

Exelon Nuclear

Job Performance Measure

Initiate HPCS with a Failure of the Manual Initiation Pushbutton

JPM Number: S-HP-05

Revision Number: 09

Date: 7 / 17 / 2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

Approved By: _____
Training Department 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-001 Rev: 018
 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 05 | Utilize new template and minor editorial changes. |
| Revision 06 | Reformatted to reflect NTAFT JLOR03 rev 02
Revised to reflect NUREG 1123 Rev 2
Made minor editorial changes |
| Revision 07 | Changed initiating cue based on additional operator feedback |
| Revision 08 | Updated to align with NuReg 1021, Rev. 9, Supplement 1 criteria. |
| Revision 09 | Updated for us on the 2020 NRC operating exam. |

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any IC. Any IC is acceptable for use with this JPM. The only requirements are that level remains above – 50 inches and a high drywell signal is not initiated so that HPCS will not auto start due to plant conditions during the performance of this JPM.

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. 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.
3. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Assist NSO.

- A loss of all feedwater has resulted in the scram of the unit.
- The LGAs have been entered.
- Reactor water level is slightly above -50".
- RCIC is OOS for mechanical maintenance.

INITIATING CUE

The Unit Supervisor directs you to manually initiate HPCS using the pushbutton.

Notify the Unit Supervisor when HPCS is injecting.

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: All steps of this JPM are to be completed at control room panel 1H13-P601 unless otherwise noted.					
1	Arm manual initiation logic.	Examinee turns HPCS MANUAL INITIATION pushbutton to ARM	—	—	—
2	Initiate HPCS.	Examinee depresses HPCS MANUAL INITIATION pushbutton	—	—	—
3	Recognize failure to initiate and reports to SRO.	Examinee recognizes failure to initiate and reports to US.	—	—	—
CUE	As Unit Supervisor acknowledge report.				
ALTERNATE PATH BEGINS HERE					
*4	Manually start HPCS pump.	Examinee turns HPCS PMP control switch to START	—	—	—
6	VERIFY HPCS pump start.	Examinee verifies pump start by observation of pump amp meter and discharge pressure.	—	—	—
NOTE: If examinee immediately opens the injection valve after starting the HPCS pump, 1E22-F012; HPCS MIN FLOW VLV may not open.					
7	VERIFY 1E22-F012, HPCS MIN FLOW VLV opens.	Examinee verifies 1E22-F012, HPCS MIN FLOW VLV opens	—	—	—
*8	Open 1E22-F004 HPCS INJECTION VLV	Examinee turns 1E22-F004, HPCS INJECTION VLV control switch to OPEN.	—	—	—
9	Verify HPCS system injection.	Flow verified using system flow indications and/or reactor water level increasing.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
10	INFORM Unit Supervisor that HPCS is injecting to the reactor.	Examinee informs the Unit Supervisor that HPCS is injecting to the reactor (task is complete).			
CUE	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: Initiate HPCS with a failure of the Manual Initiation Pushbutton

JPM Number: S-HP-05 Revision Number: 09

Task Number and Title: Initiate HPCS with a failure of the Manual Initiation Pushbutton
2092.05 Manually Initiate HPCS

K/A Number and Importance: 209002 A4.05 (3.8/3.8) Ability to manually operate and/or
monitor in the control room: Manual Initiation controls: BWR-5,6

Suggested Testing Environment: Simulator

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

Reference(s): LGA-001, RPV Control, Rev. 18; HU-AA-104-101, Procedure Use and
Adherence, Rev. 7

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 Assist NSO.

- A loss of all feedwater has resulted in the scram of the unit.
- The LGAs have been entered.
- Reactor water level is slightly above -50".
- RCIC is OOS for mechanical maintenance.

INITIATING CUE

The Unit Supervisor directs you to manually initiate HPCS using the pushbutton.

Notify the Unit Supervisor when HPCS is injecting.

Exelon Nuclear

Job Performance Measure

Startup of the Mechanical Vacuum Pump

JPM Number: S-OG-02

Revision Number: 02

Date: 7 / 17 / 2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Training Department Date

Approved By: _____
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-OG-01 Rev: 16
 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** This is a new JPM written for the 07-01 ILT NRC
- Revision 01** Updated to current template and procedures for ILT 13-1 NRC Exam.
Deleted the Alternate Path classification of this JPM.
- Revision 02** Updated to current template and procedures for ILT 19-1 NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any Low Power IC with Reactor Pressure at approximately 50 psig.
(Use IC211 for the ILT 19-1 NRC Exam. Password 0211)

<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>
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2. Place Gland Seal System into operation per LOP-GS-01.
3. Verify 1IN62-F003A and 1IN62-F003B are closed.
4. Place the Stack WRGM on line.
5. LOAD and RUN Smart Scenario **SOG02r02.ssf**.
6. Have a marked copy of LOP-OG-01, completed through Step E.1.7.
7. 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.
8. This completes the setup for this JPM.

INITIAL CONDITIONS

You are an NSO,

- Unit 1 is starting up following a refueling outage, with reactor pressure currently at approximately 50 psig with conditions met for establishing condenser vacuum.
- LGP 1-1, Step E.4.5 is directing the start-up of the Mechanical Vacuum Pump per LOP-OG-01.
- LOP-OG-01 has been completed up to and including step E.1.7 in preparation for the start-up of the Mechanical Vacuum Pump.

INITIATING CUE

The Unit Supervisor has directed you to start-up the Unit 1 Mechanical Vacuum Pump per LOP-OG-01, beginning at step E.1.8. Notify the Unit Supervisor when the Mechanical Vacuum Pump has been started and main condenser back pressure is DECREASING.

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>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
NOTE: Provide the examinee with the marked up copy of LOP-OG-01.					
*1	At 1N62-P601, PERFORM the following: <ul style="list-style-type: none"> PLACE the 1N62-F300A control switch to OPEN and VERIFY the valve opens PLACE the 1N62-F300B control switch to OPEN and VERIFY the valve opens 	The control switch for ONE (or both) of the TWO listed valves is taken to the OPEN position, and light indication is checked to VERIFY the valve has opened.	—	—	—
*2	At 1N62-P601, PLACE 1OG02P, Mech Vac Pmp control switch to START and RELEASE.	1OG02P, Mech Vac Pmp control switch is taken to START by rotating clockwise	—	—	—
3	At 1PM03J CHECK the following for main condenser back pressure DECREASING (vacuum increasing). <ul style="list-style-type: none"> 1PR-ES062, 1C Cond Line Back Press 1PR-ES058, 1A/1B Cond Line Back Press 	At 1PM03J BOTH of the following indications are checked to determine if main condenser back pressure is DECREASING (vacuum increasing). <ul style="list-style-type: none"> 1PR-ES062, 1C Cond Line Back Press 1PR-ES058, 1A/1B Cond Line Back Press 	—	—	—
ALTERNATE PATH BEGINS HERE					
NOTE: Record the time the MSL Rad Mon HI-HI alarm is received in order to track the securing of the mechanical vacuum pump within 10 minutes of the alarm. Time MSL Hi-HI Rad Alarm received: _____					
4	MSL Rad Mon Hi-Hi alarm annunciator alarms due to a valid MSL Hi-Hi Rad condition.	Responds to MSL Rad Mon Hi-Hi alarm by referring to LOR and checking MSL Rad recorders in backpanel.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*5	Per CAUTION statement in LOP-OG-01, If a valid MSL A/B/C/D Rad Mon Hi-Hi alarm is received, TRIP Mechanical Vacuum Pump within 10 minutes to prevent exceeding the radioactivity release dose limit.	TRIPS the Mechanical Vacuum Pump by taking the 1OG02P, Mech Vac Pmp control switch to STOP by rotating counterclockwise, within 10 minutes of receiving the MSL Rad Mon Hi-Hi alarm	—	—	—
NOTE: Time Mechanical Vacuum Pump Secured: _____					
6	INFORMS that Unit Supervisor that the Mechanical Vacuum Pump has been TRIPPED due to a valid MSL Rad Mon Hi-Hi alarm.	INFORMS the Unit Supervisor that the Mechanical Vacuum Pump has been TRIPPED due to a valid MSL Rad Mon Hi-Hi alarm.			
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: Startup of the Mechanical Vacuum Pump

