTE The first method to re-energize 142Y will Fail (Steps 3, 4, or 5) and the second method to re-energize 142Y will Work (Steps 3, 4, or 5). Two of the steps MUST be complete to re-energize 142Y and the third step (and sub-steps of that step) may be N/A'd.					
1	VERIFY annunciator 1PM01J-B202, 4KV Bus 142X/Y Overcurrent alarm is CLEAR.	Examinee verifies 1PM01J-B202 is clear	—	—	—
2	VERIFY all three phase voltages are approximately equal using 142X/Y Voltmeter switch.	Examinee verifies all 3 phases are equal on bus 142X using the Bus 142X-142Y Voltmeter Selector Switch	—	—	—
ALTERNATE PATH BEGINS HERE					
NOTE If this is the first method chosen ACB 1425 will fail to close.					
CUE	If the Examinee attempts to enter LOA-AP-101 at any time, inform them that another NSO will follow-up with LOA-AP-101.				
*3	If 142X is energized, SYNCHRONIZE and CLOSE ACB 1425.	Examinee takes the Sync Scope Selector Switch for ACB 1425 to ON and takes ACB 1425 to close	—	—	—
4	If desired to re-energize 142Y from Unit-2:				
CUE	If the Examinee asks what is powering 242Y, inform them that 242Y is powered from the SAT.				
4.1	CHECK 242Y energized from Unit-2 SAT.	Examinee asks Unit 2 what is powering 242Y	—	—	—
CUE	If the Examinee asks Unit 2 if ACB 2425 is open, inform them that ACB 2425 is open.				
4.2	CHECK ACB 2425 is OPEN	Examinee asks Unit 2 the status of ACB 2424	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
CUE	If the Examinee orders closing ACB 2424, inform them ACB 2424 is closed.				
4.3	SYNCHRONIZE and CLOSE ACB 2424.	Examinee asks Unit 2 if ACB 2424 is closed	—	—	—
NOTE	If this is the first method chosen ACB 1424 will fail to close.				
*4.4	SYNCHRONIZE and CLOSE ACB 1424.	Examinee takes ACB 1424 Sync Scope Selector Switch to ON and closes ACB 1424	—	—	—
5	If desired to re-energize 142Y from 1A DG:				
NOTE	If this is the first method chosen the 1A DG will not start.				
NOTE	If this is the second method chosen the 1A DG Output Breaker will Auto-close.				
*5.1	If 1A DG did not auto-start, START using control switch on 1PM01J.	Examinee starts the 1A DG START using control switch.	—	—	—
5.2	If 1A DG will not start, REFER to LOA-DG-101.	Examinee determines this step is not applicable	—	—	—
5.3	If 1A DG Output Breaker ACB 1423 did not auto-close, REFER to LOA-AP-101.	Examinee attempts to enter LOA-AP-101 if this is the first method chosen to re-energize 142Y	—	—	—
6	Inform Unit Supervisor	Examinee informs Unit Supervisor that Bus 142Y is re-energized	—	—	—
CUE	As Unit Supervisor, acknowledge the report. JPM complete.				

JPM Stop Time: _____

.....

JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0BPerform a Loss of 142Y Hard Card with a Failure of the first ACB to Close

JPM Number: S-AP-08 Revision Number: 00

Task Number and Title: 5.008, Provided initial conditions respond to a loss of 4KV ESS bus IAW station procedures.

K/A Number and Importance: 262001 A2.07 (3.0/3.2) Ability to (a) predict the impacts of the following on A.C. ELECTRICAL DISTRIBUTION; and (b) based on those predictions, use procedures to correct control, or mitigate the consequences of those abnormal conditions or operations: Energizing a dead bus

Suggested Testing Environment: Simulator

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

Reference(s): LOA-AP-101, Unit 1 AC Power System Abnormal Rev. 58

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 8 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Assist NSO

- A loss of 142Y has occurred
- 1A WR Pump is running and operating properly
- 1A CRD Pump is running and operating properly
- 1H13-P603-A204, CRD Charging Wtr Press Lo is NOT in alarm
- RPS Quick Swap Hardcard is complete
- IA to IN Cross-Tie Hardcard is complete

INITIATING CUE

The Unit Supervisor has directed to you to Re-energize bus 142Y using the “Loss of 142Y” Hardcard and to inform them when 142Y is energized.

