Job Performance Measure

Perform a QPTR Calculation without the Plant Process Computer

JPM Number: R-102

Revision Number: 2020 NRC

Date: 10/31/2019

Developed By:	Dan Burton /S/ Instructor	10/31/2019 Date
Validated By:	Dale Burchfield /S/ SME or Instructor	12/5/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/5/2019 Date
Approved By:	Dane Brunswick /S/ Training Department	12/5/2019 Date

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

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 1BwOSR 3.2.4.1 Rev: 11
Procedure NIS Operator Aid (100% Power NIS Detector Currents) Rev: 123

_____ 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

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

Revision Record (Summary)

Revision 2010, Change format and verify latest procedure revisions

Revision 2011, Update to latest procedure revisions

Revision 2012, Per ATI 1089778-64 all JPMs were updated as applicable to each JPM the following information - KA, Critical Path, Cues, Boron Concentration, Fundamentals. Also Updated to latest procedure revisions if changed. This JPM was made into Normal Path vice Alternate Path.

Revision 2013, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2014, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2015, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2017, Revision includes current revisions of referenced procedures and current revision of TQ-AA-150-J020 JPM Template.

Revision 2020 NRC, This JPM is an ILT bank JPM (R-102). Verified current revision of referenced procedure and current revision of TQ-AA-150-J020 JPM Template.

SIMULATOR SETUP INSTRUCTIONS

1. **NOT REQUIRED IF PICTURES WILL BE USED**, if not, continue with step 2.
2. Reset the simulator to IC-21 or equivalent 100% power IC or use IC-0 that was written below.

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.

3. Place simulator in RUN.
4. Simulator needs to run for at least 10 minutes.
5. Ensure PPC screens are not set up to go to calorimetric screen with options filled in.
6. Ensure rods in auto.
7. Verify that the NIS front panel detector currents are equal to the values recorded below, prior to each occurrence of this JPM.
8. When the above steps are completed for this and other JPMs to be run concurrently, then validate if not previously validated, then concurrently run JPMs using the JPM Validation Checklist.
9. This completes the setup for this JPM.
10. Take snapshot/write IC-0, if desired.
11. Reset the simulator between each examinee's JPMs.

ANSWER KEY

Date: TODAY	Time: NOW			
Channel	N41	N42	N43	N44
Is the channel indication reliable?	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N
Instrument reading	100%	100%	100%	100%
UPPER DETECTORS (A)				
Present upper detector current	190 +/-10	185 +/-10	190 +/-10	185 +/-10
100% upper detector current	194	179	192	187
Normalized detector current	**.979 +/-.06**	**1.034 +/-.06**	**.990 +/-.06**	**.989 +/-.06**
Average normalized current	**.998 +/-.05**			
Upper power tilt ratio (¢≤1.02)	**¢ .981 +/-.01**	**¢ 1.036 +/-.01**	**¢ .992 +/-.01**	**¢ .991 +/-.01**
LOWER DETECTORS (B)				
Present lower detector current	170 +/-10	150 +/-10	165 +/-10	165 +/-10
100% lower detector current	170	153	165	168
Normalized detector current	**1.000 +/-.06**	**.980 +/-.06**	**1.000 +/-.06**	**.982 +/-.06**
Average normalized current	**.991 +/-.05**			
Lower power tilt ratio (¢≤1.02)	**¢ 1.009 +/-.01**	**¢ .989 +/-.01**	**¢ 1.009 +/-.01**	**¢ .991 +/-.01**

JPM SUMMARY

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

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

JPM Title: **Perform a QPTR Calculation without the Plant Process Computer**
JPM Number: **R-102** Revision Number: **2020 NRC**
Task Number and Title: **R-RK-003, Perform a QPTR calculation and evaluate TS limits**
Task Standard: **Record upper and lower detector currents, record 100% detector currents, calculate the normalized detector currents and average normalized currents, calculate the QPTR for each detector and determine that the N42 upper detector is outside Tech Spec limits.**
K/A Number and Importance: **GEN2.1.7 - 4.4**
Suggested Testing Environment: **Classroom**
Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

1. 1BwOSR 3.2.4.1, Rev. 11, QUADRANT POWER TILT RATIO (QPTR) CALCULATION
2. NIS Operator Aid 01-009 (100% Power NIS Detector Currents), Rev. 123

Materials:

1. 1BwOSR 3.2.4.1 with Surveillance Cover Page
2. NIS Operator Aid (100% Power NIS Detector Currents)
3. Calculator

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: **22** 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**: _____

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

INITIAL CONDITIONS

1. You are an extra NSO.
2. Unit 1 is at full power.
3. All four NIS drawer front panel PRNI channel meters read 100%.

INITIATING CUE

1. The US has provided you a copy of, and directed you to perform, the weekly QPTR calculation using the NIS meters per 1BwOSR 3.2.4.1, QUADRANT POWER TILT RATIO (QPTR) CALCULATION.
2. A digital voltmeter will NOT be used for this surveillance.
3. The Plant Process Computer is inoperable for the purpose of this surveillance.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1	Open 1BwOSR 3.2.4.1, QPTR CALCULATION.	• Open 1BwOSR 3.2.4.1 and obtain a blank copy of Data Sheet D-3. • VERIFY all applicable Prerequisites, Precautions, and Limitations and Actions are satisfactorily addressed.	___	___	___
NOTE	Provide student with a copy of the surveillance.				
CUE	All Prerequisites, Precautions, Limitations and Actions are satisfied.				
2	Indicate the applicability of this surveillance on Data Sheet D-3.	Indicate the applicability of this surveillance on Data Sheet D-3: • CHECK 7 day block. With the PPC unavailable, surveillance step F.3 is marked N/A.	___	___	___
3	Record Date and Time on Data Sheet D-3.	RECORD Date and Time on Data Sheet D-3.	___	___	___
4	Record Power Range NIs operability status.	On Data Sheet D-3, RECORD the following for Power Range NI channels N41-44: • 'Y' block checked for each channel's "Is the channel indication reliable?" • Record 100% for each channel's "Instrument reading."	___	___	___
CUE	The examinee will record 100% based on the initial conditions from the cue sheet.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE	Provide the examinee with the attached pictures of N-41, N-42, N-43 and N-44 upper and lower detector currents to record readings from. These Blue Border pictures are located at back of the JPM. JPM steps 5 through 9 may be performed for the upper detectors, then repeated for the lower detectors or steps 5 and 6 may be recorded for both upper and lower detectors before proceeding to step 7.				
***5**	**Record each present detector current reading from the 1PM07J pictures on Data Sheet D-3.** ANSWER KEY: UPPER: • N41 190 +/-10 • N42 185 +/-10 • N43 190 +/-10 • N44 185 +/-10 LOWER: • N41 170 +/-10 • N42 150 +/-10 • N43 165 +/-10 • N44 165 +/-10	RECORD all present Upper and Lower detector currents on Data Sheet D-3. *(Procedure Adherence)* **UPPER:** • **N41** _____ • **N42** _____ • **N43** _____ • **N44** _____ **LOWER:** • **N41** _____ • **N42** _____ • **N43** _____ • **N44** _____	___	___	___

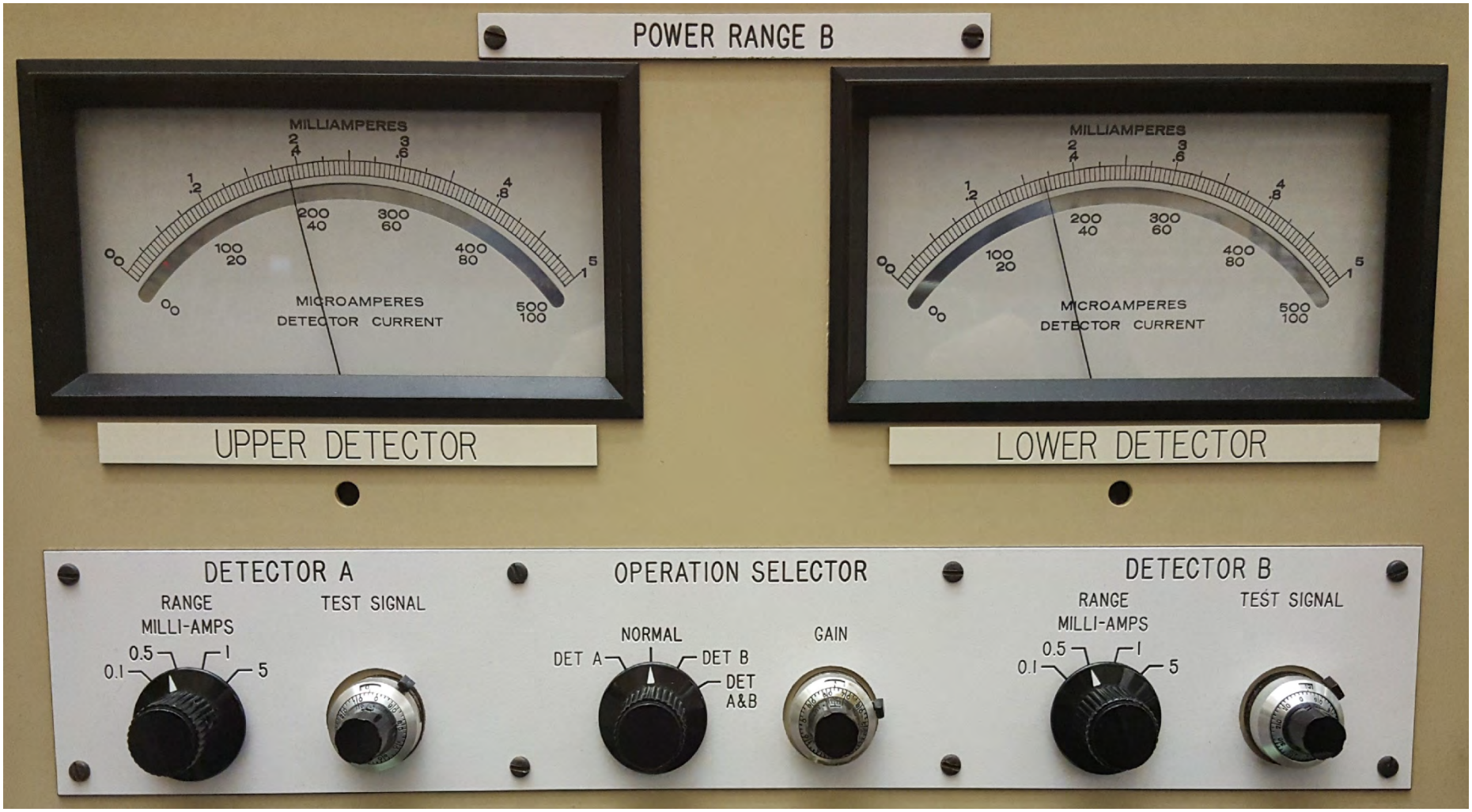
STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*6	**Record 100% Detector Currents from the NIS Operator Aid for each Upper and Lower detector on Data Sheet D-3.** ANSWER KEY UPPER: • N41 194 • N42 179 • N43 192 • N44 187 LOWER: • N41 170 • N42 153 • N43 165 • N44 168	RECORD the 100% Detector Currents from the NIS Operator Aid for each Upper and Lower detector on Data Sheet D-3: *(Procedure Adherence)* **UPPER:** • **N41** _____ • **N42** _____ • **N43** _____ • **N44** _____ **LOWER:** • **N41** _____ • **N42** _____ • **N43** _____ • **N44** _____	___	___	___
CUE	If asked as the QNE for the 100% detector currents or asked for the Operator Aid, give a copy of the 100% Power NIS Detector Currents page to the examinee.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*7	**Using the partially filled in Data Sheet D-3, perform the calculations to obtain the normalized detector currents and record them on Data Sheet D-3.** ANSWER KEY: UPPER: • N41 .979 +/-.06 • N42 1.034 +/-.06 • N43 .990 +/-.06 • N44 .989 +/-.06 LOWER: • N41 1.000 +/-.06 • N42 .980 +/-.06 • N43 1.000 +/-.06 • N44 .982 +/-.06	Calculate the Normalized Detector Currents for each detector by dividing its present detector current reading by the 100% detector current value from the NIS Operator Aid and record on Data Sheet D-3: *(Procedure Adherence)* **UPPER:** • **N41 _____** • **N42 _____** • **N43 _____** • **N44 _____** **LOWER:** • **N41 _____** • **N42 _____** • **N43 _____** • **N44 _____**	___	___	___
*8	**Using the partially filled in Data Sheet D-3, perform the calculations to obtain the average normalized currents and record them on Data Sheet D-3.** ANSWER KEY: • Upper Average Normalized Current .998 +/-.05 • Lower Average Normalized Current .991 +/-.05	Calculate the Average Normalized Current by summing the upper (lower) normalized detector currents and dividing by 4 and record on Data Sheet D-3: *(Procedure Adherence)* • **Upper Average Normalized Current _____** • **Lower Average Normalized Current _____**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*9	**Using the partially filled in Data Sheet D-3, perform the calculations to determine the QPTR for each detector and record on the Data Sheet D-3.** ANSWER KEY: UPPERS: • N41 .981 +/-.01 • N42 1.036 +/-.01 • N43 .992 +/-.01 • N44 .991 +/-.01 LOWERS: • N41 1.009 +/-.01 • N42 .989 +/-.01 • N43 1.009 +/-.01 • N44 .991 +/-.01	Determine the QPTR for each detector by dividing each Normalized Detector Current by the Average Normalized Current and record on Data Sheet D-3: *(Procedure Adherence)* **UPPERS:** • **N41 _____** • **N42 _____** • **N43 _____** • **N44 _____** **LOWERS:** • **N41 _____** • **N42 _____** • **N43 _____** • **N44 _____**	___	___	___
*10	**Identify that N42 Upper Detector QPTR is unacceptable.**	Determine if QPTR is acceptable: *(Regulatory Compliance)* • **Identify N42 Upper Detector QPTR is > 1.02 and is unacceptable.** ○ Immediately notify the Shift Manager or Designee to initiate LCOAR 1BwOL 3.2.4.	___	___	___
CUE	As US/SM, acknowledge the required entry into LCOAR 1BwOL 3.2.4. This completes the JPM.				