JPM Number: S-OG-02 Revision Number: 02

Task Number and Title: Respond to a Main Steam High Rad condition while starting the Mechanical Vacuum Pump.

80.001 Given Unit Supervisor authorization, perform the Main Control Room actions to startup the Off Gas Mechanical Vacuum Pump IAW station procedures.

K/A Number and Importance: 271000 A2.03 (3.5/3.8) Ability to (a) predict the impacts of the following on the OFFGAS SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Main steamline high radiation

Suggested Testing Environment: Simulator

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

Reference(s): LOP-OG-01, Startup of the Main Condenser Mechanical Vacuum Pump, Rev. 17

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 14 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,

- Unit 1 is starting up following a refueling outage, with reactor pressure currently at approximately 50 psig with conditions met for establishing condenser vacuum.
- LGP 1-1, Step E.4.5 is directing the start-up of the Mechanical Vacuum Pump per LOP-OG-01.
- LOP-OG-01 has been completed up to and including step E.1.7 in preparation for the start-up of the Mechanical Vacuum Pump.

INITIATING CUE

The Unit Supervisor has directed you to start-up the Unit 1 Mechanical Vacuum Pump per LOP-OG-01, beginning at step E.1.8. Notify the Unit Supervisor when the Mechanical Vacuum Pump has been started and main condenser back pressure is DECREASING.

Exelon Nuclear

Job Performance Measure

Perform LGA-MS-101 Hardcard

JPM Number: S-MS-06

Revision Number: 01

Date: 7 / 17 / 2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Training Department Date

Approved By: _____
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: 4
 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

Revision 01, Updated for the 19-1 NRC Exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any IC. Any IC is acceptable for use with this JPM.

<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
- An IN isolation is anticipated

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.

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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>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
NOTE	Examinee may obtain a copy of the LGA-MS-101 Hard Card				
NOTE	Steps can be completed in any order.				
*1	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	—	—	—
*2	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	—	—	—
*3	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	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*4	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	—	—	—
*5	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	—	—	—
*6	At 1PM13J, Open 1IN059 and 1IN060.	Examinee opens 1IN059 and 1IN060 at 1PM13J	—	—	—
7	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	—	—	—
8	VERIFY control switch for 1N62-F042/1N62-F043, Adsorber Train Inlet Vlv/Adsorber Train Bypass Vlv, is in TREAT position.	Examinee verifies control switch for 1N62-F042/1N62-F043, Adsorber Train Inlet Vlv/Adsorber Train Bypass Vlv, is in TREAT position.			
*9	PLACE in OPEN 1N62-F057, Off Gas Discharge To Stack.	Examinee places the 1N62-F057 control switch to OPEN	—	—	—
10	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: _____

JPM SUMMARY

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

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

JPM Title: Perform LGA-MS-101 Hardcard

JPM Number: S-MS-06 Revision Number: 01

Task Number and Title: Maintain the Main Condenser during an ATWS.

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
- An IN isolation is anticipated

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

Bypass a Failed Local Power Range Monitor (LPRM)

JPM Number: S-NR-01

Revision Number: 09

Date: 7 / 7 / 2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Training Department Date

Approved By: _____
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-NR-101 Rev: 20
 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 02,** Utilized new template & made minor editorial changes.
- Revision 03,** Changed the JPM from S-NR-01 to B.1.d. Verified correct to the current procedure.
- Revision 04,** Updated JPM for Rev. 9 of LOA-NR-101. Changed the title back to S-NR-01.
- Revision 05,** Changed Task number to correspond to vision Task list. Added additional LPRMs that were bypassed initially. This adds meaning to the determination whether the LPRM can be bypassed.
- Revision 06,** Changed initiating cue to say “enter LOA-NR-101” instead of “bypass LPRM 48-33C”. Changed K/A value to more closely match the task being performed and corrected typos.
- Revision 07,** Updated format for ILT 11-1 NRC Exam. Added another bypassed Level C LPRM on APRM C in the setup. This makes APRM C administratively inoperable when the failed APRM is identified/bypassed and makes bypassing APRM C a Critical Step.
- Revision 09,** Updated for the ILT 19-1 NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any Full Power IC

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 **SNR01r09.ssf**.
3. Bypass the following LPRMs in APRM C:
 - 16-33C
 - 32-17C
 - 56-41D
 - 40-25D
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 1 Assist NSO,

- Unit 1 is operating near full power in steady state conditions.
- The following LPRMs are already OOS and bypassed:
 - 16-33C
 - 32-17C
 - 56-41D
 - 40-25D
- LPRM 48-33C has just failed downscale.

INITIATING CUE

The Unit Supervisor has directed you to follow-up with LOA-NR-101 for the failed 48-33C LPRM detector. Notify the Unit Supervisor when applicable actions of LOA-NR-101 are 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.

.....

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
1	OBTAIN a copy of LOA-NR-101.	Examinee obtains a copy of LOA-NR-101.	—	—	—
2	STOP all control rod motion/power changes.	Examinee ensures no rod motion or power changes are in progress.	—	—	—
NOTE: Bypass light on 1H13-P603 will be lit for LPRM 48-33C when selected because of LPRM 48-33C being downscale.					
*3	SELECT a control rod that will display suspect LPRM on the 1H13-P603 display of four LPRM strings.	Examinee selects a rod that will display LPRM 48-33C. (46-31, 46-35, 50-31 or 50-35)	—	—	—
NOTE: The following step may or may not be performed. If not perform it may be N/A'ed.					
4	If required, review LPRM Diagnostic Screen on PPC to aid in determining LPRM operability.	Examinee reviews LPRM Diagnostic Screen on PPC.	—	—	—
5	Evaluate LPRM indications – NORMAL for plant conditions.	Examinee determines that 48-33C is indicating downscale and not NORMAL for plant conditions.	—	—	—
*6	If possible, BYPASS the APRM fed by the failed LPRM.	Examinee bypasses APRM C by placing the APRM BYPASS Selector switch to the 'C' position.			
*7	Bypass the Failed LPRM detector.	Examinee bypasses the 48-33C LPRM by placing the Bypass switch in the BYPASS position.	—	—	—
*8	REFER to Attachment B to assist in determining the operability of associated APRM.	Examinee determines from the initial conditions that APRM C is INOPERABLE due to less than 2 operable LPRMs on Level C			

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
9	SELECT control rod that displays affected LPRM detector and VERIFY downscale reading on meter.	Examinee selects a rod that will display LPRM 48-33C and verifies a downscale reading on meter. (46-31, 46-35, 50-31, 50-35)	—	—	—
10	REFER to T.S. 3.3.2.1 and 3.3.1.3.	Directs the Unit Supervisor to refer to T.S. 3.3.2.1 and 3.3.1.3.	—	—	—
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: Bypass a Failed Local Power Range Monitor (LPRM)

JPM Number: S-NR-01 Revision Number: 09

Task Number and Title: Bypass a failed LPRM after a downscale failure

43.001 Provided initial conditions, perform the Control Room actions for a Local Power Range Monitor failure, IAW station procedures.