Exelon Nuclear

Job Performance Measure

Shutdown Suppression Pool Cooling with High Rad

JPM Number: S-RH-28

Revision Number: 00

Date: 6 / 4 / 2018

Developed By: C. Betken/s 8/8/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/9/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LOP-RH-13 Rev: 32
 Procedure LOP-RH-05 Rev: 34
 Procedure LOR-1H13-P601B212 Rev: 2
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, Developed for 17-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 355 Password 0355

<p>NOTE: It is okay 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.</p>

2. Load and run Smart Scenario S-RH-28.ssf.
3. Have marked up copies of LOP-RH-05 and LOP-RH-13.
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the assist NSO

- 1A RHR is in Suppression Pool Cooling to support a RCIC Surveillance
- The RCIC Surveillance is complete
- An EO is in the field standing by to assist you

INITIATING CUE

The Unit Supervisor has directed you to Secure Suppression Pool Cooling Water per LOP-RH-13 and to inform them when 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.

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
CUE	When the Examinee acknowledges their initiating cue, hand them a copy of LOP-RH-05 and LOP-RH-13.				
*1	CLOSE 1E12 F024A, A RHR Test to SP Vlv.	Examinee closes 1E12-F024A A RHR Test to SP Vlv control switch to CLOSE.	—	—	—
2	VERIFY 1E12 F064A, A RHR Min Flow Vlv OPENS.	Examinee verifies 1E12-F064A A RHR Min Flow Vlv OPENS.	—	—	—
*3	STOP 1E12 C002A, A RHR Pump.	Examinee Stops 1A RHR Pump.	—	—	—
ALTERNATE PATH BEGINS HERE					
4	Annunciator 1H13-P601-B112 alarms	Examinee pulls the LOR-1H13-P601-B112 and follows it.	—	—	—
CUE	If the Examinee reports the annunciator, acknowledge as the Unit Supervisor				
5	CHECK Recorder 1D18-R602 on 1H13-P600 is reading greater than or equal to alarm setpoint and RECORD reading in Unit Log.	Examinee notes the following on 1H13-P600 and 1H13-P604: <ul style="list-style-type: none"> Recorder 1A WS Radiation Monitor, 1D18-R602, reading approximately 800 cpm. 1A WS Rad Monitor 1D18-K604, Hi alarms in. 	—	—	—
6	RECORD RHR Flow, Heat Exchanger Pressure, and RHR Service Water Flow in Unit Log.	Examinee notes: <ul style="list-style-type: none"> RHR Flow RHR WS Flow RHR Heat exchanger Pressure 	—	—	—
7	Notify Chemistry Department to sample tube side of RHR and determine amount of release.	Examinee notifies the Chemistry dept. to quantify the release	—	—	—
CUE	Chemistry acknowledges too sample and quantify the release.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
8	Place the Thermal Overload Bypass Switch in TEST for 1E12-F068A.	Verify places the Thermal Overload Bypass Switch in TEST for 1E12-F068A.	—	—	—
9	LOG positioning of O/L Bypass switch in the Unit Log.	Verify request Unit NSO to log position of O/L Bypass Switch.	—	—	—
CUE	Unit NSO will log position of the O/L Bypass Switch.				
*10	CLOSE 1E12-F068A RHR Hx Water Outlet Valve	Examinee closes 1E12-F068A RHR HX Water Outlet Valve.	—	—	—
*11	When flow indicated on 1E12-R602A decreases to 4,000 gpm, STOP 1E12-C300 A/B.	Examinee stops RHR Service Water Pump 1E12-C300A/B.	—	—	—
*12	When flow indicated on 1E12-R602A decreases to 0 gpm, STOP one 1E12-C300 A/B.	Examinee stops RHR Service Water Pump one 1E12-C300A/B.	—	—	—
13	Close 1E12-F003A	Examinee closes 1E12-F003A RHR HX Water Outlet Valve.	—	—	—
14	Close 1E12-F047A	Examinee closes 1E12-F047A RHR HX Water Outlet Valve.	—	—	—
15	Place the Thermal Overload Bypass Switch in Normal for 1E12-F068A.	Examinee places the Thermal Overload Bypass Switch in Normal for 1E12-F068A.	—	—	—
NOTE	Additional RHR Service Water Valves may be closed in order to isolate the Heat Exchanger; however, closing the 1E12-F068A will stop the release path to the environment.				
CUE	Unit NSO will log position of the O/L Bypass Switch.				
16	Inform Unit Supervisor that could not complete the task.	Examinee notifies Unit Supervisor '1A' RHR WS is shutdown and isolated.	—	—	—
CUE	As Unit Supervisor, acknowledge report. JPM is complete.				