JPM Stop Time: _____

N-41


POWER RANGE B
MILLIAMPERES
MICROAMPERES
DETECTOR CURRENT
UPPER DETECTOR
LOWER DETECTOR
DETECTOR A
RANGE
MILLI-AMPS
TEST SIGNAL
OPERATION SELECTOR
NORMAL
DET A
DET B
DET A&B
GAIN
DETECTOR B
RANGE
MILLI-AMPS
TEST SIGNAL

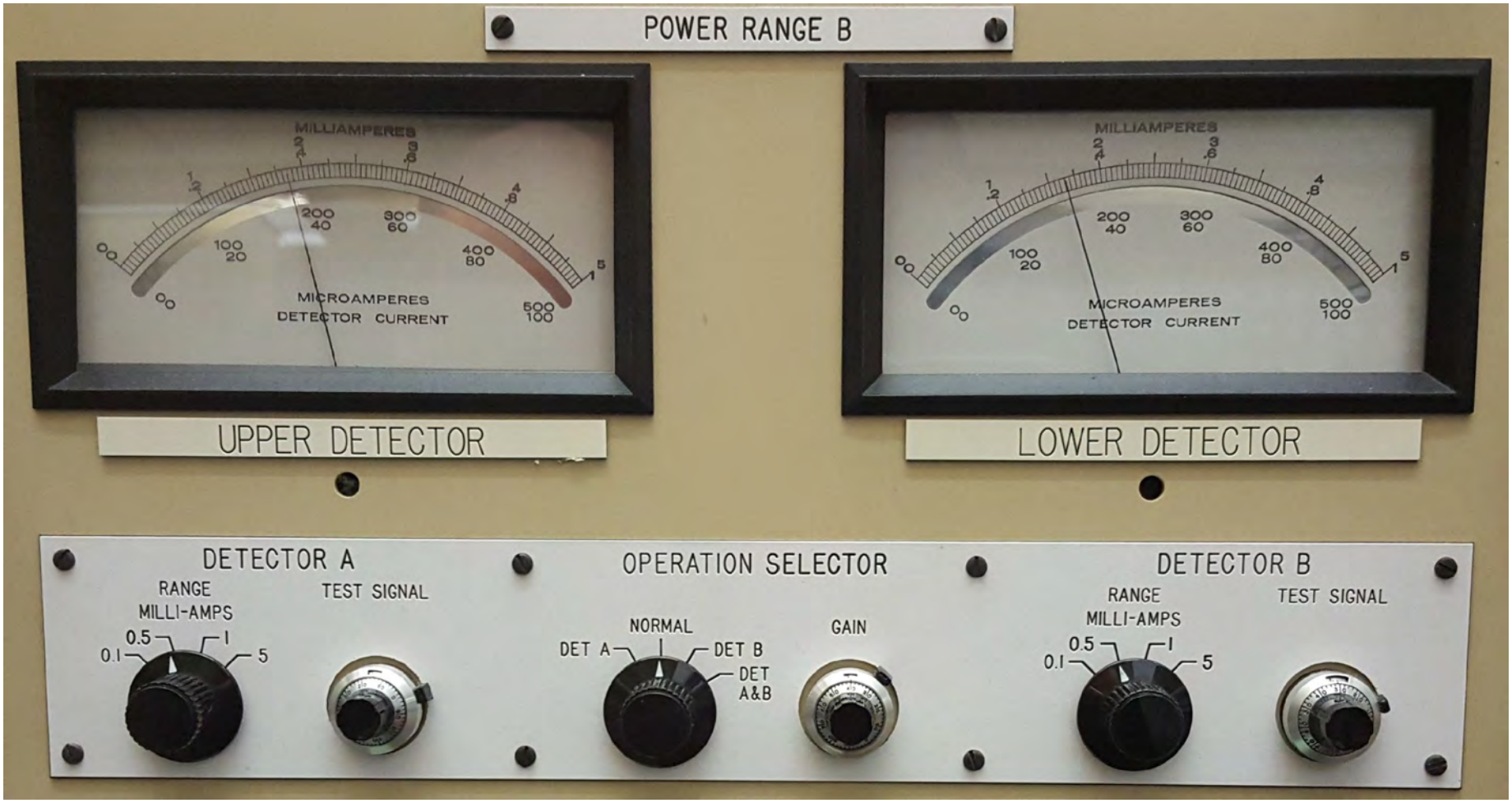
N-42


MILLIAMPERES
MICROAMPERES
DETECTOR CURRENT
UPPER DETECTOR
LOWER DETECTOR
DETECTOR A
RANGE
MILLI-AMPS
TEST SIGNAL
OPERATION SELECTOR
NORMAL
DET A
DET B
DET A&B
GAIN
DETECTOR B
RANGE
MILLI-AMPS
TEST SIGNAL

N-43


POWER RANGE B
MILLIAMPERES
MICROAMPERES
DETECTOR CURRENT
UPPER DETECTOR
LOWER DETECTOR
DETECTOR A
RANGE
MILLI-AMPS
0.1
0.5
1
5
TEST SIGNAL
OPERATION SELECTOR
NORMAL
DET A
DET B
DET A&B
GAIN
DETECTOR B
RANGE
MILLI-AMPS
TEST SIGNAL

N-44


POWER RANGE B
MILLIAMPERES
MICROAMPERES
DETECTOR CURRENT
UPPER DETECTOR
LOWER DETECTOR
DETECTOR A
RANGE
MILLI-AMPS
0.1
0.5
1
5
TEST SIGNAL
OPERATION SELECTOR
NORMAL
DET A
DET B
DET
A&B
GAIN
DETECTOR B
RANGE
MILLI-AMPS
TEST SIGNAL

Date: TODAY	Time: NOW			
Channel	N41	N42	N43	N44
Is the channel indication reliable?	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N
Instrument reading	100%	100%	100%	100%
UPPER DETECTORS (A)				
Present upper detector current	190	185	190	185
100% upper detector current	194	179	192	187
Normalized detector current				
Average normalized current				
Upper power tilt ratio (¢≤1.02)				
LOWER DETECTORS (B)				
Present lower detector current				
100% lower detector current				
Normalized detector current				
Average normalized current				
Lower power tilt ratio (¢≤1.02)				

UPPER DETECTOR CURRENTS ONLY

Date: TODAY	Time: NOW			
Channel	N41	N42	N43	N44
Is the channel indication reliable?	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N	☒ Y ☐ N
Instrument reading	100%	100%	100%	100%
UPPER DETECTORS (A)				
Present upper detector current	190	185	190	185
100% upper detector current	194	179	192	187
Normalized detector current				
Average normalized current				
Upper power tilt ratio (¢≤1.02)				
LOWER DETECTORS (B)				
Present lower detector current	170	150	165	165
100% lower detector current	170	153	165	168
Normalized detector current				
Average normalized current				
Lower power tilt ratio (¢≤1.02)				

UPPER & LOWER DETECTOR CURRENTS

INITIAL CONDITIONS

1. You are an extra NSO.
2. Unit 1 is at full power.
3. All four NIS drawer front panel PRNI channel meters read 100%.

INITIATING CUE

1. The US has provided you a copy of, and directed you to perform, the weekly QPTR calculation using the NIS meters per 1BwOSR 3.2.4.1, QUADRANT POWER TILT RATIO (QPTR) CALCULATION.
2. A digital voltmeter will NOT be used for this surveillance.
3. The Plant Process Computer is inoperable for the purpose of this surveillance.

Job Performance Measure

Perform 1BwOS RF-1, CONTAINMENT FLOOR DRAIN MONITORING SYSTEM NON-ROUTINE SURVEILLANCE

JPM Number: R-113

Revision Number: 2020 NRC

Date: 11/8/2019

Developed By:	Dan Burton /S/ Instructor	11/8/2019 Date
Validated By:	Frank Davito /S/ SME or Instructor	12/5/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/5/2019 Date
Approved By:	Dane Brunswick /S/ Training Department	12/5/2019 Date

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

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 1BwOS RF-1 Rev: 17

_____ 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

SRRS: 3D.100; There are no retention requirements for this section

Revision Record (Summary)

Revision 151, New RO Admin JPM for ILT 15-1 NRC exam.

Revision 2020 NRC, This JPM is an ILT bank JPM (R-113). Verified current revision of referenced procedure and current revision of TQ-AA-150-J020 JPM Template.