K/A Number and Importance: 215005 A4.04 (3.2/3.2) Ability to manually operate and/or monitor in the control room: LPRM back panel switches, meters and indicating lights

Suggested Testing Environment: Simulator

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

Reference(s): LOA-NR-101, Neutron Monitoring Trouble, Rev. 20

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 15 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 Assist NSO,

- Unit 1 is operating near full power in steady state conditions.
- The following LPRMs are already OOS and bypassed:
 - 16-33C
 - 32-17C
 - 56-41D
 - 40-25D
- LPRM 48-33C has just failed downscale.

INITIATING CUE

The Unit Supervisor has directed you to follow-up with LOA-NR-101 for the failed 48-33C LPRM detector. Notify the Unit Supervisor when applicable actions of LOA-NR-101 are complete.

Exelon Nuclear

Job Performance Measure

Perform a Monthly Surveillance on Control Rod 10-43

JPM Number: S-RD-01

Revision Number: 02

Date: 7 / 19 / 2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

Approved By: _____
Training Department 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 LOS-RD-M3 Rev: 9
 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,** Written new for the 2012 11-1 ILT Cert Exam
- Revision 01,** Revised JPM steps to more closely align with procedural steps and to add evaluator notes. Revised task associated with JPM.
- Revision 02,** Updated for the 19-1 NRC exam

SIMULATOR SETUP INSTRUCTIONS

1. Reset simulator to any full power IC.

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. Verify control rod 10-43 is fully withdrawn
3. 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.
4. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Assist NSO,

- Unit 1 is at rated conditions.

INITIATING CUE

The Unit Supervisor has directed you to perform the Full Out Rod Cycling/Stall flows/Timing portion of LOS-RD-M3, Control Rod Monthly Surveillances, for control rod 10-43 starting at Step E.1.6.2. Notify the Unit Supervisor when surveillance is complete through step E.1.6.3.5.

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>
1	Obtain a copy of the procedure.	Examinee demonstrates where to obtain a copy of the procedure.	—	—	—
NOTE: After the Examinee demonstrates where to obtain a copy of the procedure provide the examinee with a copy of LOS-RD-M3.					
2	SETUP RCMS for Full Out Exercising with coupling check and Withdraw Stall Flow Capture as follows:	Examinee SETS UP RCMS for Full Out Exercising with coupling check and Withdraw Stall Flow Capture as follows:	—	—	—
2.1	At the ROD SELECT Display, or STATUS Display, whichever is in CONTROL Mode, PERFORM the following:	At the ROD SELECT Display, or STATUS Display, whichever is in CONTROL Mode, Examinee PERFORMS the following:	—	—	—
2.2	SELECT the 'SURVEILLANCE' softkey.	Examinee SELECTS the 'SURVEILLANCE' softkey.	—	—	—
2.3	SELECT the 'ROD EXERCISE' softkey.	Examinee SELECTS the 'ROD EXERCISE' softkey.	—	—	—
2.4	SELECT 'FULL OUT' on the ROD EXERCISE screen.	Examinee SELECTS 'FULL OUT' on the ROD EXERCISE screen.	—	—	—
2.5	SELECT 'STALL FLOW' on the ROD EXERCISE screen.	Examinee SELECTS 'STALL FLOW' on the ROD EXERCISE screen.	—	—	—
2.6	If necessary, SELECT and CONFIRM "CLEAR LOG"	If necessary, Examinee SELECTS and CONFIRMS "CLEAR LOG"	—	—	—
3	EXERCISE full out rods as follows:	Examinee EXERCISES full out rods as follows:	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE: The following step once the CRD Drive Flow Trip Circuit Bypass Switch is placed in BYPASS, annunciator 1H13-P603-A501 will alarm. The Examinee should identify this as an expected alarm and respond accordingly prior to placing the switch in BYPASS. This includes reviewing the applicable LOR, notifying the Unit Supervisor and flagging the alarm.					
CUE	If required as the Unit Supervisor, if the Examinee performs the expected alarm response for 1H13-P603-A501, acknowledge the report and tell them they can consider the alarm as expected.				
*3.1	VERIFY in BYPASS position the CRD Drive Flow Trip Circuit Bypass Switch.	Examinee Places in BYPASS position the CRD Drive Flow Trip Circuit Bypass Switch.	—	—	—
*3.2	Using Notch Insert, INSERT each Full Out Control Rod one (1) notch individually to position 46 while monitoring the Rod position.	Using Notch Insert, Examinee INSERTS control rod 10-43 one (1) notch to position 46 while monitoring the Rod position.	—	—	—
3.3	OBSERVE that the Rod has moved and latched at 46.	Examinee OBSERVES that the Rod has moved and latched at 46.	—	—	—
NOTE: The following step is only required if the Examinee released the insert button too quickly and the control rod settled back at the Full Out position. It may not be required to be performed and may be N/A'ed in this case.					
*3.4	If rod settles back to Full Out, repeat attempt holding notch insert button depressed slightly longer, as needed.	If rod settles back to Full Out, Examinee repeats attempt holding notch insert button depressed slightly longer, as needed.	—	—	—
NOTE: Procedure Steps E.1.6.3.2.1.2 through E.1.6.3.2.1.2.4 are not required during this surveillance and should be N/A'ed by the Examinee.					
*3.5	Using Notch Withdraw/Extended Lift, RETURN the Rod to Full Out and OBSERVE rod does not go to the overtravel position.	Using Notch Withdraw/Extended Lift, Examinee RETURNS the Rod to Full Out and OBSERVE rod does not go to the overtravel position.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
NOTE: Procedure Steps E.1.6.3.3.1 through E.1.6.3.3.4 are not required during this surveillance and should be N/A'ed by the Examinee.					
4	If necessary, RESTORE rod from BYPASS in RCMS and Re-Enter ROD EXERCISE.	If necessary, Examinee RESTORES rod from BYPASS in RCMS and Re-Enter ROD EXERCISE.	—	—	—
5	RECORD satisfactory Control Rod operation on Attachment 1A by initialing the "Initials" column for each full out rod.	Examinee RECORDS satisfactory Control Rod operation on Attachment 1A by initialing the "Initials" column for each full out rod.	—	—	—
6	Notify the Unit Supervisor surveillance complete on control rod 10-43.	Examinee notifies the Unit Supervisor surveillance complete on control rod 10-43.	—	—	—
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: Perform a Monthly Surveillance on Control Rod 10-43

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

Task Number and Title: Perform full out rod cycling surveillance

47.001 Given Unit Supervisor authorization, perform a Notch Withdrawal of a control rod, IAW station procedures.

K/A Number and Importance: 201002 A4.01 (3.5/3.4) Ability to manually operate and/or monitor in the control room: Rod movement control switch

Suggested Testing Environment: Simulator

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

Reference(s): LOS-RD-M3, Control Rod Monthly Surveillances, Rev. 9

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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Assist NSO,

- Unit 1 is at rated conditions.

