Exelon Nuclear

Job Performance Measure

Evaluate a Reactivity Change

JPM Number: SA-a

Revision Number: 02

Date: 12/10/2015

Revised By:	B. Peterson Instructor	12/10/2015 Date
Validated By:	C. Berger SME or Instructor	12/11/2015 Date
Approved By:	B. Lewin Operations Representative	12/11/2015 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

RFP	1.	Task description and number, JPM description and number are identified.
RFP	2.	Knowledge and Abilities (K/A) references are included.
RFP	3.	Performance location specified. (in-plant, control room, simulator, or other)
RFP	4.	Initial setup conditions are identified.
RFP	5.	Initiating cue (and terminating cue if required) are properly identified.
RFP	6.	Task standards identified and verified by SME review.
RFP	7.	Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
RFP	8.	Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure OP-AP-300-1004 Rev: 4 Procedure _____ Rev: _____ Procedure _____ Rev: _____
RFP	9.	Verify cues both verbal and visual are free of conflict.
RFP	10.	Verify performance time is accurate
RFP	11.	If the JPM cannot be performed as written with proper responses, then revise the JPM.
RFP	12.	When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

B. Lewin/R. Peterson	12/11/2015
SME / Instructor	Date
_____	_____
SME / Instructor	Date
_____	_____
SME / Instructor	Date

Revision Record (Summary)

Revision 00 Initial revision of JPM

Comment	Resolution

Revision 01 Revised JPM for modification of calculation

Revision 02 Revised JPM for modification of calculation and time in core life.

INITIAL CONDITIONS:

1. Unit 2 is at 50% power, 9100 EFPH, 500 ppm boron, with CB D at 89 steps.
2. Tave is 0.5° less than Tref.
3. The QNE has recommended that Control Bank D be withdrawn 4 steps to control PDMA02 on the desired target, then to perform a reactivity change to match Tave to Tref.
4. The NSO has calculated a reactivity change to move rods then to match Tave with Tref.

INITIATING CUES:

1. Evaluate the reactivity change to restore PDMA02 to target and to match Tave to Tref.
2. Review the Reactivity Change Determination Form for approval.

- Provide completed copy of OP-AP-300-1004, attachment 1, Rev 4, Pwr Boration and Dilution Requirements
- Provide copy of Unit 2 Rema Thumbrules

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* **Denotes critical steps 2 & 3**

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.

TASK STANDARDS:

1. Evaluate the reactivity change to match Tave to Tref.
2. Review the Reactivity Change Determination Form.

MATERIALS:

- Completed OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements (Attachment 1 is attached)
- Unit 2 Rema Thumbrules at 8500-11000 EFPH

RECORD START TIME:_____

EVALUATOR NOTE: These steps may be performed in any order.					
STEP	**ELEMENT**	**STANDARD**	**SAT**	**UNSAT**	**CMT#**
CUE	**Provide completed copy of OP-AP-300-1004 and a copy of the Unit 2 Rema thumbrules**				
1	Refer to • OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements • Unit 2 Rema Thumbrules	In accordance with the provided: • OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements • Unit 2 Rema Thumbrules	____	____	____
***2**	Part 1 Review Attachment 1 of OP-AP-300-1004 Determine wrong number of withdrawn rod steps calculated on form Evaluate inaccurate calculation • **Should be 4 steps of Control Bank D at 50% power: Tave-Tref = 2° rise in temperature** **NOTE: When examinee identifies the deficiency, inform them to review the rest of the calculations**	• Station: **Byron** Unit: **2** • Desired change • **Withdraw Rods 2 steps for PDMA02 control** • Reason for change • **PDMA02 control** • **Temperature control** • What is the method & am't for the reactivity change? • **2 steps withdrawal of CB D** • Inputs • **Rema thumbrules**	____	____	____
***3**	Part 2 Review Attachment 1 of OP-AP-300-1004 **Determine incorrect reactivity addition calculated on form due to using 100% REMA thumbrule**s. **(Calculation is not required for success)** • +0.3° - 0.5° (current mismatch) = -0.2° • 465 gallons PW/1° x 0.2° = 93 gallons dilution	• From inaccurate rod withdrawal, and 100% thumbrules, calculation is incorrect which yields an incorrect reactivity calculation • Calculation has incorrect dilution value of 93 gallons. It should be a Boration of 37.5 gallons. • **+2° - 0.5° (current mismatch) = +1.5°** • **25 gallons BA/1° x 1.5° = 37.5 gallons boration** • Inputs • **Rema thumbrules**	____	____	____
CUE	**This JPM is complete.**				