SRRS: 3D.100; There are no retention requirements for this section

SIMULATOR SETUP INSTRUCTIONS

1. The simulator will NOT be used for this JPM.

SRRS: 3D.100; There are no retention requirements for this section

JPM SUMMARY

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

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

JPM Title: **Perform 1BwOS RF-1, CONTAINMENT FLOOR DRAIN MONITORING SYSTEM NON-ROUTINE SURVEILLANCE**

JPM Number: **R-113** Revision Number: **2020 NRC**

Task Number and Title: **R-AM-067, Perform Common Shiftly and Daily Operating Surveillances**

Task Standard: **Determine the total leakage into the Containment Floor Drain Sump, divide by time to obtain the leak rate, then determine limits for future monitoring.**

K/A Number and Importance: **GEN2.1.19 - 3.9**

Suggested Testing Environment: **Classroom**

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

Reference(s):

1. 1BwOS RF-1, Rev. 17, CONTAINMENT FLOOR DRAIN MONITORING SYSTEM NON-ROUTINE SURVEILLANCE

Materials:

1. 1BwOS RF-1 with surveillance cover sheet

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**: _____

SRRS: 3D.100; There are no retention requirements for this section

INITIAL CONDITIONS

1. Unit 1 is 100% power.
2. The Containment Floor Drain Sump flow indication (1RF008) is spiking and suspected to be failing.
3. A leak rate was just completed in support of 1BwOS RF-1, CONTAINMENT FLOOR DRAIN MONITORING SYSTEM NON-ROUTINE SURVEILLANCE, step 5a.
4. The identified leak rate is 0.15 gpm and the unidentified leak rate is 0.035 gpm.

INITIATING CUE

1. You are the Unit 1 Assist NSO.
2. Using the 8 hour printout for 1PC002 (L2001) and 1PC003 (L2002) provided, the US directs you to perform 1BwOS RF-1 steps 1 through 9. The PPC slide bar feature is NOT working.
3. Report the results to the US when step 9 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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1	Refer to 1BwOS RF-1.	• Refer to 1BwOS RF-1 and the Containment Floor Drain Sump Level printout.	___	___	___
CUE	Provide a copy of 1BwOS RF-1 and the Containment Floor Drain Sump Level printout to the examinee.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number

*2	**Determine initial total leakage.**	Determine initial total leakage: *(Procedure Adherence)*
		○ Record starting date and time on Table A.
		Determine TOTAL LEAKAGE into each sump per Appendix A:
		○ Obtain computer trend (provided by examiner).
		○ Find and Record the low level date and time for L2001 & L2002.
		○ Find and Record the high level (current) date and time for L2001 & L2002.
		• **Calculate the level change for each channel:**
		  • High – Low for L2001: 28.845 - 28.423 = **0.422 +/- 0.1.**
		  • High – Low for L2002: 28.573 - 28.187 = **0.386 +/- 0.1.**
		• **Calculate the time change:**
		  • End time – start time: **8 hours or 480 minutes.**
		• **Calculate the RF sump total leakage for each channel:**
		  • Level change/time change x 17.56:
		  • **L2001: 0.015 +/- 0.01 gpm.**
		  • **L2002: 0.014 +/- 0.01 gpm.**
			___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
3	Record data on Table A.	Record the following on Table A: • Record time/date the total leakage determination was made. • Determine time requirement for next total leakage determination: • Add 72 hours to time the leakage was recorded and record on Table A. • Record the unidentified leak rate from the leak rate. Surveillance (0.035 gpm). • Record the flow instrument used to track leakage: PC002 (L2001). • Add Step F.7-Flow reading.	___	___	___
*4	**Determine Limit #1.**	Determine Limit #1 as follows: *(Procedure Adherence)* • **Subtract the unidentified RCS leak rate from 0.8 gpm:** 0.8 - .035 = **0.765 +/-.01.** • **Add the leakage determined from step 7 to the sum from the previous step:** 0.765 + 0.015 = **0.78 +/-.01.** ○ Determine if Limit #1 > 15 GPM (NO). ○ Record the results as Limit #1 on Table A.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5	**Determine Limit #2.**	Determine Limit #2 as follows: *(Procedure Adherence)* • **Subtract 0.2 gpm from the flow determined in step 7:** .015 - 0.2 = **-0.185 +/- .01.** • Record the results as Limit #2 on Table A.	___	___	___
6	Inform the US that 1BwOS RF-1 steps 1-9 are complete.	Inform the US that 1BwOS RF-1 steps 1-9 are complete.			
CUE	AS US, acknowledge the completion of 1BwOS RF-1 steps 1-9.				
CUE	This completes the JPM.				
NOTE	Completed 1BwOS RF-1 Appendix A and table A are located behind this page (Red bordered pages).				

JPM Stop Time: _____

APPENDIX A

OBTAINING TOTAL LEAKAGE FROM A COMPUTER TERMINAL

1. OBTAIN a computer trend of the Containment Floor Drain Sump Level as follows:

   a. START applicable computer trending program.

   b. VERIFY computer trend is for Braidwood Station Unit 1.

   c. OBTAIN trend for "L2001".

   d. OBTAIN trend for "L2002".

> NOTE
> In the following step, the sump level trend must be stable for a minimum of two hours, however a longer time period is preferable to give more accurate results. Verify no maintenance activities are in-progress that adds water into the RF sump.

   e. USE the slide bar to obtain exact level and time value in the following steps.

2. CALCULATE the RF SUMP TOTAL LEAKAGE as follows:

   a. FIND the first level change from the right of the computer screen that either indicates the sump was pumped down or stable input for at least the previous two hours.

   b. RECORD the level and the time of the level reading for each channel:

      L2001 LOW LEVEL: **28.423** TIME: **8 hours ago** DATE: **Today**

      L2002 LOW LEVEL: **28.187** TIME: **8 hours ago** DATE: **Today**

   c. FIND the current level reading for the sump.

2. d. RECORD the current level and the time of the level reading for each channel:

L2001 HIGH LEVEL: **28.845** TIME: **NOW** DATE: **Today**

L2002 HIGH LEVEL: **28.573** TIME: **NOW** DATE: **Today**

e. CALCULATE the level change for each channel:

L2001:	**28.845**	-	**28.423**	=	**.422 +/- .1**
	HIGH (2.d)		LOW (2.b)		LEVEL DIFF
L2002:	**28.573**	-	**28.187**	=	**.386 +/- .1**
	HIGH (2.d)		LOW (2.b)		LEVEL DIFF

f. CALCULATE the time change (in minutes) for each level difference:

L2001:	**NOW**	-	**8 hours ago**	=	**480 min**
	TIME (2.d)		TIME (2.b)		TIME DIFF
L2002:	**NOW**	-	**8 hours ago**	=	**480 min**
	TIME (2.d)		TIME (2.b)		TIME DIFF

g. CALCULATE the RF SUMP TOTAL LEAKAGE for each channel using the following equation:

$$\frac{\text{LEVEL DIFF (2.e)}}{\text{TIME DIFF (2.f)}} \times 17.56 = \text{TOTAL LEAKAGE}$$

L2001: $\left(\frac{\textbf{.422 +/- .1}}{\textbf{480}}\right) \times 17.56 =$ **.015 +/- .01 gpm**

L2002: $\left(\frac{\textbf{.386 +/- .1}}{\textbf{480}}\right) \times 17.56 =$ **.014 +/- .01 gpm**

DATA SHEET

UNIT ONE
CONTAINMENT FLOOR DRAIN MONITORING SYSTEM
NON ROUTINE SURVEILLANCE

TABLE A

F.1	SURVEILLANCE START TIME/DATE	**Today's date and current time**
F.2	TOTAL LEAKAGE	**.015 +/-.01 GPM**
F.3	TIME/DATE TOTAL LEAKAGE DETERMINED	**Current time**
F.4.b	NEXT TOTAL LEAKAGE DETERMINATION DUE	**Current time plus 72 hours (3 days)**
F.5.b	UNIDENTIFIED RCS LEAK RATE (PER 1BwOSR 3.4.13.1)	**.035 GPM**
F.6	FLOW INSTRUMENT BEING USED	**PC002 (L2001)**
F.7	FLOW READING	**.015 +/- .01**
F.8.d	LIMIT #1 (0.8 GPM - STEP F.5.b + STEP F.7)	**.78 +/- .01**
F.9.b	LIMIT #2 (STEP F.7 - 0.2)	**-0.185 +/- .01**

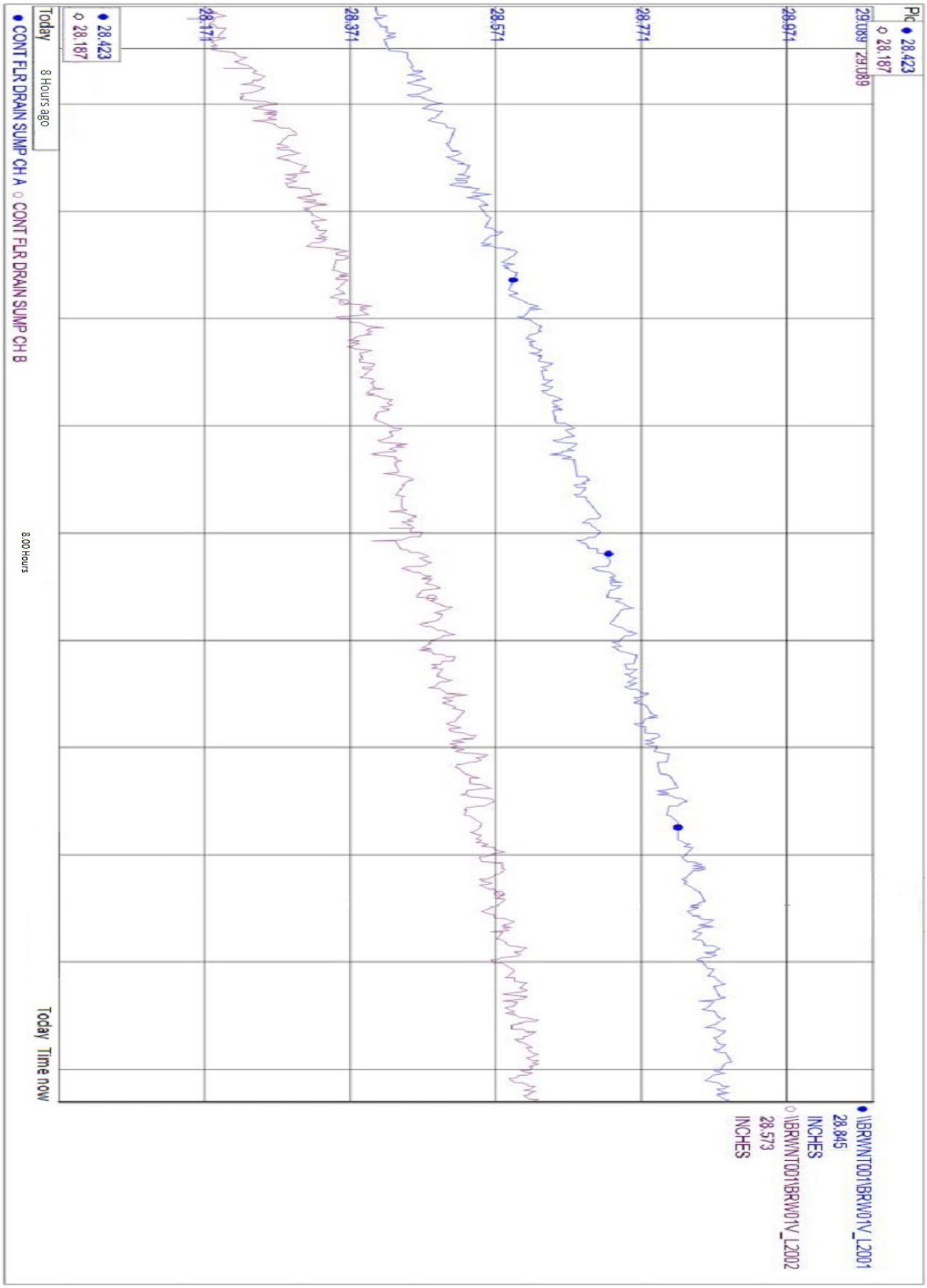
TABLE B

Flow Instrument Being Used _____

DATE	TIME	INDICATED FLOW	≤ LIMIT #1	≥ LIMIT #2
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N

DATE	TIME	INDICATED FLOW	≤ LIMIT #1	≥ LIMIT #2
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N
			☐ Y ☐ N	☐ Y ☐ N

Braidwood Unit 1 Data



INITIAL CONDITIONS

1. Unit 1 is 100% power.
2. The Containment Floor Drain Sump flow indication (1RF008) is spiking and suspected to be failing.
3. A leak rate was just completed in support of 1BwOS RF-1, CONTAINMENT FLOOR DRAIN MONITORING SYSTEM NON-ROUTINE SURVEILLANCE, step 5a.
4. The identified leak rate is 0.15 gpm and the unidentified leak rate is 0.035 gpm.