JPM Stop Time: _____

.....
 SRRS: 3D.105 (when utilized for operator initial or continuing training)

JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0BShutdown Suppression Pool Cooling with High Rad

JPM Number: S-RH-28 Revision Number: 00

Task Number and Title: 52.035 Provided initial conditions, respond to a High Release rate, IAW station procedures

K/A Number and Importance: 272000 A1.01 (3.2/3.2) Ability to predict and/or monitor changes in parameters associated with operating the RADIATION MONITORING SYSTEM controls including: Lights, alarms, and indications associated with normal operations

Suggested Testing Environment: Simulator

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

Reference(s): LOP-RH-05, Operation of the RHR Service Water System Rev. 34; LOP-RH-13, Suppression Pool Cooling Operation, Rev. 32

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 12 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the assist NSO

- 1A RHR is in Suppression Pool Cooling to support a RCIC Surveillance
- The RCIC Surveillance is complete
- An EO is in the field standing by to assist you

INITIATING CUE

The Unit Supervisor has directed you to Secure Suppression Pool Cooling Water per LOP-RH-13 and to inform them when complete.

Exelon Nuclear

Job Performance Measure

Swap WR Pumps per LOP-WR-02 (Alternate Path)

JPM Number: S-WR-02

Revision Number: 00

Date: 6 / 1 / 2016

Developed By: C. Betken/s 8/8/18
Instructor Date

Validated By: Pratt / Quinn 7/22/18
SME or Instructor Date

Reviewed By: T. Messner/s 8/9/18
Training Department Date

Approved By: J. Messina/s 8/9/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LOP-WR-02 Rev: 26
 Procedure LOR-1PM10J-A201 Rev: 2
 Procedure LOA-WR-101 Rev: 16
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, This JPM was developed NEW for the 2016 NRC Annual Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any Full Power IC

<p>NOTE: It is okay 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.</p>

2. VERIFY 1A WR Pump RUNNING.
3. LOAD and RUN CAE **SWR02r00.cae**.
4. Have copies of LOP-WR-02
5. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
6. This completes the setup for this JPM.

INITIAL CONDITIONS

You are an NSO,

- 1A WR Pump is RUNNING on Unit 1.
- BOTH 1B and 0 WR Pumps are in standby on Unit 1 and ready to be placed in service.
- An Equipment Operator is standing by to assist you.
- Prestart checks are complete

INITIATING CUE

The Unit Supervisor has directed you to shift WR pump operation from the 1A WR Pump to the 1B Pump IAW LOP-WR-02, Startup and Operation of the Reactor Building Closed Cooling water System, Section E.2. Notify the Unit Supervisor when the WR Pump shift 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.