INITIATING CUE

The Unit Supervisor has directed you to perform the Full Out Rod Cycling/Stall flows/Timing portion of LOS-RD-M3, Control Rod Monthly Surveillances, for control rod 10-43 starting at Step E.1.6.2. Notify the Unit Supervisor when surveillance is complete through step E.1.6.3.5.

Exelon Nuclear

Job Performance Measure

Secure the Drywell Inerting Lineup

JPM Number: S-VQ-13

Revision Number: 02

Date: 07/19/2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

Approved By: _____
Training Department 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-VQ-04 Rev: 41
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** This JPM was developed new for ILT 13-1 NRC Exam.
Revision 01, Revised per NRC feedback on the 45 Day Submittal.
Revision 02 Revised for the ILT 19-1 NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. 1. Reset the simulator to a startup IC. (Use IC 210 for the ILT 19-1 NRC Exam. Password 0210)

SIMULATOR SETUP INSTRUCTIONS (Continued)

3. Provide a working copy of LOP-VQ-04 (Entire LOP) marked up as follows:

- Sections A, B, C & D; all steps circled and slashed except the following which are N/A:
 - B.1.3, B.1.7, & B.1.8
- Section E.1; all steps circled and slashed except the following which are N/A:
 - E.1.1 2nd and 3rd bullets
- Section E.2; all steps circled and slashed except the following which are N/A:
 - E.2.2 5th bullet
 - E.2.3, E.2.6 and E.2.8 through E.2.8.2.3
- Section E.3 unmarked
- Section E.4; Steps E.4.2 and E.4.2.5, only the 1st bullet circled and slashed. All other steps up to E.4.3 circled and slashed
- Section E.5;
 - The following steps marked N/A
 - The second bullets of Steps E.5.6 and E.5.6.1
 - Step E.5.6.2
 - Steps E.5.9 through E.5.9.3
 - Step E.5.15.2
 - Step E.5.17, 2nd and 3rd open bullets
 - All E.5.18 steps
 - Steps E.5.21 to E.5.28
 - All other steps circled and slashed up to Step E.5.21
- Section E.6;
 - The following steps marked N/A
 - The second bullets of Steps E.6.6 and E.6.6.1
 - Step E.6.6.2
 - Steps E.6.9 through E.6.9.3
 - Step E.6.15.2
 - Step E.6.17, 2nd and 3rd open bullets
 - All other steps circled and slashed up to Step E.6.18
- Section E.14 unmarked
- Attachment A
 - Use "Today"/"12Hours ago" for 0A VC and VE Charcoal Filter Startup Date/Times
 - Leave 0A VC and VE Charcoal Filter Shutdown Date/Times blank
 - Mark 0B Startup and Shutdown Date/Times N/A

INITIAL CONDITIONS

You are an extra NSO on Unit 1.

- A Startup is in progress.
- The Suppression Chamber has been inerted and Drywell inerting is in progress.
- Drywell O2 concentration has lowered to less than 1%.

INITIATING CUE

Secure the Drywell inerting lineup and establish normal Nitrogen makeup to the Drywell per LOP-VQ-04.

(Provide the candidate with the marked up copy of LOP-VQ-04)