INITIATING CUE

1. You are the Unit 1 Assist NSO.
2. Using the 8 hour printout for 1PC002 (L2001) and 1PC003 (L2002) provided, the US directs you to perform 1BwOS RF-1 steps 1 through 9. The PPC slide bar feature is NOT working.
3. Report the results to the US when step 9 is complete.

Job Performance Measure

Identify Leak Isolation Points from Station Mechanical Drawings

JPM Number: R-204

Revision Number: 2020 NRC

Date: 10/31/2019

Developed By:	Dan Burton /S/ Instructor	10/31/2019 Date
Validated By:	Frank Davito /S/ SME or Instructor	12/5/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/5/2019 Date
Approved By:	Dane Brunswick /S/	12/5/2019

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

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 0BwOA SEC-4 Rev: 104
Procedure M-55 Sheet 2A Rev: AW
Procedure M-55 Sheet 2D Rev: L

_____ 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

SRRS: 3D.100; There are no retention requirements for this section

Revision Record (Summary)

Revision 151, Updated to current revisions of the procedures and TQ-AA-150-J020 template.

Revision 2020 NRC, This JPM is an ILT bank JPM (R-204). Verified current revision of referenced procedures and current revision of TQ-AA-150-J020 JPM Template.

SRRS: 3D.100; There are no retention requirements for this section

SIMULATOR SETUP INSTRUCTIONS

1. **The simulator is NOT required for this JPM,** if used, continue with step 2.
2. Reset the simulator to MODE 3 or higher IC or use IC-0 that was written below.

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.

3. Place simulator in RUN.
4. Ensure that P&IDs are available at each location (simulator/classroom) that the JPM will be performed.
5. When the above steps are completed for this and other JPMs to be run concurrently, then validate if not previously validated, then concurrently run JPMs using the JPM Validation Checklist.
6. This completes the setup for this JPM.
7. Take snapshot/write IC-0, if desired.

JPM SUMMARY

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

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

JPM Title: **Identify Leak Isolation Points from Station Mechanical Drawings**

JPM Number: **R-204** Revision Number: **2020 NRC**

Task Number and Title: **R-AM-134, Troubleshoot Plant Equipment using Plant Mechanical & Electrical Drawings**

Task Standard: **Using P&IDs, determine an isolation point for an IA leak, then determine a 2nd isolation point after when the 1st isolation point cannot be used.**

K/A Number and Importance: **GEN2.2.41 - 3.5**

Suggested Testing Environment: **Classroom**

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

Reference(s):

1. 0BwOA SEC-4, Rev. 104, LOSS OF INSTRUMENT AIR UNIT 0
2. M-55 Sheet 2A, Rev. AW, DIAGRAM OF TURBINE ROOM INSTRUMENT AIR,
3. M-55 Sheet 2D, Rev. L, DIAGRAM OF INSTRUMENT AIR UNIT 2

Materials:

1. 0BwOA SEC-4
2. M-55 Sheet 2A
3. M-55 Sheet 2D
4. P&ID book

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: **13** 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**: _____

SRRS: 3D.100; There are no retention requirements for this section

INITIAL CONDITIONS

1. You are an extra NSO.
2. BOTH units are at 100% power.
3. An EO was re-positioning 2FW094, MAIN FEEDWATER H.P. CLEANUP LINE FLOW CONTROL VALVE, to adjust Steam Generator Blowdown Hotwell Pump discharge pressure.
4. An instrument airline broke at the 1" to ½" reducer upstream of the 2FW094, HP FLUSH LINE FLOW CONT VLV.
5. The EO reports the IA line goes into 401' elevation overhead and the EO cannot trace the IA line back to an isolation valve.
6. The crew entered 0BwOA SEC-4, LOSS OF INSTRUMENT AIR UNIT 0, due to dropping instrument air pressure and is currently at step 6.c.
7. Instrument air pressure is 87 psig and stable.

INITIATING CUE

1. The US has directed you to determine an acceptable isolation point that will allow Unit 2 to remain at power. Report your recommended isolation point to the US.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1	Refer to 0BwOA SEC-4.	• Refer to 0BwOA SEC-4, Table A. • Determine valve 0IA907 is on P&ID M-55-2A.	___	___	___
CUE	Provide a copy of 0BwOA SEC-4 to the examinee. When the correct P&ID is located, provide the examinee a copy of P&ID M-55 Sheet 2A. (add Sheet 2G, and 8)				
2	Refer to P&ID M-55 sheet 2A.	• Refer to P&ID 55 Sheet 2A. • Determine that instrument airline 2IA100A is continued on P&ID M-55-2D (grid E5).	___	___	___
CUE	When P&ID M-55 Sheet 2D is identified as the next P&ID, provide the examinee a copy of P&ID M-55 Sheet 2D.				
3	Refer to P&ID M-55 sheet 2D.	• Refer to P&ID 55 Sheet 2D. • Determine that instrument air header line number 2IA100A also supplies the feed reg bypass valves, 2FW034A-D and feed pump recirc valves.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4	**Determine isolation point.**	• **Determine that 2IA1007 (or 2IA1008) is an acceptable isolation point.** • **Recommend to US that closing 2IA1007 (or 2IA1008) will isolate the leak.** ○ Recommend that steam generator blowdown be secured or re-directed to the blowdown monitor tanks due to the loss of air to 2FW094.	___	___	___
CUE	As US, acknowledge the recommended isolation point (2IA1007 or 2IA1008), and inform the examinee that an EO is being dispatched to close the recommended valve.				
CUE	As US, acknowledge the recommendation to re-direct or secure blowdown flow.				
CUE	The EO reports that the first recommended isolation point (2IA1007 or 2IA1008) is inaccessible and that an alternate isolation point is required.				
*5	**Determine alternate isolation point.**	• **Determine that 2IA1007 (or 2IA1008) is an acceptable alternate isolation point.** • **Recommend to US that closing 2IA1007 (or 2IA1008) will isolate the leak.**	___	___	___
CUE	As US, acknowledge recommended isolation point, and inform the examinee that an EO is being dispatched to close the recommended valve.				
CUE	This completes the JPM.				

JPM Stop Time: _____

INITIAL CONDITIONS

1. You are an extra NSO.
2. BOTH units are at 100% power.
3. An EO was re-positioning 2FW094, MAIN FEEDWATER H.P. CLEANUP LINE FLOW CONTROL VALVE, to adjust Steam Generator Blowdown Hotwell Pump discharge pressure.
4. An instrument airline broke at the 1" to ½" reducer upstream of the 2FW094, HP FLUSH LINE FLOW CONT VLV.
5. The EO reports the IA line goes into 401' elevation overhead and the EO cannot trace the IA line back to an isolation valve.
6. The crew entered 0BwOA SEC-4, LOSS OF INSTRUMENT AIR UNIT 0, due to dropping instrument air pressure and is currently at step 6.c.
7. Instrument air pressure is 87 psig and stable.

INITIATING CUE

1. The US has directed you to determine an acceptable isolation point that will allow Unit 2 to remain at power. Report your recommended isolation point to the US.

SRRS: 3D.100; There are no retention requirements for this section

Job Performance Measure

Perform NARS Form Transmittal for an ALERT (NARS Phone Failure)

JPM Number: R-406

Revision Number: 2020 NRC

Date: 11/1/2019

Developed By:	Dan Burton /S/ Instructor	11/1/2019 Date
Validated By:	Dale Burchfield /S/ SME or Instructor	12/5/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/5/2019 Date
Approved By:	Dane Brunswick /S/ Training Department	12/5/2019 Date

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

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 EP-MW-114-100 Rev: 18
Procedure EP-MW-114-100-F01 Rev: J

_____ 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

SRRS: 3D.100; There are no retention requirements for this section

Revision Record (Summary)

Revision 151, Updated JPM to current template format and revised procedures.

Revision 2020 NRC, This JPM was MODIFIED for the ILT Class 2019-1 NRC Exam. Revision includes current revisions of referenced procedures and current revision of TQ-AA-150-J020 JPM Template. This JPM was modified from ILT bank JPM R-401, last used for the ILT Class 2015-1 NRC exam. The changes included changing the initial conditions from an Unusual Event to an Alert and failing the NARS Phone requiring the examinee to use the backup commercial phone system.

SIMULATOR SETUP INSTRUCTIONS

1. **The simulator is NOT required.** If used, ensure that the booth operator is prepared to answer the commercial phone line and give the appropriate cues.

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. Ensure the NARS phone is de-energized or made to NOT function. Have a commercial phone line available. The simulator or classroom can be used.
3. When the above steps are completed for this and other JPMs to be run concurrently, then validate, if not previously validated, then concurrently run JPMs using the JPM Validation Checklist.
4. This completes the setup for this JPM.

SRRS: 3D.100; There are no retention requirements for this section

JPM SUMMARY

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

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

JPM Title: **Perform NARS Form Transmittal for an ALERT (NARS Phone Failure)**

JPM Number: **R-406** Revision Number: **2020 NRC**

Task Number and Title: **R-ZP-004, Transmit NARS Form**

Task Standard: **Attempt to contact the state using the NARS Phone, determine the NARS Phone is NOT functioning, then using a commercial phone line, complete the NARS call transmittal within 13 minutes.**

K/A Number and Importance: **GEN2.4.43 - 3.2**

Suggested Testing Environment: **Classroom**

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

Reference(s):

1. EP-MW-114-100, Rev. 18, MIDWEST REGION OFF-SITE NOTIFICATIONS
2. EP-MW-114-100-F-01, Rev. J, NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM

Materials:

1. EP-MW-114-100
2. EP-MW-114-100-F-01 (completed and approved for an ALERT - FA1)
3. NARS phone and commercial phone
4. Clock

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**: _____

SRRS: 3D.100; There are no retention requirements for this section

INITIAL CONDITIONS

1. You are an extra NSO.
2. A Unit 1 reactor trip and SI have occurred.
3. An ALERT was declared two minutes ago.
4. EP-MW-114-100-F-01, NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM has been filled out and approved.