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>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
NOTE: After the Examinee demonstrates where to obtain a copy of the procedure provide them with a copy of LOP-WR-02.					
1	OBTAIN a copy of LOP-WR-02.	Examinee demonstrates how OBTAIN a copy of LOP-WR-02.	—	—	—
*2	START 1B WR Pump from panel 1PM09J.	Examinee STARTS 1B WR Pump from panel 1PM09J.	—	—	—
CUE	As Equipment Operator, if required, when request to perform post start checks report that post start checks of the 1B WR pump are completed SAT.				
3	OBSERVE the 1B WR Pump amperes on indicator 1II-WR005 on panel 1PM10J is slightly below normal running amps of 145 to 172 amps.	Examinee OBSERVES the 1B WR Pump amperes on indicator 1II-WR005 on panel 1PM10J is slightly below normal running amps of 145 to 172 amps.	—	—	—
4	OBSERVE that the Unit 1 WR Pump Discharge Header Pressure increases on pressure indicator 1PI-WR008 on panel 1PM10J and steadies out slightly above normal operating system pressure of 52 to 80 psig.	Examinee OBSERVES that the Unit 1 WR Pump Discharge Header Pressure increases on pressure indicator 1PI-WR008 on panel 1PM10J and steadies out slightly above normal operating system pressure of 52 to 80 psig.	—	—	—
NOTE: When the Examinee STOPS the 1A WR Pump a malfunction is automatically inserted to override 1B WR Pump Amps to show degrading amps and degrading WR Discharge Header Pressure.					
5	STOP the 1A WR Pump after the system pressure stabilizes.	Examinee STOPS the 1A WR Pump after the system pressure stabilizes.	—	—	—
6	OBSERVE that the Unit 1 WR Pump Discharge Header Pressure returns to approximately the same pressure prior to pump shifting	Examinee IDENTIFIES that the Unit 1 WR Pump Discharge Header Pressure DID NOT return to approximately the same pressure prior to pump shifting AND pressures IS trending down.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
7	OBSERVE 1B WR Pump amperes on indicator 1II-WR005 is between 145 and 172 amps on panel 1PM10J.	Examinee IDENTIFIES that the 1B WR Pump amperes on indicator 1II-WR005 is between 145 and 172 amps on panel 1PM10J AND is trending down.	—	—	—
8	NOTIFY Unit Supervisor that 1B WR Pump trends are ABNORMAL and starting 1A WR Pump.	Examinee NOTIFIES Unit Supervisor that 1B WR Pump trends are ABNORMAL and is starting 1A WR Pump.			
CUE	As Unit Supervisor acknowledge report.				
ALTERNATE PATH BEGINS HERE					
9	If header pressure or amps are abnormal, PERFORM following: <ul style="list-style-type: none"> RESTART the 1A WR Pump STOP the 1B WR Pump 	Examinee RESTARTS 1A WR Pump.	—	—	—
10	OBSERVE 1A WR Pump amperes on indicator 1II-WR002 is between 145 and 172 amps on panel 1PM10J.	Examinee IDENTIFIES that the 1A WR Pump amperes on indicator 1II-WR002 is 0 amps on panel 1PM10J.			
11	OBSERVE that the Unit 1 WR Pump Discharge Header Pressure returns to approximately the same pressure prior to pump shifting	Examinee IDENTIFIES that the Unit 1 WR Pump Discharge Header Pressure CONTINUES TO trend down.			
12	NOTIFY Unit Supervisor that 1A WR Pump DID NOT START and starting 0 WR Pump.	Examinee NOTIFIES Unit Supervisor that 1A WR Pump DID NOT START and is starting 0 WR Pump.			
CUE	As Unit Supervisor acknowledge report.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
*13	START Standby Reactor Building Closed Cooling Water Pump per LOP-WR-02, Startup and Operation of Reactor Building Closed Cooling Water System.	Examinee STARTS 0 WR Pump.	—	—	—
14	OBSERVE that the Unit 1 WR Pump Discharge Header Pressure increases on pressure indicator 1PI-WR008 on panel 1PM10J and steadies out slightly above normal operating system pressure of 52 to 80 psig.	Examinee OBSERVES that the Unit 1 WR Pump Discharge Header Pressure increases on pressure indicator 1PI-WR008 on panel 1PM10J and steadies out slightly above normal operating system pressure of 52 to 80 psig.	—	—	—
15	STOP the 1B WR Pump after the system pressure stabilizes.	Examinee STOPS the 1B WR Pump after the system pressure stabilizes.	—	—	—
16	OBSERVE that the Unit 1 WR Pump Discharge Header Pressure returns to approximately the same pressure prior to pump shifting.	Examinee OBSERVEs that the Unit 1 WR Pump Discharge Header Pressure returns to approximately the same pressure prior to shifting from 1A pump.	—	—	—
17	NOTIFY Unit Supervisor that 0WR is RUNNING supplying Unit 1.	Examinee NOTIFIES Unit Supervisor that 0WR is RUNNING supplying Unit 1.	—	—	—
CUE	As Unit Supervisor, acknowledge report. JPM is complete.				