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 Candidate 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	All steps are from LOP-VQ-04 unless otherwise specified.				
*1. E.6.18	When Drywell oxygen concentration is stable at less than 1% by volume and is no longer decreasing, CLOSE the following valves at Control Room Panel 1PM06J: <ul style="list-style-type: none"> • 1VQ042, DW N2 Inerting Isol Vlv. • 1VQ030, DW Vent/Purge Inlt Dwnst Isol Vlv. • 1VQ034, DW Vent/Purge Otlit Upstrm Isol Vlv. • 1VQ036, DW Vent/Purge Otlit Dwnst Isol Vlv. 	The following valve are CLOSED: <ul style="list-style-type: none"> • 1VQ042 • 1VQ030 • 1VQ034 • 1VQ036 	—	—	—
CUE	Role Play Unit Supervisor for Step E.6.19: It is NOT desired to monitor the Suppression Chamber O2 concentrations				
Note	Step E.6.20 is Not Applicable because the Suppression Chamber has already been inerted.				
Note	In Step E.6.21, it takes >40 seconds for 1PC-VQ019 to stroke closed.				
*2. E.6.21	If 1PC-VQ019, PC Press Controller, is operable, CLOSE 1VQ053 using 1PC-VQ019.	1VQ053 closed using 1PC-VQ019	—	—	—
Note	Step E.6.22 is Not Applicable because 1PC-VQ019 Is operable				
3. E.6.23	SECURE the VQ Storage Tank Line-up per Step E.17.4.	EO directed to secure the VQ Storage Tank Line-up	—	—	—
CUE	Role Play EO as necessary when directed to secure the VQ Storage Tank Line-up per Step E.17.4. (No further action will be necessary.)				
4. E.6.24	Locally, VERIFY the following valves CLOSED: <ul style="list-style-type: none"> • 1VQ057, Pri Cnmt N2 Inerting Press Cont Vlv Upstrm Valve. • 1VQ058, Pri Cnmt N2 Inerting Press Cont Vlv Dwnst Valve. 	EO directed to verify that 1VQ057 and 1VQ058 are closed	—	—	—
CUE	Role Play EO as necessary when directed to close 1VQ057 and 1VQ058. Report that both valves are closed. (No further action will be necessary.)				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
5. E.6.25	SHUTDOWN Primary Containment Vent and Purge System per Section E.3.	Section E.3 referenced	—	—	—
*6. E.3.2	STOP 1VQ01C, PC Purge Sys Exhaust Fan.	Control Switch for 1VQ01C taken to STOP	—	—	—
7. E.3.3	CHECK CLOSED 1VQ02Y, PC Purge Filt Trn Otlt Isol Vlv.	1VQ02Y checked closed	—	—	—
8. E.3.4	CHECK CLOSED 1VQ01Y, PC Purge Filt Trn Inlt Isol Vlv.	1VQ01Y checked closed	—	—	—
*9. E.3.5	Close the following dampers: <ul style="list-style-type: none"> • 1VQ03Y, RWCU Areas Exhaust Isol Damper. • 2VQ03Y, RWCU Areas Exhaust Isol Damper. • 1VQ037, VQ Train Inlet Upstrm Isol Vlv. • 1VQ038, VQ Train Inlet Dwnst Isol Vlv. • Verifiy closed 1VQ041, RB Exhaust Dsch Valve. 	The following valve are CLOSED: <ul style="list-style-type: none"> • 1VQ03Y • 2VQ03Y • 1VQ037 • 1VQ038 • 1VQ041 	—	—	—
CUE	Role Play Unit 2 NSO if asked about 2VQ03Y. Report that 2VQ03Y is closed.				
CUE	Role Play as Unit Supervisor if asked about EST cards. Report that no ESTs were placed				
10. E.3.6	NOTIFY Chemistry Department that purging operations are complete.	Chemistry Department notified that purging operations are complete.	—	—	—
CUE	Role Play as Chemistry Dept personnel as necessary to acknowledge this report.				
11. E.6.26	If NO longer required, SHUTDOWN MCR Recirc Charcoal Filter Unit per Section E.4.	Section E.4.3 referenced	—	—	—
12. E.4.3.1	CHECK 0A(B) Recirc Charcoal Filter operation is no longer required.	MCR Recirc Charcoal Filter operation verified to be no longer required.	—	—	—
CUE	Role Play Unit Supervisor: Verify that MCR Recirc Charcoal Filter operation is no longer needed.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
*13. E.4.3.2	PLACE 0A(B) CR HVAC Charcoal Filter Damper Control switch to BYPASS position.	0A(B) CR HVAC Charcoal Filter Damper Control switch placed in BYPASS	—	—	—
CUE	If asked, report that there is no smoke present in the return air.				
14. E.4.3.4	CHECK following Damper positions: <ul style="list-style-type: none"> Inlet 0VC11YA(B) is CLOSED. Outlet 0VC12YA(B) is CLOSED. Bypass 0VC13YA(B) is OPEN. 	Damper positions checked: <ul style="list-style-type: none"> 0VC11YA/B CLOSED 0VC12YA/B CLOSED 0VC13YA/B OPEN 	—	—	—
15. E.4.3.5	RECORD Date/Time of 0A(B) VC Recirc Charcoal Filter shutdown on Attachment A.	Date/Time of 0A(B) VC Recirc Charcoal Filter shutdown recorded on Attachment A	—	—	—
16. E.4.3.6	FORWARD Attachment A to Trend Analyst for tracking 0A(B) VC Recirc Charcoal Filter operation.	Attachment A forwarded to Trend Analyst	—	—	—
CUE	Role Play Unit Supervisor as necessary and take Attachment A from the candidate for forwarding. (This may be done after VE has been stopped.)				
17. E.6.27	If NO longer required, SHUTDOWN AEER Recirc Charcoal Filter Unit per Section E.4.	Section E.4.4 referenced	—	—	—
CUE	Role Play Unit Supervisor: Verify that the AEER Recirc Charcoal Filter operation is no longer needed.				
18. E.4.4.1	Directs an EO to SHUTDOWN AEER Recirc Charcoal Filter Unit per Section E.4.	EO directed to shutdown AEER Recirc Charcoal Filter Unit per Section E.4.	—	—	—
CUE	Role Play EO as necessary when directed to shutdown the AEER Recirc Charcoal Filter operation. (No further action will be necessary.)				
19. E.6.28	Align the VQ System for Normal Make-Up per Sections E.14	Section E.14 referenced	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
20. E.14.1	OPEN the following valves locally: <ul style="list-style-type: none"> • 1VQ054, Pri Cnmt N2 Makeup Press Cont Vlv Dwnst Valve. • 1VQ055, Pri Cnmt N2 Makeup Press Cont Vlv Upstrm Valve. 	EO directed to open the following valves: <ul style="list-style-type: none"> • 1VQ054 • 1VQ055 	—	—	—
CUE	Role Play as EO when directed to open 1VQ054 and 1VQ055 per Step E.14.1. Report that both valves are open. (No further action is necessary.)				
*21. E.14.2.1	PLACE PC Press CV Selector switch to MAKEUP position to establish control of pressure control valve 1VQ052.	PC Press CV Selector switch selected to MAKEUP	—	—	—
*22. E.14.2.2	PLACE 1PC-VQ019, PC Press Contlr in MANUAL and CLOSE 1VQ052.	1PC-VQ019, placed in MANUAL and CLOSED	—	—	—
Note	Step E.14.2.2 may have been completed previously.				
*23. E.14.2.3	OPEN the following valves: <ul style="list-style-type: none"> • 1VQ047, DW N2 Makeup Dwnst Isol Vlv. • 1VQ048, DW N2 Makeup Upstrm Isol Vlv. • 1VQ050, SP N2 Makeup Dwnst Isol Vlv. • 1VQ051, SP N2 Makeup Upstrm Isol Vlv. 	The following valves are OPEN: <ul style="list-style-type: none"> • 1VQ047 • 1VQ048 • 1VQ050 • 1VQ051 	—	—	—
*24. E.14.2.4	PLACE 1PC-VQ019, PC Press Contlr, in AUTO.	1PC-VQ019 Controller placed in AUTO	—	—	—
25. E.14.2.5	Verify 1PC-VQ019, PC Press Contlr, setpoint is at +0.2 psig.	1PC-VQ019 setpoint is reading approximately +0.2 psig.	—	—	—
TERMINATING CUE:					
This completes this JPM.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____

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

JPM Title: Secure the Drywell Inerting Lineup

JPM Number: S-VQ-13

Revision Number: 02

Task Number and Title: Secure the Drywell Inerting Lineup and place Nitrogen Makeup online 93.003 Given Unit Supervisor authorization, perform the Main Control Room actions to Inert/De-inert the Suppression Chamber or the Drywell IAW station procedures.

K/A Number and Importance: 223001 A4.10 (3.2/3.2) Ability to manually operate and/or monitor in the control room: Drywell nitrogen makeup: Mark-I,II

Suggested Testing Environment: Simulator

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

Reference(s): LOP-VQ-04, Rev. 41, Startup, Shutdown, and Operations of the Primary Containment Vent and Purge System

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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are an extra NSO on Unit 1.

- A Startup is in progress.
- The Suppression Chamber has been inerted and Drywell inerting is in progress.
- Drywell O₂ concentration has lowered to less than 1%.

INITIATING CUE

Secure the Drywell inerting lineup and establish normal Nitrogen makeup to the Drywell per LOP-VQ-04.

Exelon Nuclear

Job Performance Measure

Loss of Bus 142X (Alternate Path)

JPM Number: S-AP-07a

Revision Number: 02

Date: 07 / 19 / 2020

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

Approved By: _____
Training Department 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 _____ Rev: _____
 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 written for the 2013 NRC Annual Exam by G.W. Beale
- Revision 01,** Reformatted to the most recent version of TQ-JA-150-02, revised to current procedure revision.
- Revision 02** Updated for the ILT 19-1 NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 212. (Password 0212)

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. Verify the 1A DG is running per LOS-DG-M2 Attachment 1A Fast Start, loaded to 2,500 KW and 1,000 KVAR. Verify the 1A and 1C CW Pumps are running and the 1B CW Pump is shutdown.
3. Place the simulator in RUN.
4. LOAD and RUN Smart Scenario **SAP07r02.ssf**.
5. Silence and acknowledge all annunciators and the FREEZE the simulator until the first Examinee enters.
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 Assist NSO,

- LOS-DG-M2 Attachment 1A-FAST is in progress on the 1A DG and is completed up to step 3.11.
- The 1A DG is currently loaded on Bus 142Y at 2,500 KW and 1,000 KVAR and has been running for approximately 35 minutes.
- Unit 1 scrambled.
- Unit 1 UAT TRIPPED and Bus 142X DE-ENERGIZED.
- The 1A and 1C Circ Water Pumps were online at the time the Unit 1 UAT TRIPPED.
- An Equipment Operator is standing by to assist you.