INITIATING CUE

1. The Shift Manager directs you to transmit the NARS Form per EP-MW-114-100, MIDWEST REGION OFF-SITE NOTIFICATIONS.
2. This is a **TIME CRITICAL JPM.**

Fill out the NARS Form time for 2 minutes before the current time and today's date before acknowledging the cue and starting the JPM Start Time. Then, hand the NARS Form to the examinee.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE	**Fill out the NARS Form time for 2 minutes before the current time and today's date before acknowledging the cue and starting the JPM Start Time. Then, hand the NARS Form to the examinee.**				
NOTE	The JPM Critical Time (13 minutes) starts when the student acknowledges the Initiating Cue and stops after the initial roll call is completed.				
1	Refer to EP-MW-114-100.	• Refer to EP-MW-114-100 and determine step 4.3, NARS Call Transmittal, is required to be performed. • Refer to the NARS Form (page 2) and determine NARS Code 38 Button is required to be used to transmit the NARS Form. (Now only 1 button.)	___	___	___
CUE	Provide a marked-up copy of the NARS Form and a copy of EP-MW-114-100 to the examinee.				
***2**	**Determine that the NARS Phone is NOT functioning and contact Illinois IEMA on a commercial phone line.**	○ Determine that the NARS Phone is NOT functioning. • **Using a commercial phone, call (217)782-7860 to contact Illinois IEMA.** *(Procedure Adherence)* ○ Inform the Emergency Director (SM) of all non-contacts (only Illinois IEMA is required for an ALERT).	___	___	___
CUE	Do NOT answer the NARS phone, answer only the **commercial phone call** as Illinois IEMA.				
NOTE	If performed in the simulator, ensure the booth operator is prepared to answer the commercial phone line and give the appropriate cues.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	**Establish communications and take an initial roll call.**	Establish communications as follows: *(Procedure Adherence)* ○ Read the following message: "This is the Exelon Nuclear Braidwood Station Main Control Room. Please standby for a NARS message." ○ Read the following message again: "This is the Exelon Nuclear Braidwood Station Main Control Room. Please standby to receive a NARS message and respond as the roll is called." • **TAKE initial roll call.** ○ Document time 1st agency is notified (IEMA). • **Record the time the initial roll call was completed.**	___	___	___
NOTE	Critical time STOPS when the examinee completes the initial roll call. Record **time initial roll call complete**: _____. If any Illinois Counties or REAC do NOT answer the roll call, then the State will be responsible for notifying the missing agencies.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4	**READ the NARS Form.**	READ the NARS Form as follows: *(Procedure Adherence)* ○ Utility Message No: 1 ○ State Message No: N/A **1. Status – [B] Drill/Exercise** **2. Station – [A] Braidwood** **3. Onsite Condition – [B] ALERT** **4. Accident Classified:** • **Time: Documented time.** • **Date: Today's date.** • **EAL#: FA1** ○ Accident Terminated Time and Date: N/A **5. Release Status: [A] None** 6. Type of Release: [A] Not Applicable **7. Wind Dir: 270** **8. Wind Speed:** ○ [A] N/A • **[B] 4.5 Miles/Hr** **9. Recommended Actions: Utility Recommendation: [A] None** 10. Additional Information: None ○ Verified With: B. Jones ○ Approved By: S. Johnson	___	___	___
CUE	Do NOT respond to an item until prompted later in the call.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
5	Complete the NARS Form.	Fill in the following information on the NARS Form after transmitting information in blocks 1-10: • Section 11, Mark [A] EXELON. • Examinee name. • Outside phone number. • Current time/date. • Section 12, record name of IEMA rep that received the NARS message. • Current time/date.	___	___	___
CUE	When asked for name and organization, respond as John Smith, IEMA.				
6	Perform final roll call.	• Perform final roll call and record by marking Final box for IEMA. • Ask if there are any questions about the information provided.	___	___	___
CUE	When called on for roll call, respond as IEMA. Respond there are NO questions when asked.				
7	Complete call.	State "NARS communication is complete."	___	___	___
NOTE: Critical time STOPS after the initial roll call was complete (JPM step 3). Determine critical time: _____ - _____ = _____ **(Time initial roll call complete) (JPM start time) ≤ 13 minutes**					
***8**	**Critical time met.**	**Initial roll call completed ≤ 13 minutes.** *(Regulatory Compliance)*	___	___	___
CUE	This completes the JPM.				

JPM Stop Time: _____

INITIAL CONDITIONS

1. You are an extra NSO.
2. A Unit 1 reactor trip and SI have occurred.
3. An ALERT was declared two minutes ago.
4. EP-MW-114-100-F-01, NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM has been filled out and approved.

INITIATING CUE

1. The Shift Manager directs you to transmit the NARS Form per EP-MW-114-100, MIDWEST REGION OFF-SITE NOTIFICATIONS.
2. This is a **TIME CRITICAL JPM.**

Job Performance Measure

Call Out For Shift Staffing

JPM Number: S-103

Revision Number: 2020 NRC

Date: 11/9/2019

Developed By:	Dan Burton /S/ Instructor	11/9/2019 Date
Validated By:	Craig Fobert /S/ SME or Instructor	12/6/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/6/2019 Date
Approved By:	Dane Brunswick /S/ Training Department	12/6/2019 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 LS-AA-119 Rev: 13
Procedure BwAP 320-1 Rev: 27

_____ 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 2010, Change format and verify latest procedure revisions

Revision 2011, Update to latest procedure revisions

Revision 2012, Per ATI 1089778-64 all JPMs were updated as applicable to each JPM the following information - KA, Critical Path, Cues, Boron Concentration, Fundamentals. Also Updated to latest procedure revisions if changed.

Revision 2013, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2014, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2015, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2017, Revision includes current revisions of referenced procedures and current revision of TQ-AA-150-J020 JPM Template.

Revision 2019, Revision includes current revisions of referenced procedures and current revision of TQ-AA-150-J020 JPM Template. Added task standard.

Revision 2020 NRC, This JPM is an ILT bank JPM (S-103). Verified current revision of referenced procedures and current revision of TQ-AA-150-J020 JPM Template. Changed dates used in JPM to May 2020.

SIMULATOR SETUP INSTRUCTIONS

1. Simulator setup is NOT required.

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

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

JPM Title: **Call Out For Shift Staffing**
JPM Number: **S-103** Revision Number: **2020 NRC**
Task Number and Title: **S-AM-029, Ensure Minimum Shift Staffing and Authorize Additional Shift Staffing as Necessary**
Task Standard: **Determine the minimum Fire Brigade shift staffing requirements, then determine which EO that will be called in to replace an absent EO Fire Brigade member.**
K/A Number and Importance: **GEN2.1.5 - 3.9**
Suggested Testing Environment: **Classroom**
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s):

1. LS-AA-119, Rev. 13, FATIGUE MANAGEMENT AND WORK HOUR LIMITS
2. BwAP 320-1, Rev. 27, SHIFT STAFFING

Materials:

1. LS-AA-119
2. BwAP 320-1

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

1. You are a Unit Supervisor.
2. Both units are at 100% power.
3. The current date and time is May 17, 2020 at 0900.

INITIATING CUE

1. A Fire Brigade qualified EO for shift N, May 19, 2020 has called in sick.
2. With the EO absent, staffing for shift N, May 19, 2020 is 4 non-fire brigade qualified EOs, 3 Fire Brigade qualified EOs and the Fire Chief qualified Field Supervisor.
3. The Shift Manager has directed you to evaluate shift staffing requirements for shift N, May 19, 2020.
4. Inform the Shift Manager of your results.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1	Refer to LS-AA-119, FATIGUE MANAGEMENT AND WORK HOUR LIMITS and BwAP 320-1, SHIFT STAFFING.	Perform the following: • Open BwAP 320-1 and verify minimum Fire Brigade staffing requirements (step C.1 Table). • Open LS-AA-119 and identify step 5.1.1 requirements for work hour limits.	___	___	___
CUE	Hand a copy of LS-AA-119 and BwAP 320-1 to the examinee.				
***2**	**Determine one additional EO Fire Brigade member is required.**	Determine one additional EO Fire Brigade member is required: *(Procedure Adherence)* • **Determine 1 additional EO Fire Brigade member is required.**	___	___	___
NOTE	Hand the examinee a copy of the JPM Crew 1 Operating Schedule (JPM pages 5-7) (Blue border) and provide the following cue:				
CUE	The SM directs you to determine which EO is eligible for overtime to cover the EO's absence.				
CUE	All personnel on the Crew 1 Operating Schedule are Fire Brigade qualified.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	**Determine EO 3 is the only EO that can be called in.**	Check each person's work hours: *(Procedure Adherence)* ○ EO 1 (NO) would violate the 72 hour limit. ○ EO 2 (NO) would violate the 26 hour in 48 hour limit. • **EO 3 (YES) is available to be called in.** ○ EO 4 (NO) would violate the 26 hour in 48 hour limit and would violate the 72 hour limit. ○ EO 5 (NO) would violate the 72 hour limit. ○ EO 6 (NO) would violate the 26 hour in 48 hour limit. ○ EO 7 (NO) is already working shift N 5/19/20. ○ EO 8 (NO) would violate the 72 hour limit. • **Inform SM that ONLY EO 3 is available to be called in.**	___	___	___
CUE	The SM acknowledges EO 3 is the ONLY EO available. This completes the JPM.				

JPM Stop Time: _____

Crew 1 Operating Schedule		May 11 Mon	May 12 Tue	May 13 Wed	May 14 Thurs	May 15 Fri	May 16 Sat	May 17 Sun
EO 1	1-01	xx1	xx2	xx1	12 N1C	12 NX	12 NX	12 NX
EO 2	1-02	xx1	xx2	xx1	xx1	12 NX	12 NX	12 NX
EO 3	1-03	xx1	xx2	xx1	xx1	12 NA	12 NA	12 NA
EO 4	1-04	xx1	xx2	xx1	xx1	12 NB	12 NB	12 NB
EO 5	1-05	xx1	xx2	xx1	xx1	12 NC	12 NC	12 NC
EO 6	1-06	xx1	xx2	xx1	xx1	12 ND	12 ND	12 ND
EO 7	1-07	xx1	xx2	xx1	xx1	12 NE	12 NE	12 NE
EO 8	1-08	xx1	xx2	12 N1A	12 N2X	12 NX	12 NX	12 NX

Crew 1 Operating Schedule		May 18 Mon	May 19 Tue	May 20 Wed	May 21 Thurs	May 22 Fri	May 23 Sat	May 24 Sun
EO 1	1-01	12 NA	xx1	12 N2X	12 N1A	12 DB	12 DC	12 DD
EO 2	1-02	12 NB	12 D1X	xx2	xx1	12 DC	12 DD	12 DE
EO 3	1-03	12 NC	xx1	xx2	12 D1A	12 DD	12 DE	12 DX
EO 4	1-04	12 ND	12 D1X	12 D2X	xx1	12 DE	12 DX	12 DX
EO 5	1-05	12 NE	xx1	12 D2C	12 D1D	12 DX	12 DX	12 DX
EO 6	1-06	12 NX	12 D1B	xx2	xx1	12 DX	12 DX	12 DA
EO 7	1-07	12 NX	12 N1A	xx2	12 D1X	12 DX	12 DA	12 DB
EO 8	1-08	12 NX	xx1	xx2	12 N1X	12 DA	12 DB	12 DC

Crew 1 Operating Schedule		May 25 Mon	May 26 Tue	May 27 Wed	May 28 Thurs	May 29 Fri	May 30 Sat	May 31 Sun
EO 1	1-01	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 2	1-02	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 3	1-03	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 4	1-04	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 5	1-05	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 6	1-06	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 7	1-07	xx1	8 T	8 T	8 T	8 T	xx1	xx2
EO 8	1-08	xx1	8 T	8 T	8 T	8 T	xx1	xx2

INITIAL CONDITIONS

1. You are a Unit Supervisor.
2. Both units are at 100% power.
3. The current date and time is May 17, 2020 at 0900.

INITIATING CUE

1. A Fire Brigade qualified EO for shift N, May 19, 2020 has called in sick.
2. With the EO absent, staffing for shift N, May 19, 2020 is 4 non-fire brigade qualified EOs, 3 Fire Brigade qualified EOs and the Fire Chief qualified Field Supervisor.
3. The Shift Manager has directed you to evaluate shift staffing requirements for shift N, May 19, 2020.
4. Inform the Shift Manager of your results.