JPM Stop Time: _____

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JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0B Swap WR Pumps per LOP-WR-02 (Alternate Path)

JPM Number: S-WR-02 Revision Number: 00

Task Number and Title: 114.008 Perform the Main Control Room actions to swap Reactor Building Closed Cooling Water (RBCCW) Pumps

K/A Number and Importance: 400000 A4.01 3.1/3.0

Suggested Testing Environment: Simulator

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

Reference(s): LOP-WR-02, Startup and Operation of the Reactor Building Closed Cooling Water System, Rev. 26

LOR-1PM10J-A201 Reactor Building Closed Cooling Water Pump Discharge Header Pressure Low, Rev. 2

LOA-WR-101, Loss of Reactor Building Closed Cooling Water, Rev. 16

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 8 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are an NSO,

- 1A WR Pump is RUNNING on Unit 1.
- Both 1B and 0 WR Pumps are in standby on Unit 1 and ready to be placed in service.
- An Equipment Operator is standing by to assist you.
- Prestart checks are complete

INITIATING CUE

The Unit Supervisor has directed you to shift WR pump operation from the 1A WR Pump to the 1B Pump IAW LOP-WR-02, Startup and Operation of the Reactor Building Closed Cooling water System, Section E.2. Notify the Unit Supervisor when 1B WR Pump is RUNNING.

Exelon Nuclear

Job Performance Measure

Partial Half Scram per LOA-RP-101

JPM Number: S-RP-05

Revision Number: 00

Date: 10 / 3 / 2018

Developed By: Betken 10/4/18
Instructor Date

Validated By: Reyes 10/4/18
SME or Instructor Date

Reviewed By: Messner 10/4/18
Training Department Date

Approved By: Messina 10/4/18
Operations 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 9 and 13 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. If an alternate path is used, the task standard contains criteria for successful completion.
- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure LOA-RP-101 Rev: 16
 Procedure LOA-RP-Q6 Rev: 0
 Procedure _____ Rev: _____
- _____ 10. Verify cues both verbal and visual are free of conflict.
- _____ 11. Verify performance time is accurate
- _____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 13. 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)

Revision 00, Developed for 17-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 151

NOTE: It is okay 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. Load and Run Smart Scenario S-RP-05.ssf
3. Have a copy of LOS-RP-Q6 Attachments 1A and 1B with which sections B, C and D marked up.
4. Place flags on 1H13-P603-B203, B211, B303, B311, B504, B510.
5. Verify LOA-RP-101 is clean.
6. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
7. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Unit 1 ATC

- Unit 1 is at 100% power
- LOS-RP-Q6 is in progress
- IMD is NOT performing LIS-RP-101A and B in conjunction with this surveillance

INITIATING CUE

The Unit Supervisor has directed you to perform LOS-RP-Q6 starting at step 6 of Attachment 1A and to inform them when complete.

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

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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.