RECORD STOP TIME:_____

JPM SUMMARY

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

JPM Title: Evaluate a Reactivity Change

JPM Number: SA-a Revision Number: 02

Task Number and Title: S-AM-151, Perform proper reactivity management on unit startup and during normal plant operations

K/A Number and Importance: GEN 2.1.37 Imp Factor 4.6

Suggested Testing Environment: Classroom

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

Reference(s):

- OP-AP-300-1004, Rev 4, Pwr Boration and Dilution Requirements
- Unit 2 Rema Thumbrules

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**: _____

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. Unit 2 is at 50% power, 9100 EFPH, 500 ppm boron, with CB D at 89 steps.
2. Tave is 0.5° less than Tref.
3. The QNE has recommended that Control Bank D be withdrawn 4 steps to control PDMA02 on the desired target, then to perform a reactivity change to match Tave to Tref.
4. The NSO has calculated a reactivity change to move rods then to match Tave with Tref.

INITIATING CUES:

1. Evaluate the reactivity change to restore PDMA02 to target and to match Tave to Tref.
2. Review the Reactivity Change Determination Form for approval.

ATTACHMENT 1
REACTIVITY CHANGE DETERMINATION FORM

Station: *Byron* **Unit:** 1 (2) **Time:** *Now* **Date:** *Today*

Desired change:
(Parameter, Magnitude, and Direction: Reactor Power, Rod Position, RCS Temp, Delta I, etc.)

Withdraw Rods 2 steps for PDMA02 control
Dilute to raise Tave (0.2°F) to match Tref

Reason for Change:
(Temperature control, flux control, fuel burn up)

PDMA02 control and temperature control

What is the method and amount required for the reactivity change?
(Bleed Tank Volume, Gallons of Dilution/Boration/Blended Flow, Rod Insertion/Rod Withdrawal steps/percent)

2 steps withdrawal of CB D and 93 gallons Dilution

Inputs:
(ReMA Thumbrules, ReMA maneuver guidance, Curve Book Figure/Table, Computer based trend plot, RCS Cb, EFPD – Preparer and Reviewer should use independent inputs when possible)

Rema thumbrules for Unit 2 at 9100 EFPH

Calculation of change:
(E.G. Bwd/Byr: ReMA Thumbrule identifies 20 gallons BA = 1.0°F RCS temp reduction. *Desired change* = 0.5°F drop. *Calculation of change:* (20 gal/1.0°F) * 0.5°F = 10 gal., previously used borations and dilutions)
(TMI: Procedure 1102-4 Power Operations Fig. 1, Volume of Deminerlized Water for 1% Rod Insertion)

Withdrawal of control rods 2 steps raises temp 0.3°F.
Then dilute to raise temperature by 0.2°F: 465 gals/°F x (0.2°F) = 93 gals dilution.