INITIATING CUE

The Unit 1 Supervisor has directed you to perform LOA-AP-101, Unit 1 AC Power System Abnormal, to restore power to Bus 142X from the U-1 SAT 142 via the 142X-142Y Bus Tie, ACB 1425. You are to notify the Unit 1 Supervisor when Bus 142X 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>
1	Obtain a copy of LOA-AP-101.	Examinee obtains a copy of LOA-AP-101	—	—	—
2	At Panel 1PM01J, CHECK B202 CLEAR.	Examinee checks Panel 1PM01J-B202 CLEAR.	—	—	—
3	Verify all three phase voltages of 142X are approximately equal using the 142X/Y Voltmeter switch.	Examinee verifies all three phases voltages of 142X equal using the 142X/Y Voltmeter switch.	—	—	—
4	CHECK Bus 142Y - LIVE.	Examinee verifies that Bus 142Y is live.	—	—	—
5	CHECK Bus 142Y – LIVE from SAT/DG1A.	Examinee verifies that Bus 141Y is live from SAT/DG1A.	—	—	—
6	CHECK ACB 1423 is closed.	Examinee verifies that ACB 1423 is closed.	—	—	—
7	OBTAIN Key 247 from MCR key cabinet	Directs EO obtains Key 247 from MCR key cabinet	—	—	—
CUE	As EO, Key 247 has been obtained from the MCR Cabinet.				
8	In the Div 2 SWGR Room at 1AP02J, PLACE 1SS-AP025, ACB 1425 Sync Bypass Switch in BYPASS .	Directs the EO in the Div 2 SWGR Room at 1AP02J, to place the 1SS-AP025, ACB 1425 Sync Bypass Switch in BYPASS .	—	—	—
CUE	As EO, The 1SS-AP025, ACB 1425 Sync Bypass Switch, is in BYPASS .				
NOTE:	Smart Scenario inserts Malfunction preventing the ACB 1425 from closing.				
9.1	SYNCHRONIZE ACB 1425.	Examinee places Synchroscope Select Switch to ON for ACB 1425	—	—	—
NOTE:	Malfunction inserted on ACB 1425 C/S CLOSE position to TRIP the 1A DG, TRIP ACB 1423.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
9.2	CLOSE ACB 1425.	Examinee closes ACB 1425.	—	—	—
CUE	If notified of the failure of ACB 1425 to close, acknowledge report. If asked for guidance, inform the Examinee to perform necessary procedural actions to restore power to Bus 142X.				
Alternate Path Begins Here					
10	In the Div 2 SWGR Room at 1AP02J, PLACE 1SS-AP025, ACB 1425 Sync Bypass Switch in NORMAL .	Directs EO in the Div 2 SWGR Room at 1AP02J, to place the 1SS-AP025, ACB 1425 Sync Bypass Switch in NORMAL .	—	—	—
CUE	As EO, The 1SS-AP025, ACB 1425 Sync Bypass Switch, is in Normal .				
11	RETURN Key 247 to MCR key cabinet while continuing.	Directs EO to RETURN Key 247 to the MCR key cabinet.	—	—	—
CUE	As EO, Key 247 has been returned to the MCR key cabinet.				
12	CHECK Bus 142X – DEAD.	Examinee verifies Bus 142X DEAD.	—	—	—
13	CHECK UAT 141 – DEAD.	Examinee verifies UAT 141 is DEAD.	—	—	—
14	CHECK Bus 142X – DEAD.	Examinee verifies Bus 142X is DEAD.	—	—	—
15	CHECK Bus 142Y – LIVE from SAT 242/UAT 241.	Examinee verifies Bus 142 is not power from Unit 2.	—	—	—
NOTE:	Examinee transitions to the RESPONSE NOT OBTAINED column.				
16	DO <u>NOT</u> crosstie 142X to 142Y.	Examinee does not crosstie 142X to 142Y at this time.	—	—	—
17	GO TO Step 14 to continue actions required due to loss of bus.	Examinee proceeds to Step 14 .	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
18	REDUCE Reactor Power per LGP-3-1, Power Changes, as necessary to maintain Condenser Vacuum.	Examinee determines from Initial Conditions that the Reactor has scrammed.	—	—	—
19	CHECK Bus 141X – LIVE from UAT 141/SAT 142.	Examinee determines that Bus 141X is energized.	—	—	—
20	CHECK Circ Water Pump 1B - SHUTDOWN at time of bus loss.	Examinee determines from Initial Conditions that 1B Circ Water Pump was shutdown at time of bus loss.	—	—	—
21	At Panel 1H13-P601, CHECK C202 - CLEAR.	Examinee verifies at Panel 1H13-P601, CHECK C202 - CLEAR.			
22	At Panel 1PM01J, CHECK A516 - CLEAR.	Examinee verifies at Panel 1PM01J, CHECK A516 - CLEAR.			
23	OPERATE and CONTROL air lock doors D-449 and D-450 per Attachment L as required (TS 3.6.4.1).	Examinee informs Unit Supervisor to OPERATE and CONTROL air lock doors D-449 and D-450 per Attachment L as required (TS 3.6.4.1).			
CUE	As Unit Supervisor, acknowledge the report. No further action is required.				
24	CHECK 142X for targets.	Directs EO to inspect Bus 142X for targets.	—	—	—
CUE	As EO, report there are no targets indicated on bus 142X.				
25	Check Bus 142X for visual signs of damage.	Directs EO to inspect Bus 142X for visual signs of damage.	—	—	—
CUE	As EO, report there are no visual signs of damage on bus 142X.				
26	CORRECT or ISOLATE problems from the bus.	Examinee determines problem is isolated from the bus.	—	—	—
CUE	As Shift Manager, inform the Examinee that the fault was associated with the 1SS-AP025, ACB 1425 Sync Bypass Switch and was isolated from the bus when the switch was returned to normal.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
25	CHECK UAT 141 - DEAD	Examinee verifies UAT 141 is DEAD.	—	—	—
26	CHECK Bus 142Y – LIVE from SAT 142.	Examinee verifies that BUS 142Y is live from the SAT 142.	—	—	—
*27.1	SYNCHRONIZE ACB 1425.	Examinee places Synchroscope Select Switch to ON for ACB 1425.	—	—	—
*27.2	CLOSE ACB 1425.	Examinee closes ACB 1425.	—	—	—
28	INFORM the Unit Supervisor.	Examinee informs the Unit Supervisor that Bus 142X is energized.	—	—	—
CUE	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: Loss of Bus 142X (Alternate Path)

JPM Number: S-AP-07a Revision Number: 2

Task Number and Title: Restore power to bus 142X after a loss

5.006 Provided initial conditions, respond to a loss of a non ESS Bus, IAW station procedures.

K/A Number and Importance: 295003 AA2.01 (3.4/3.7) Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER: Cause of partial or complete loss of A.C. power

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. 60

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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are the Assist NSO,

- LOS-DG-M2 Attachment 1A-FAST is in progress on the 1A DG and is completed up to step 3.11.
- The 1A DG is currently loaded on Bus 142Y at 2,500 KW and 1,000 KVAR and has been running for approximately 35 minutes.
- A Fire is in progress in the Lake Screen House and the Diesel Fire Pumps are UNAVAILABLE.
- Another NSO is performing actions per LOA-FP-101.
- Unit 1 is at 20% Power waiting to up-shift Reactor Recirculation Pumps.
- Unit 1 UAT TRIPPED and Bus 142X DE-ENERGIZED.
- The 1A and 1C Circ Water Pumps were online at the time the Unit 1 UAT TRIPPED.
- An Equipment Operator is standing by to assist you.