Job Performance Measure

Review and Approve Reactivity Change

JPM Number: S-111

Revision Number: 2020 NRC

Date: 11/7/2019

Developed By:	Dan Burton /S/ Instructor	11/7/2019 Date
Validated By:	Dan Wyatt /S/ SME or Instructor	12/6/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/6/2019 Date
Approved By:	Dane Brunswick /S/	12/6/2019

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 OP-AP-300-1004 Rev: 6
Procedure BwOP CV-5 Rev: 32
Procedure 1BwGP 100-8 Rev: 37

_____ 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 2014, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2020 NRC, This JPM is an ILT bank JPM (S-111). Verified current revision of referenced procedures and current revision of TQ-AA-150-J020 JPM Template. Changed JPM number from S-111a to S-111.

SIMULATOR SETUP INSTRUCTIONS

1. Simulator setup is NOT required.

Exelon Generation

JPM SUMMARY

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

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

JPM Title: **Review and Approve Reactivity Change**

JPM Number: **S-111** Revision Number: **2020 NRC**

Task Number and Title: **S-AM-003, Interpret and Ensure Compliance with Admin Procedures during Normal Conditions**

Task Standard: **Review OP-AP-300-1004, Reactivity Change Determination Form, and determine that an incorrect procedure for the boration is referenced (BwOP CV-5 vs. BwOP CV-6) and the boration amount does not include matching Tave to Tref. The form must be corrected prior to SRO approval.**

K/A Number and Importance: **GEN2.1.43 - 4.3**

Suggested Testing Environment: **Classroom**

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

Reference(s):

1. OP-AP-300-1004, Rev. 6, PWR BORATION AND DILUTION REQUIREMENTS
2. Operator Aid 01-018, Rev. 155, REMA UNIT 1 REACTIVITY PARAMETERS
3. BwOP CV-5, Rev. 32, OPERATION OF THE REACTOR MAKEUP SYSTEM IN THE DILUTE MODE/ALTERNATE DILUTE MODE/BATCH DILUTION METHOD
4. 1BwGP 100-8, Rev. 37, GENERIC REACTOR CONTROL GUIDANCE

Materials:

1. OP-AP-300-1004
2. OP-AP-300-1004, Attachment 1 (filled in)
3. Operator Aid 01-018 (modified for JPM use, Rev. 155)
4. BwOP CV-5
5. 1BwGP 100-8

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

1. You are an extra NSO.
2. Unit 1 is at 98% power, 3550 EFPH, 1040 ppm boron with Control Bank D at 200 steps.
3. RCS Tave is currently 0.5ºF higher than Tref.
4. The QNE has requested that Control Bank D be withdrawn 12 steps for proper long-term fuel burnup.
5. The Unit 1 NSO has completed the following:
   - Calculated the expected Tave change that will result from the rod withdrawal.
   - Calculated the reactivity change required to match Tave to Tref following the rod withdrawal.

INITIATING CUE

1. The Unit 1 NSO requests the US review and approve the reactivity plan, OP-AP-300-1004, PWR BORATION AND DILUTION REQUIREMENTS, Attachment 1, Reactivity Change Determination Form.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1	Review OP-AP-300-1004.	Review OP-AP-300-1004: • Verify Station, Unit and Time/Date are filled in. • Verify "Desired Change" description is properly filled in.	___	___	___
CUE	Provide examinee with a copy of OP-AP-300-1004 procedure, OP-AP-300-1004 Attachment 1, BwOP CV-5, and Operator Aid 01-018.				
2	Continue the review of OP-AP-300-1004.	Continue the review of OP-AP-300-1004: • Verify "Reason for Change" description is properly filled in.	___	___	___
NOTE	JPM steps 3-6 can be performed in any order.				
***3**	**Determine that the Boration amount is incorrect.**	Continue the review of OP-AP-300-1004: *(Reactivity Management)* ○ Determine "What is the Method and Amount Required for the Reactivity Change?" (Boration amount is incorrect). • **Boration amount should be 39 gallons** (26 gallons to compensate for the rod withdrawal and 13 gallons to match Tave to Tref). ○ Determine CB D 12 step rod withdrawal is correct.	___	___	___
CUE	As the Shift Manager/Unit 1 NSO, acknowledge any errors and inform the examinee to complete their review and correct any errors noted. After the review is complete, any errors will be corrected by the Unit 1 NSO.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4	**Determine that the Dilution vs. Boration procedure is referenced (BwOP CV-5 vs. BwOP CV-6).**	Continue the review of OP-AP-300-1004: *(Procedure Adherence)* • **Determine that the Dilution vs. Boration procedure is referenced (BwOP CV-5 vs. BwOP CV-6).**	___	___	___
NOTE	Per step 4.4 of OP-AP-300-1004, it is the US responsibility to ensure all planned MCR borations and dilutions are performed using the governing procedure.				
CUE	As the Shift Manager/Unit 1 NSO, acknowledge any errors and inform the examinee to complete their review and correct any errors noted. After the review is complete, any errors will be corrected by the Unit 1 NSO.				
5	Continue the review of OP-AP-300-1004.	Continue the review of OP-AP-300-1004: • Verify “Inputs” description is properly filled in.	___	___	___
6	Continue the review of OP-AP-300-1004.	Continue the review of OP-AP-300-1004: • Verify “Calculation of Change” error previously noted is flagged for correction. • Boration amount should be 39 gallons (26 gallons to compensate for the rod withdrawal and 13 gallons to match Tave to Tref).	___	___	___
CUE	As the Shift Manager/Unit 1 NSO, acknowledge any errors and inform the examinee to complete their review and correct any errors noted. After the review is complete, any errors will be corrected by the Unit 1 NSO.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*7	**Return OP-AP-300-1004, Reactivity Change Determination Form, to the Unit 1 NSO for correction prior to approval.**	• **Return OP-AP-300-1004, Reactivity Change Determination Form, to the Unit 1 NSO for correction prior to approval.**	___	___	___
CUE	As the Unit 1 NSO, acknowledge the required corrections and inform the US that the corrections will be made, and the form re-submitted for the US approval.				
CUE	This completes the JPM.				

JPM Stop Time: _____

INITIAL CONDITIONS

1. You are an extra NSO.
2. Unit 1 is at 98% power, 3550 EFPH, 1040 ppm boron with Control Bank D at 200 steps.
3. RCS Tave is currently 0.5ºF higher than Tref.
4. The QNE has requested that Control Bank D be withdrawn 12 steps for proper long-term fuel burnup.
5. The Unit 1 NSO has completed the following:
   - Calculated the expected Tave change that will result from the rod withdrawal.
   - Calculated the reactivity change required to match Tave to Tref following the rod withdrawal.

INITIATING CUE

1. The Unit 1 NSO requests the US review and approve the reactivity plan, OP-AP-300-1004, PWR BORATION AND DILUTION REQUIREMENTS, Attachment 1, Reactivity Change Determination Form.

Job Performance Measure

Initiate a LCOAR (1B SX Pump)

JPM Number: S-202

Revision Number: NRC 2020

Date: 11/5/2019

Developed By:	Dan Burton /S/ Instructor	11/5/2019 Date
Validated By:	Craig Fobert /S/ SME or Instructor	12/6/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/6/2019 Date
Approved By:	Dane Brunswick /S/ Training Department	12/6/2019 Date

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

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 1BwOL 3.7.8 Rev: 6

_____ 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 2015, Updated reference procedures and current template format per TQ-AA-150.

Revision 2020 NRC, This JPM is an ILT bank JPM (S-202). Verified current revision of referenced procedure and current revision of TQ-AA-150-J020 JPM Template. Changed from 1A SX pump to 1B SX pump and changed the initiating event from an IST surveillance failure to a ground overcurrent trip.

SIMULATOR SETUP INSTRUCTIONS

1. **The simulator is NOT required for this JPM,** if used, continue with step 2.
2. Reset the simulator to IC-21 or equivalent 100% power IC or use IC-0 that was written below.

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.

3. Place simulator in RUN.
4. Ensure 1A SX pump running.
5. Place the 1B SX pump C/S in PULL OUT.
6. When the above steps are completed for this and other JPMs to be run concurrently, then validate if not previously validated, then concurrently run JPMs using the JPM Validation Checklist.
7. This completes the setup for this JPM.
8. Take snapshot/write IC-0, if desired.

JPM SUMMARY

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

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

JPM Title: **Initiate a LCOAR (1B SX Pump)**
JPM Number: **S-202** Revision Number: **2020 NRC**
Task Number and Title: **S-AM-073, Initiate/Terminate an AAR/LCOAR**
Task Standard: **Initiate and complete LCOAR 1BwOL 3.7.8 for an inoperable 1B SX pump.**
K/A Number and Importance: **GEN2.2.23 - 4.6**
Suggested Testing Environment: **Classroom**
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s):

1. 1BwOL 3.7.8, Rev. 6, LCOAR ESSENTIAL SERVICE WATER (SX) SYSTEM TECH SPEC LCO 3.7.8

Materials:

1. 1BwOL 3.7.8

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: **18** 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**: _____

SRRS: 3D.100; There are no retention requirements for this section

NOTE	**Fill in the 1B SX pump trip time on the examinee cue sheet and below (20 minutes ago) prior to handing the cue sheet to the examinee.**

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.
2. Both units are at full power.