Joe Rowe	*P Chech*	
Preparer (RO)	**Reviewer** (RO/SRO)	**Approver** (SRO)

Shift Manager Notified: Yes No

Exelon Nuclear

Job Performance Measure

Minimum Shift Staffing

JPM Number: SA-b

Revision Number: 2

Date: 7/20/2010

Revised By:	R. F. Peterson Instructor	7/20/2010 Date
Validated By:	S. Harvey SME or Instructor	12/11/2015 Date
Approved By:	B. Lewin Operations Representative	12/11/2015 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

__RFP__ 1. Task description and number, JPM description and number are identified.

__RFP__ 2. Knowledge and Abilities (K/A) references are included.

__RFP__ 3. Performance location specified. (in-plant, control room, simulator, or other)

__RFP__ 4. Initial setup conditions are identified.

__RFP__ 5. Initiating cue (and terminating cue if required) are properly identified.

__RFP__ 6. Task standards identified and verified by SME review.

__RFP__ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

__RFP__ 8. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure BAP 320-1 Rev: 22
Procedure BAP 320-1T1 Rev: 6
Procedure _____ Rev: _____

__RFP__ 9. Verify cues both verbal and visual are free of conflict.

__RFP__ 10. Verify performance time is accurate

__RFP__ 11. If the JPM cannot be performed as written with proper responses, then revise the JPM.

__RFP__ 12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Brian Lewin/Robert Peterson	10/6/2013
SME / Instructor	Date
Brian Lewin/Robert Peterson	12/11/2015
SME / Instructor	Date
_____	_____
SME / Instructor	Date

Revision Record (Summary)

Revision 1

- Put in current JPM Format
- Clarified the intent of the question and limited to asking for recommendations for desired staffing levels.

Revision 2

- Added requirement to validate TS manning and Administrative manning to JPM.

INITIAL CONDITIONS

1. You are the Shift Manager.
2. Unit 1 is in Mode 5 and Unit 2 is in Mode 1 at 100% power.
3. The following qualified people are inside the Protected Area as members of the oncoming shift operating crew: (Assume that **All LISTED** personnel have the same shift rotation)

Name	*Qual*	*Position*	*Name*	*Qual*	*Position*	*Name*	*Qual*	*Position*
Joe		SRO/SM	Sam		NSO	Mary	FB	EO
Bill	FC	SRO	Dave		NSO	Ted	EC	EO
Tom	FC	SRO	Ron	FB	EO	Bob		RP
Andy		SRO	Alan	FB	EO	Terry		Chem
Arnie		SRO/STA	Sally	FB	EO	Karla	EC	Chem
			Tim		EO			

FC: Fire Chief qualified FB: Fire Brigade qualified EC: Emerg Comm qualified

INITIATING CUES:

DETERMINE if the crew meets the Desired staffing levels per BAP 320-1, and if not, do staffing levels meet Tech Spec Minimum staffing levels.

If staffing levels are not met **DETERMINE**:

- number of people in any given position needed to fill to the Tech Spec Minimum.
- number of people in any given position needed to fill to the Desired staffing levels.
- actions required to meet oncoming Shift Manning requirements.

All Work Hour Rules have been determined to be in compliance.