INITIATING CUE

The Unit 1 Supervisor has directed you to perform LOA-AP-101, Unit 1 AC Power System Abnormal, to restore power to Bus 142X from the U-1 SAT 142 via the 142X-142Y Bus Tie, ACB 1425. You are to notify the Unit 1 Supervisor when Bus 142X is energized.

JOB PERFORMANCE MEASURE

Place Shutdown Cooling in Service and Respond to a Loss of Shutdown Cooling Due to Pump Trip: Alternate Path

**JPM: NRC-LAS-2020-h
Rev 1**

November 2020

Facility: LaSalle

K/A Reference: 205000 A2.06 (3.4/3.5), Ability to (a) predict the impacts of the following on the Shutdown Cooling System (RHR Shutdown Cooling Mode); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to an IC in which the plant is in Mode 3 and stable, and able to support the startup of Shutdown Cooling. Have PPC Screen #47, Heat Rate Surveillance displayed on 1C91-R806C (PPC1-OVH-C).
2. Load and Run Smart Scenario JPMh.ssf
3. Manual Actions:
 - a. Both Reactor Recirculation Pumps in operation
 - b. RHR system is in alignment IAW LOP-RH-07 through step E.5
 - c. Applicable equipment status tags placed on handswitches IAW LOP-RH-07 E.1.5
4. Malfunctions:
 - a. MRH017 – RHR pump E12-C002A trip
5. Remotes:
 - a. None
6. Overrides:
 - a. None
7. Procedures:
 - a. Copy of LOP-RH-07, “Shutdown Cooling System Startup, Operation, and Transfer” marked up through step E.5
 - b. Copy of LOA-RH-101, “Unit 1 RHR Abnormal”
8. When the setup for this JPM is complete ensure that any other JPMs to be performed concurrently are also ready.
9. This completes the setup for this JPM.

INITIAL CONDITIONS

1. You are the Unit 1 Auxiliary NSO
2. Unit 1 is in Mode 3 for a normal unit shutdown
3. Unit 1 is placing Shutdown Cooling in service using the '1A' RHR loop IAW LOP-RH-07, "Shutdown Cooling System Startup, Operation, and Transfer"
4. The previous shift has completed through step E.5 in LOP-RH-07

INITIATING CUE

The Unit Supervisor directs you to continue placing Shutdown Cooling in service IAW LOP-RH-07, "Shutdown Cooling System Startup, Operation, and Transfer," Step E.6.

Provide examinee with: A copy of LOP-RH-07, with steps completed through E.5. When the examinee recognizes the pump trip and proceeds to obtain the AOP, provide examinee with a copy of LOA-RH-101.

Fill in the JPM Start Time when the examinee 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 Candidate 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
1.1	At 1H13-P602, Perform the following: Check that both Reactor Recirculation Pumps are in operation	Observes that both Reactor Recirculation Pumps are running – running lights lit, indication of recirculation flow, etc.	—	—	—
*2.1	Open 1E12-F047A, 'A' RHR HX INLET VLV	Places handswitch for 1E12-F047A to OPEN, observes red open indication light is lit	—	—	—
3.1	Verify Open 1E12-F048A, 'A' RHR HX BYPASS VLV	Observes for 1E12-F048A that handswitch is in the open position, red open indication light is lit	—	—	—
4.1	NOTE on page 25	Reads and acknowledges the note	—	—	—
5.1	If starting up SDC in Modes 4, 5, or Defueled...	Understands starting SDC in Mode 3, marks step as N/A	—	—	—
6.1	If transferring between pumps...	Understands Unit 1 is not transferring between pumps, marks step as N/A	—	—	—
Cue	If requested for verification, as US inform examinee Unit 1 is NOT transferring between pumps				
7.1	ALARA – prior to starting the RHR Pump, Rad Protection shall be notified...	Reads and acknowledges the note, the examinee may call rad protection or ask US to make the call	—	—	—
7.2	Start one RHR pump as follows: Verify closed 1E12-F053A, 'A' RHR SHTDN CLG RETURN ISOL.	Observes for 1E12-F053A that handswitch is in the CLOSED position, green closed indication light is lit	—	—	—
7.3	NOTE on page 25	Reads and acknowledges the note	—	—	—
7.4	If 1E12-F053A has no power...	Understands 1E12-F053A has power, marks step as NA	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
7.5	Verify closed 1E12-F003A, 'A' RHR HX OUTLET VLV.	Observes for 1E12-F003A that the handswitch is in the closed position, green closed indication light is lit	—	—	—
7.6	If reactor vessel head is installed, verify reactor level is between 40" and 340" on the Shutdown Range....	Understands vessel head is installed in Mode 3, observes level is between 40" and 340" on the Shutdown Range	—	—	—
7.7	CAUTION on page 26	Reads and acknowledges the caution	—	—	—
*7.8	Start 'A' RHR Pump	Takes handswitch for the 'A' RHR Pump to start. Observes red running light and pump amps and verifies the pump has started	—	—	—
*7.9	Throttle OPEN 1E12-F053A, 'A' RHR SHTDN CLG RETURN ISOL, to obtain 4000 to 5000 gpm flow	Uses handswitch for 1E12-F053A to throttle open valve. Observes RHR flow rising. Stops throttling when flow is stabilized between 4000 and 5000 gpm flow as indicated on flow gage	—	—	—
7.10	Verify Reactor Water Level stabilizes	Observes on Shutdown Range that Reactor Water Level has stabilized	—	—	—
ALTERNATE PATH STARTS HERE					
*8.1	'A' RHR Pump Trip	Observes "1A RHR PMP AUTO TRIP" alarm on 1H13-P601-C103, observes RHR flow indicates 0 gpm, observes green running light lit for A RHR Pump, reports pump trip to US Understands to enter LOA-RH-101 to recover shutdown cooling from the RHR pump trip	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
Cue	If examinee informs the Unit Supervisor of the pump trip acknowledge the report and direct them to restore Shutdown Cooling				
Cue	If examinee recommends entering LOA-RH-101, direct them to enter LOA-RH-101 Once examinee proceeds to obtain a copy of the procedure, hand them a copy				
9.1	Check Group 6 Isolation parameters - Normal	Observes reactor water level above Level 3, reactor pressure below 135 psig, and S/D Cooling High Suction Flow not exceeded	___	___	___
10.1	Establish secondary containment while continuing	Acknowledges another operator will complete this step	___	___	___
Cue	Inform examinee another operator will complete this step and to proceed				
11.1	Only one PCIS division isolated	Understands that no PCIS division is isolate, proceeds to response not obtained. Contacts maintenance and engineering or asks US/work control to contact them. Proceeds to Step 12	___	___	___
Cue	Inform examinee US will contact maintenance and engineering and to proceed				
12.1	Check any idle RR loop isolated from Shutdown Cooling flowpath	Observes that there are no idle RR loops	___	___	___
13.1	Verify that one of the following exists to prevent excessive temperature stratification within the reactor vessel:	Verifies RR Pump is operating in the loop shutdown cooling is not aligned to and/or reactor vessel level is greater than +50 inches	___	___	___
14.1	Check proper operation/lineup of shutdown cooling loop	Observes the RHR Pump has tripped, proceeds to response not obtained, and proceeds to Attachment D for Quick Recovery of SDC	___	___	___
15.1	Caution on page 31	Reads and acknowledges the caution	___	___	___