INITIATING CUE

1. 1B SX pump tripped on ground overcurrent at time _____ (today).
2. IR 1234567 and WR 123456 have been written.
3. No other inoperable equipment exists on either Unit.
4. Initiate LCOAR 1BwOL 3.7.8 and inform the Shift Manager when it 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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE	**Fill in the 1B SX pump trip time on the examinee cue sheet (20 minutes ago) prior to handing the cue sheet to the examinee.**				
1	Refer to LCOAR 1BwOL 3.7.8.	Open 1BwOL 3.7.8.	___	___	___
CUE	Provide a copy of 1BwOL 3.7.8 to the examinee.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*2	**Complete Section A, Notification, of 1BwOL 3.7.8.**	Complete Section A, Notification, of 1BwOL 3.7.8: *(Regulatory Compliance)* • **Present Mode: 1** ○ Initiating Event: 1B SX pump tripped on ground overcurrent. • **SFD Performed: Perform SFD per page 2 and determine no loss of safety function exists.** • **Check No box (B.1.a) on page 2.** ○ Check YES box on page 1 and initial next to YES. ○ Does this inoperability invalidate any previous SFD: No ○ Name of Shift Manager notified: Kevin Lueshen. ○ SM Time/Date: notification time and today's date. ○ Was an IR written: Yes, #1234567 ○ Related WRs: #123456 ○ Related C/O(s): Blank • **SRO signature: (examinee's signature)** ○ SRO time/date. ○ Unit NSO signature and time/date: Unit NSO name signed by examiner (may be signed after SRO completes the LCOAR).	___	___	___
CUE	Shift Manager is Kevin Lueshen.				
CUE	NSOs are writing a clearance order.				
CUE	Examiner – sign/time/date for the Unit NSO.				

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

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	**Complete LCOAR Index Essential Service Water (SX) System**.	On page 6 of 1BwOL 3.7.8, sign and date Condition A line and refer to page 7: *(Regulatory Compliance)* • **Examinee's signature.** • **Today's date.**	___	___	___
CUE	If asked to update LCO database or make a log entry, inform the examinee that the Unit 2 US will update the database and ensure that a log entry is made.				
*4	**Initiate LCOAR 1BwOL 3.7.8**.	On page 7 of 1BwOL 3.7.8, enter time, date and signature in Condition A column: *(Regulatory Compliance)* • **Time of 1B SX pump trip (from cue sheet).** • **Today's date.** • **Examinee's signature.** ○ Notify SM that the 1B SX pump LOCAR entry is complete.	___	___	___
CUE	As SM, acknowledge that the 1B SX pump LOCAR entry is complete. This completes the JPM.				
NOTE	The next 4 pages of the JPM are copies of the LCOAR pages that the examinee will complete during this JPM.				

JPM Stop Time: _____

LCOAR
ESSENTIAL SERVICE WATER (SX) SYSTEM
TECH SPEC LCO 3.7.8

A. NOTIFICATION

If it is discovered that a Surveillance was not performed within its specified Surveillance Frequency, complete Action Z (SR 3.0.3) prior to declaring the LCO not met.

PRESENT MODE: **1**	APPLICABLE MODE(s): 1, 2, 3, and 4
INITIATING EVENT(s): **1B SX pump tripped on ground overcurrent.**	
SAFETY FUNCTION DETERMINATION (SFD) PERFORMED? (Page 2)	☒ **YES, Examinee (SRO)**
DOES THIS INOPERABILITY INVALIDATE ANY PREVIOUS SFD?	☐ YES ☒ NO
LCO 3.0.3: **APPLICABLE**	MODE CHANGE ALLOWED?: **YES** – Action C.2
SEPARATE CONDITION ENTRY ALLOWED: **NO**	
COMPLETION TIME EXTENSION ALLOWED: **NO**	
NAME OF SHIFT MANAGER NOTIFIED: **K. Lueshen**	TIME/DATE: **NOW/Today**

WAS AN ISSUE WRITTEN? ☒ YES ☐ NO

RELATED WR(s):

☒ WR **123456**	☐ WR _____
☐ WR _____	☐ WR _____
☐ WR _____	☐ WR _____
☐ WR _____	☐ WR _____
☐ WR _____	☐ WR _____

RELATED C/O(s):

None	_____	_____
_____	_____	_____
_____	_____	_____

SRO signature: **Examinee**	TIME/DATE: **NOW/Today**
Unit NSO signature: **Examiner**	TIME/DATE: **NOW/Today**

SRRS: 3D.100; There are no retention requirements for this section

B. SAFETY FUNCTION DETERMINATION PROGRAM REQUIREMENTS

1. LOSS OF SAFETY FUNCTION (LOSF) EVALUATION:

Is there any inoperable or degraded SUPPORT SYSTEM or SUPPORTED SYSTEM equipment on the opposite/redundant train that, when coupled with this inoperable equipment, might result in a complete loss of a Tech Spec required safety function.

☒ a. No - No LOSF exists. No further evaluation is necessary.

☐ b. Yes - A LOSF may exist. Using the SFDP and BwAP 340-1, evaluate which of the following conditions apply:

☐ 1) The SSC is part of an LCO with multiple subsystems and the LCO specified function is intact. No LOSF exists.

☐ 2) The SSC will still perform its required safety function as defined in the Safety Analysis Report (SAR). No LOSF exists.

☐ 3) A LOSF exists. Perform the Required Actions of the SSC LCO in which the LOSF exists for the specific Condition(s) that apply.

2. LCO 3.0.6 - DELAYED LCOAR ENTRY CALCULATION.

Perform this step only if No LOSF exists and it is desired to delay SUPPORTED SYSTEM LCOAR entry as allowed by LCO 3.0.6. A LOSF does not exist if the redundant train of the inoperable SUPPORTED SYSTEM(s) equipment is OPERABLE.

a. Rules of Use:

1) Rule 1: With a single SUPPORT SYSTEM inoperable, the affected SUPPORTED SYSTEM(s) LCOAR entry(s) is not required to be entered unless directed by the SUPPORT SYSTEM Required Actions.

2) Rule 2: In the event additional SUPPORT SYSTEM(s) become inoperable during the Completion Time for restoration of the first SUPPORT SYSTEM, the LCOAR entry(s) of the SUPPORTED SYSTEM may be delayed by either the maximum allowed Completion Time of the SUPPORT SYSTEM(s), or 2 times the Completion Time for restoration of the SUPPORTED SYSTEM (applied at the time the second SUPPORT SYSTEM becomes inoperable), whichever is less.

SRRS: 3D.100; There are no retention requirements for this section

LCOAR INDEX
ESSENTIAL SERVICE WATER (SX) SYSTEM

SRRS: 3D.100; There are no retention requirements for this section

LCOAR ACTION CHART
ESSENTIAL SERVICE WATER (SX) SYSTEM

CONDITION	REQUIRED ACTION	COMPLETION TIME	ACTION MET
A. One unit-specific SX train inoperable. **1B SX pump trip time /Today** Time/Date **Examinee** SRO	A.1 ********NOTES******** 1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources - Operating," for Emergency Diesel Generator made inoperable by SX. 2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for Residual Heat Removal loops made inoperable by SX. ********** Restore unit-specific SX train to OPERABLE status.	72 hours	_____/____ Time/Date SRO

SRRS: 3D.100; There are no retention requirements for this section

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.
2. Both units are at full power.

INITIATING CUE

1. 1B SX pump tripped on ground overcurrent at time _____ (today).
2. IR 1234567 and WR 123456 have been written.
3. No other inoperable equipment exists on either Unit.
4. Initiate LCOAR 1BwOL 3.7.8 and inform the Shift Manager when it is complete.

Exelon Generation

Job Performance Measure

Review and Approve Containment Release

JPM Number: S-300

Revision Number: 2020 NRC

Date: 11/5/2019

Developed By:	Dan Burton /S/ Instructor	11/5/2019 Date
Validated By:	Dan Wyatt /S/ SME or Instructor	12/6/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/6/2019 Date
Approved By:	Dane Brunswick /S/	12/6/2019

Exelon Generation

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 RP-BR-980 Rev: 18
Procedure 1BwOS RETS 2.2.B-1 Rev: 5
Procedure RP-BR-911 Rev: 14

_____ 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 2015, Revision includes current revisions of referenced procedures and current revision of TQ-JA-150-02 JPM Template.

Revision 2019 NRC, This JPM was updated for ILT Class 2018-1 SRO NRC Exam. This JPM is an ILT bank JPM (S-300).

Revision 2020 NRC, This JPM is an ILT bank JPM (R-300). Verified current revision of referenced procedures and current revision of TQ-AA-150-J020 JPM Template. This JPM was randomly selected from 3 other Generic Section 2.3, Radiation Control, bank JPMs. This JPM was last used on the ILT Class 18-1 NRC exam.

SIMULATOR SETUP INSTRUCTIONS

1. Simulator setup is NOT required.

Exelon Generation

JPM SUMMARY

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

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

JPM Title: **Review and Approve Containment Release**

JPM Number: **S-300** Revision Number: **2020 NRC**

Task Number and Title: **S-HP-002, Authorize Gaseous (Containment or Gas Decay Tank) Rad Waste Release**

Task Standard: **Review the Containment Release and determines that the HIGH and ALERT alarm setpoints are set incorrectly and the SRO does not approve the release.**

K/A Number and Importance: **GEN2.3.6 - 3.8**

Suggested Testing Environment: **Simulator/Classroom**

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

Reference(s):

1. RP-BR-980, Rev. 18, CONTAINMENT VENT AND MINI PURGE GASEOUS EFFLUENTS
2. RP-BR-911 ATTACHMENT 8, Rev. 14, 1/2RE-PR011J ATMOSPHERIC TRITIUM CALCULATION FORM
3. 1BwOS RETS 2.2.B-1, Rev. 5, PRE-RELEASE SOURCE AND CHANNEL CHECK OF CONTAINMENT PURGE EFFLUENT MONITOR 1PR01J (1RE-PR001A/B/C)

Materials

1. RP-BR-980 (completed through step C.1.f)
2. RP-BR-911 ATTACHMENT 8
3. 1BwOS RETS 2.2.B-1

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: **28** 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 Unit Supervisor.
2. Unit 1 is at 100% power, all systems and controls are normally aligned.
3. A Unit 1 Containment Release package has been initiated to lower containment pressure.
4. 1BwOS RETS 2.2.B-1 has been previously completed, reviewed and approved.

INITIATING CUE

1. The Unit 1 Assist NSO has completed Containment Release package G-20-011 through step C.1.f., and the package is ready for you to review and approve.
2. Inform the Unit 1 Assist NSO when the release package Approval for Release 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.

Exelon Generation

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
			___	___	___
CUE	Hand a partially completed copy up to Section D of RP-BR-980, a copy of 1BwOS RETS 2.2.B-1 (Need Generic Cover Sheet) and a copy of RP-BR-911 to the examinee. If asked, the Gaseous Release In Progress sign has been placed on 0PM02J and the 0A VA Exhaust Fan (0VA02CA) is in operation.				
1	Review Section A of RP-BR-980.	Review Section A of RP-BR-980. • Review Section A. • Determine baseline values for ALERT Alarm and HIGH Alarm setpoints apply (see JPM steps 3-5). • Ensure (initial/date) sections A.7 and B.1 are signed/N/A'd and page 1 sample analyses have not expired.			
NOTE	JPM Critical steps 3, 4 and 7 can be performed in any order.				
CUE	If asked, Iodine is less than minimum detectable. If asked, Noble gas activity has been verified by Chemistry.				
CUE	If the Cnmt Release Form is returned to the NSO or RP, acknowledge the errors and inform the examinee to complete their review and fix any errors noted.				
CUE	As the Shift Manager, acknowledge any errors and inform the examinee to complete their review and fix any errors noted.				
***2**	**Determine HIGH Alarm setpoint was incorrectly determined (step A.5.e.1).**	• **Identify that the value entered for the HIGH Alarm Setpoint is in error and should be 6.06E-04 µCi/cc.** *(Procedure Adherence)*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	**Determine ALERT Alarm setpoint was incorrectly determined (step A.5.e.2).**	• **Identify that the value entered for the ALERT Alarm Setpoint is in error and should be 6.06E-05 µCi/cc.** *(Procedure Adherence)*	___	___	___
4	Determine HIGH Alarm and ALERT Alarm release setpoints are required to be changed (step A.5.f).	• Determine HIGH Alarm and ALERT Alarm setpoints are required to be changed (step A.5.f) to 6.06E-04 (HIGH) and 6.06E-05 (ALERT) µCi/cc.	___	___	___
CUE	As the Shift Manager, acknowledge any errors and inform the examinee to complete their review and correct any errors noted.				
5	Review Section C of RP-BR-980.	Review Section C of RP-BR-980. • Identify Section C.1.c-f should have been N/A.	___	___	___
*6	**Do not approve release.**	• **Determine that the release cannot be approved until the HIGH Alarm setpoint is set correctly.** *(Procedure Adherence)*	___	___	___
CUE	This completes the JPM.				