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JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE When the examinee has acknowledges their initiating cue, hand them a copy of LOS-RP-Q6.					
1	If IMD is performing LIS-RP-101A, then VERIFY recorder is hooked up and IMD is ready to record response time data.	Examinee determines that IMD is not performing LIS-RP-101A.	—	—	—
*2	ARM Reactor Manual Scram pushbutton for Trip System A1 and VERIFY the CHAN A MANUAL SCRAM SWITCH ARMED alarm illuminates.	Examinee arms the A1 Scram Pushbutton and verifies annunciator 1H13-P603-B504 illuminates.	—	—	—
3	If IMD is performing LIS-RP-101A, then DIRECT IMD to START recorder and when all recorder traces have changed state, then STOP the recorder.	Examinee determines that IMD is not performing LIS-RP-101A.	—	—	—
*4	Momentarily PRESS the Reactor Manual Scram pushbutton for Trip System A1 and CHECK the following: <ul style="list-style-type: none"> CHAN A1 REACTOR AUTO SCRAM alarm illuminates. SCRAM GROUP A Solenoid lights de-energize. 	Examinee depresses the A1 pushbutton and verifies annunciator 1H13-P603-B203 illuminates and the A Solenoid lights de-energize.	—	—	—
ALTERNATE PATH BEGINS HERE					
*5	RESET the tripped channel and CHECK the following: <ul style="list-style-type: none"> SCRAM GROUP A Solenoid lights re-energize. CHAN A1 REACTOR AUTO SCRAM alarm can be reset. 	Examinee takes the Scram reset switch clockwise and counterclockwise and determines the A Group 3 light did not re-energize.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
CUE	If the Examinee attempts to check the light bulb, inform them that the bulb is NOT burnt out.				
NOTE	The Examinee may obtain a copy of LOA-RP-101.				
6	CHECK and continue to monitor the following: <ul style="list-style-type: none"> • ONLY one RPS Bus – affected AND • Control Rods NOT moving. 	Examinee determines that only one bus is affected and no control rods are moving.	—	—	—
7	SUSPEND any HALF SCRAM testing in progress.	Examinee determines from the initial conditions that testing is in progress and should be suspended.	—	—	—
CUE	If the Examinee asks the status of Fuse 'F18C', inform the examinee that the Assist NSO has checked the fuse, was blown and it has been replaced.				
8	CHECK RPS BUS Scram Sol Group light(s) out on a single RPS BUS: <ul style="list-style-type: none"> ○ Scram Sol Group 1 and 4 OR ○ Scram Sol Group 2 and 3 OR ○ ONLY a single solenoid group light 	Examinee determines only the Group 3 light is out on RPS 'A'.	—	—	—
9	VERIFY affected 1C71-F18 fuse(s) NOT blown at panel 1H13 P609 or 1H13-P611.	Examinee determines no fuses are currently blown.	—	—	—
10	RESET HALF SCRAM.	Examinee determines the Half Scram will not reset.	—	—	—
CUE	If the Examinee asks the status of Fuse 'F18C', inform the examinee that the Assist NSO has checked the fuse and it is NOT blown.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
*11	INSERT a HALF SCRAM on the affected RPS BUS.	Examinee will insert a Half Scram on the 'A' RPS Bus by arming and depressing the A1 and/or A2 Manual Scram Pushbuttons.	—	—	—
12	Inform Unit Supervisor.	Examinee Informs Unit Supervisor that B.5 of LOA-RP-101 is complete and a Half Scram has been inserted on 'A' RPS.	—	—	—
CUE	As Unit Supervisor, acknowledge the report. JPM Complete.				

JPM Stop Time: _____

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JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: 0B Partial Half Scram per LOA-RP-101

JPM Number: S-RP-05 Revision Number: 00

Task Number and Title: 49.017 Given Unit Supervisor authorization, Reset the RPS system scram, IAW station procedures

K/A Number and Importance: 212000 Reactor Protection System A4.07 (4.0/3.9) Ability to manually operate and/or monitor in the control room: System status and lights

Suggested Testing Environment: Simulator

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

Reference(s): LOA-RP-101, Unit 1 Loss of Reactor Protection System Power, Rev. 16; LOS-RP-Q6, Manual Scram Instrumentation, Rev. 0

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 5 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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Unit 1 ATC

- Unit 1 is at 100% power
- LOS-RP-Q6 is in progress
- IMD is NOT performing LIS-RP-101A and B in conjunction with this surveillance

INITIATING CUE

The Unit Supervisor has directed you to perform LOS-RP-Q6 starting at step 6 of Attachment 1A and to inform them when complete.