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
16.1	At Control Room Panel 1H13-P601, prepare to recover the RHR system in Shutdown Cooling Mode as follows: Determine if SDC will be restarted on previously running loop or if a loop swap is required	Determines a loop swap is required	—	—	—
Cue	If asked, as US inform examinee a loop swap is required				
16.2	If reactor water temperature exceeds 'B' RHR Hx outlet by: <ul style="list-style-type: none"> • 250 deg F • 100 deg F to 250 deg F 	Understands these two steps are continuously applicable and monitors the temperature for the remainder of this task	—	—	—
16.3	Caution on page 31	Reads and acknowledges the caution	—	—	—
*16.4	Verify closed the following valves: <ul style="list-style-type: none"> • 1E12-F004B • 1E12-F064B • 1E12-F053B 	Uses handswitches to CLOSE 1E12-F004B and 1E12-F064B. Verifies 1E12-F053B is in the closed position.	—	—	—
*16.5	Verify open 1E12-F006B, 'B' RHR SHTDN CLG SUCTION VLV.	Uses handswitch to OPEN 1E12-F006B.	—	—	—
16.6	Verify PCIS is reset	Depresses both OUTBOARD ISOL RESET and INBOARD ISOL RESET Pushbuttons	—	—	—
16.7	Verify open 1E12-F008, RHR SHTDN CLG SUCT OUTBOARD ISOL VLV.	Observes for 1E12-F008 the handswitch is in the open position, red open indication light is lit	—	—	—
16.8	Caution on page 32	Reads and acknowledges the caution	—	—	—
16.9	From 1H13-P601, verify open 1E12-F009, RHR SHTDN CLG SUCT INBOARD ISOL VLV.	Observes for 1E12-F009 the handswitch is in the open position, red open indication light is lit	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
16.10	Verify RHR loop B filled and vented	Observes alarm 1H13-P601-B306 is clear Dispatches EO to vent at valves 1E12-F371B and 1E12-F372B	___	___	___
Cue	As EO, acknowledge order from the examinee. Using time compression, inform examinee RHR loop B is vented from 1E12-F371B and 1E12-F372B				
*17.1	Startup RHR Service Water as follows: Open 1E12-F068B, 1B RHR HX SERV WTR OTLT VLV.	For 1E12-F068B, takes handswitch to OPEN, observes red light is lit and green light extinguished	___	___	___
*17.2	After 9-10 seconds, start RHR Service Water Pump C or D	Takes handswitch to START for Service Water Pump C or D, observes red running light lit, flow is rising	___	___	___
*17.3	When indicated flow reaches 3000 gpm, start second RHR Service Water Pump	Takes handswitch to START for second Service Water Pump, observes red running light lit, flow is rising	___	___	___
18.1	At 1H13-P602, perform the following: If a Recirc Pump is shutdown	Observes a Recirc Pump is NOT shutdown, step is N/A	___	___	___
19.1	Verify RHR Hx valve lineup as follows: Verify open 1E12-F047B, 'B' RHR HX INLET VLV.	Observes for 1E12-F047B, the handswitch is in open position, red open indication light is lit	___	___	___
19.2	Verify open 1E12-F048B, 'B' RHR Hx Bypass Vlv.	Observes for 1E12-F048B, the open light is lit	___	___	___
*19.3	Verify closed 1E12-F003B, 'B' RHR HX OUTLET VLV.	Uses handswitch to CLOSE 1E12-F003B	___	___	___
20.1	Note on page 34	Reads and acknowledges the note	___	___	___

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
21.1	Perform the following steps to start 'B' RHR Pump: Verify Reactor Level is at 40 inches or greater	Verifies reactor level is greater than 40 inches	—	—	—
21.2	Caution on page 34	Reads and acknowledges the caution	—	—	—
*21.3	Start 'B' RHR Pump	Takes handswitch for the B RHR Pump to start. Observes red running light and pump amps and verifies the pump has started	—	—	—
Cue	The Reactor Building Radiation Alarm will sound for the 'B' RHR Pump room when the 'B' RHR pump is started. As the Unit Supervisor, inform the applicant that another operator will address the RB Radiation Alarm.				
*21.4	Throttle open 1E12-F053B, 'B' RHR SHTDN CLG RETURN ISOL, to obtain 4000 to 5000 gpm flow	Uses handswitch for 1E12-F053B to throttle OPEN valve. Observes RHR flow rising. Stops throttling when flow is stabilized between 4000 and 5000 gpm flow as indicated on flow gage			
21.5	Verify Reactor Water level stabilizes	Observes reactor water level is stable			
*21.6	Throttle 1E12-F003B, RHR HX OUTLET VALVE, to maintain reactor vessel temperature	Uses handswitch for 1E12-F003B to throttle OPEN valve, observes reactor vessel temperature is being maintained/lowering			
TERMINATING CUE:					
As US, inform examinee another operator will continue with the procedure. This concludes the JPM					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____

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

JPM Title: Place Shutdown Cooling in Service and Respond to Loss of Shutdown Cooling Due to Pump Trip

JPM Number: NEW

Revision Number: 00

Task Number and Title: Given the proper procedure, perform actions and respond to alarm conditions

Task Standard: Place Shutdown Cooling in service, then respond to a loss of Shutdown Cooling after pump trip and restore Shutdown Cooling flow using LOA-RH-101.

K/A Number and Importance: 205000 A2.06 (3.4/3.5), Ability to (a) predict the impacts of the following on the Shutdown Cooling System (RHR Shutdown Cooling Mode); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormals conditions or operations

Suggested Testing Environment: Simulator

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

Reference(s):

LOP-RH-07, Revision 80, Shutdown Cooling System Startup, Operation, and Transfer
LOA-RH-101, Revision 22, Unit 1 RHR Abnormal

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: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 BOP
2. Unit 1 is in Mode 3 for a normal unit shutdown
3. Unit 1 is placing Shutdown Cooling in service using the '1A' RHR loop IAW LOP-RH-07, "Shutdown Cooling System Startup, Operation, and Transfer"
4. The previous shift has completed through step E.5 in LOP-RH-07

INITIATING CUE

The Unit Supervisor directs you to continue placing Shutdown Cooling in service IAW LOP-RH-07, "Shutdown Cooling System Startup, Operation, and Transfer," Step E.6.