JPM Stop Time: _____

Exelon Generation

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.
2. Unit 1 is at 100% power, all systems and controls are normally aligned.
3. A Unit 1 Containment Release package has been initiated to lower containment pressure.
4. 1BwOS RETS 2.2.B-1 has been previously completed, reviewed and approved.

INITIATING CUE

1. The Unit 1 Assist NSO has completed Containment Release package G-20-011 through step C.1.f., and the package is ready for you to review and approve.
2. Inform the Unit 1 Assist NSO when the release package Approval for Release is complete.

Job Performance Measure

Prepare and Approve NARS Form (General Emergency)

JPM Number: S-410

Revision Number: 2020 NRC

Date: 11/7/2019

Developed By:	Dan Burton /S/ Instructor	11/7/2019 Date
Validated By:	Craig Fobert /S/ SME or Instructor	12/6/2019 Date
Reviewed By:	Jim Schneider /S/ Operations Representative	12/6/2019 Date
Approved By:	Dane Brunswick /S/ Training Department	12/6/2019 Date

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

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 EP-MW-114-100 Rev: 18
Procedure EP-AA-1001 Addendum 3 Rev: 3
Procedure EP-MW-114-100-F-01 Rev: J
Procedure EP-AA-111 Rev: 22
Procedure EP-AA-111-F-02 Rev: H

_____ 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 2014 NRC, This JPM was updated for ILT Class 2014-1 NRC Exam.

Revision 2020 NRC, This JPM was MODIFIED for the ILT Class 2019-1 NRC Exam. Verified current revision of referenced procedures and current revision of TQ-AA-150-J020 JPM Template. This JPM was modified from ILT bank JPM S-410, last used for the ILT Class 2014-1 NRC exam. The changes included the following: the SRO examinee must (1) declare the correct EAL vs. being given the EAL as part of the initial conditions and (2) determine the PARS for a Rapidly Progressing Severe Accident.

SIMULATOR SETUP INSTRUCTIONS

1. **The simulator is NOT required.** If used, use IC-8 and perform remaining steps; if NOT used, ensure step 2 is performed.

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. **Ensure that an adequately stocked Shift Emergency Director Book AND EALs are available at the JPM location.**
3. Use Remote Functions for environmental parameters (EP) to set the wind direction at 270 degrees and the wind speed at 10 mph:
   - **IRF EP03 10** – to set wind speed (34') to 10 mph.
   - **IRF EP04 270** – to set wind direction (34') to 270 degrees.
   - **IRF EP11 10** – to set wind speed (203') to 10 mph.
   - **IRF EP12 270** – to set wind direction (203') to 270 degrees.
4. When the above steps are completed for this and other JPMs to be run concurrently, then validate, if not previously validated, then concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

JPM SUMMARY

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

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

JPM Title: **Prepare and Approve NARS Form (General Emergency)**

JPM Number: **S-410** Revision Number: **2020 NRC**

Task Number and Title: **S-ZP-001, Complete the NARS Form**

Task Standard: **Complete and approve a NARS Form for a General Emergency including determining the PARS, then start the NARS Form transmittal including initial roll call until relieved by the EP Communicator.**

K/A Number and Importance: **GEN 2.4.38 - 4.4**

Suggested Testing Environment: **Classroom**

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

Reference(s):

1. EP-MW-114-100, Rev. 18, MIDWEST REGION OFF-SITE NOTIFICATIONS
2. EP-MW-114-100-F-01, Rev. J, NARS FORM
3. EP-AA-111, Rev. 22, EMERGENCY CLASSIFICATION AND PROTECTIVE ACTION RECOMMENDATIONS
4. EP-AA-111-F-02, Rev. H, BRAIDWOOD PAR FLOWCHART
5. EP-AA-1001 Addendum 3, Rev. 3, EALs FOR BRAIDWOOD STATION

Materials:

1. EP-MW-114-100
2. EP-MW-114-100-F-01
3. EP-AA-111
4. EP-AA-111-F-02
5. EP-AA-1001 Addendum 3
6. Adequately stocked Shift Emergency Director book (verify above items are included)

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: **16** 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**: _____

SRRS: 3D.100; There are no retention requirements for this section

NOTE	**Fill in the LOCA initiation time (step 2) on the examinee cue sheet and below (2 minutes ago) prior to handing the cue sheet to the examinee.**

INITIAL CONDITIONS

1. You are the Shift Emergency Director and the crew has entered 2BwEP-0, RX TRIP OR SI.
2. An RCS LOCA has occurred at time _____ (today) on Unit 2.
3. A loss of containment integrity has occurred resulting in a **gaseous radioactive release** to the environment
4. Containment radiation monitors (2AR020/21) are reading 4800 R/hr.
5. The sum of the readings on the Unit 1 and 2 Aux BLDG Vent WRGMs (1/2RE-PR030) is 2000 µCi/sec.
6. CETCs are currently 920°F and slowly rising.

INITIATING CUE

1. The Emergency Plan requires that you COMPLETE the initial NARS Form.
2. An EP Communicator has been called to the Control Room.
3. **This is a Time Critical JPM.**

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE	**Fill in the LOCA initiation time on the examinee cue sheet (2 minutes ago) prior to handing the cue sheet to the examinee.**				
NOTE	The 1st JPM Critical Time (13 minutes) starts on JPM start time and stops when the EAL is determined. The 2nd JPM Critical Time (15 minutes) starts when the EAL is determined and stops after the initial roll call is complete.				
1	Refer to NARS Form.	Refer to NARS Form.	___	___	___
CUE	Provide a copy of the Shift Emergency Director book and EALs to the examinee.				
2	Record Utility Message Number.	Enter Utility Message Number as "1."	___	___	___
3	Record State Message Number.	Enter State Message Number as "N/A."	___	___	___

***4**	**Complete blocks 1-4.**
	
	Record the time the EAL was determined: _____
		Complete blocks 1-4 as follows: *(Regulatory Compliance)*
		• **1. Status - [B] Drill/Exercise.**
		• **2. Station - [A] Braidwood.**
		• **3. Onsite Condition - [D] General Emergency.**
		• **4. Accident Classified:**
		  • **Time: No later than Current Time.**
		  • **Date: Today's Date.**
		  • **EAL#: FG1**
		○ Accident Terminated - Time and Date: N/A
			___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***5**	**Complete block 5.**	Complete block 5 as follows: *(Regulatory Compliance)* • **5. Release Status - [B] Occurring.**	___	___	___
6	Complete block 6.	Complete block 6 as follows: • 6. Type of release - [B] Gaseous.	___	___	___
NOTE	If the simulator is used, wind speed and direction from PPDS will be determined by the examinee. The step 7 CUE is NOT required.				
***7**	**Complete blocks 7 & 8.**	Complete blocks 7 & 8 as follows: *(Regulatory Compliance)* • **7. Wind Direction (~270º).** • **8. Wind Speed - [A] 4.5 meters/sec and/or [B] 10 mph).**	___	___	___
CUE	Wind direction is 270º. Wind speed is 4.5 meters/sec/10 mph.				
***8**	**Complete block 9.**	Complete block 9, Recommended Actions, and check box: *(Regulatory Compliance)* • **9. [D] Evacuate Illinois Sub-Areas.** • **List on line D - sub-areas: 1, 2, 3, 5, 6, 9, 10, 13** (based on 270º wind direction – Rapidly Progressing Severe Accident).	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
9	Complete block 10.	Complete block 10, Additional Information: • 10. None.	___	___	___
10	NARS Form approved by Shift Emergency Director.	NARS Form approved by Shift Emergency Director. • Sign the 'Approved By' line. • N/A the 'Verified With' line.	___	___	___
CUE	If asked, a Verifier is NOT available to second check the NARS Form.				
11	Request the EP Communicator transmit the NARS Form.	Request the EP Communicator transmit the NARS Form.	___	___	___
CUE	The EP Communicator is currently unavailable.				
***12**	**Initiate NARS call.**	On NARS phone, press 38 and initiate the call: *(Regulatory Compliance)* ○ Pick up NARS phone. • **PRESS Code 38 Button.** ○ Read the following message: "This is Exelon Nuclear Braidwood Station Control Room. Please standby for a NARS message." ○ As agencies respond, read the following message: "This is the Exelon Nuclear Braidwood Station Control Room. Please standby to receive a NARS message and respond as the roll is called."	___	___	___
CUE	Following a short pause, you hear a beep.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*13	**Take an initial roll call.** Document the time the initial roll call was completed: _____	Take an initial roll call as follows: *(Procedure Adherence)* • **TAKE initial roll call.** ○ Document time 1st agency is notified. ○ Mark boxes for responding agencies in upper left corner on page 2 of NARS Form. • **Record the time the initial roll call was completed.**	___	___	___
CUE	Acknowledge roll call as IEMA, Grundy, Kankakee and Will County and Illinois REAC. After the initial roll call is complete, the EP Communicator has arrived and will complete the NARS Form transmittal. This completes the JPM.				
NOTE: The 1st JPM Critical Time (13 minutes) starts on JPM start time and stops when the EAL is determined (JPM step 4). Determine critical time: _____ - _____ = _____ **(Time EAL determined) (JPM start time) ≤ 13 minutes**					
*14	**1st Critical time met.**	**EAL determined ≤ 13 minutes.** *(Regulatory Compliance)*	___	___	___
NOTE: The 2nd JPM Critical Time (15 minutes) starts when the EAL is determined (JPM step 4) and stops after the initial roll call is complete (JPM step 13). Determine critical time: _____ - _____ = _____ **(Time initial roll call complete) (Time EAL determined) ≤ 15 minutes**					
*15	**2nd Critical time met.**	**Initial roll call completed ≤ 15 minutes.** *(Regulatory Compliance)*	___	___	___

JPM Stop Time: _____

INITIAL CONDITIONS

1. You are the Shift Emergency Director and the crew has entered 2BwEP-0, RX TRIP OR SI.
2. An RCS LOCA has occurred at time _____ (today) on Unit 2.
3. A loss of containment integrity has occurred resulting in a **gaseous radioactive release** to the environment
4. Containment radiation monitors (2AR020/21) are reading 4800 R/hr.
5. The sum of the readings on the Unit 1 and 2 Aux BLDG Vent WRGMs (1/2RE-PR030) is 2000 µCi/sec.
6. CETCs are currently 920°F and slowly rising.

INITIATING CUE

1. The Emergency Plan requires that you COMPLETE the initial NARS Form.
2. An EP Communicator has been called to the Control Room.
3. **This is a Time Critical JPM.**