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.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
1. Refer to BAP 320-1, Shift Staffing **Cue: Provide a copy of BAP 320-1 and BAP 320-1T1 after correct procedure has been determined.** **The staffing determination can be determined in any order.**	Determines that BAP 320-1 is needed to make determination.	____	____	____
2. Review Desired Staffing requirement for Shift Manager.	Determine that minimum Desired Staffing and TS Staffing for Shift Manager **IS** satisfied.	____	____	____
3. Review Desired Staffing requirement for Unit Supervisor.	Determine that minimum Desired Staffing and TS Staffing for Unit Supervisor **IS** satisfied.	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
4. Review Desired Staffing requirement for WEC. **Note:** **The candidate should determine that the WEC SRO is not required for TS minimum manning and should be used to meet minimum NSO TS Manning.**	Determine that minimum Desired Staffing for WEC **IS** satisfied.	____	____	____
5. Review Desired Staffing requirement for FS/Fire Brigade Chief.	Determine that minimum Desired Staffing for FS **IS** satisfied.	____	____	____
*6. Review Desired Staffing requirement for NSO.	Determine that minimum Desired Staffing for NSO's **IS NOT** satisfied. 2 more are desired. Determine that minimum TS Staffing for NSO's **IS** satisfied (an SRO is used to fill TS staffing levels)	___ ____	___ ____	___ ____
7. Review Desired Staffing requirement for STA.	Determine that minimum Desired Staffing for STA **IS** satisfied.	____	____	____
*8. Review Desired Staffing requirement for EO (SSD/FB).	Determine that minimum Desired Staffing for EO's **IS NOT** satisfied. 2 more SSD EO's are desired. Determine that minimum TS Staffing for EO's **IS** satisfied (3 SSD EO's needed, with 0 FB needed)	___ ____	___ ____	___ ____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*9. Review Desired Staffing requirement for RP.	Determine that minimum Desired Staffing for RP **IS NOT** satisfied. 1 more is desired. Determine that minimum TS Staffing for RP **IS** satisfied (1 RP required)	___ ____	___ ____	___ ____
10. Review Desired Staffing requirement for Chemistry.	Determine that minimum Desired Staffing for Chemistry **IS** satisfied.	____	____	____
11. Review Desired Staffing requirement for Emergency Communicator.	Determine that minimum Desired Staffing for Emergency Communicator **IS** satisfied – the extra Chemistry person (or any qualified station staff person)	____	____	____
12. Determine need to fill positions with offgoing shift. **Cue: Ask candidate on what actions are needed to meet immediate manning requirements for the oncoming shift?**	Determine that the oncoming crew will not be able to fill all of the positions of BAP 320-1T1 with qualified individuals -AND- Determine that personnel from the current shift will be held over to fill all required positions until callout relief is in the Protected Area	___ ____	___ ____	___ ____
CUE: The JPM is complete.				

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Minimum Shift Staffing

JPM Number: SA-b Revision Number: 1

Task Number and Title: S-AM-029 Ensure Minimum Shift Staffing and Authorize Additional Shift Staffing as Necessary

K/A Number and Importance: 2.1.5 3.9

Suggested Testing Environment: Classroom

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

Reference(s):

- BAP 320-1, Rev 19, Shift Staffing
- BAP 320-1T1

CRITICAL STEPS (*) 6, 8 & 9

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 20 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

_____

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_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Shift Manager.
2. Unit 1 is in Mode 5 and Unit 2 is in Mode 1 at 100% power.
3. The following qualified people are inside the Protected Area as members of the oncoming shift operating crew: (Assume that **All LISTED** personnel have the same shift rotation)

Name	*Qual*	*Position*	*Name*	*Qual*	*Position*	*Name*	*Qual*	*Position*
Joe		SRO/SM	Sam		NSO	Mary	FB	EO
Bill	FC	SRO	Dave		NSO	Ted	EC	EO
Tom	FC	SRO	Ron	FB	EO	Bob		RP
Andy		SRO	Alan	FB	EO	Terry		Chem
Arnie		SRO/STA	Sally	FB	EO	Karla	EC	Chem
			Tim		EO			

FC: Fire Chief qualified FB: Fire Brigade qualified EC: Emerg Comm qualified

INITIATING CUES:

DETERMINE if the crew meets the Desired staffing levels per BAP 320-1, and if not, do staffing levels meet Tech Spec Minimum staffing levels.

If staffing levels are not met **DETERMINE**:

- number of people in any given position needed to fill to the Tech Spec Minimum.
- number of people in any given position needed to fill to the Desired staffing levels.
- actions required to meet oncoming Shift Manning requirements.

All Work Hour Rules have been determined to be in compliance.

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Job Performance Measure

Initiate a LCOAR

JPM Number: SA-c

Revision Number: 0

Date: 11/30/2015

Revised By:	Robert Peterson Instructor	11/30/2015 Date
Validated By:	Shane Harvey SME or Instructor	12/11/2015 Date
Approved By:	Brian Lewin Facility Representative	12/11//2015 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BAP 1400-6 Rev: 33
   Procedure 1BOL 7.2 Rev: 6
   Procedure BAR 1-1-E5 Rev: 5
   Procedure 1BOSR MS-W1 Rev: 11
   Procedure BOP MS-5 Rev: 19
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

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

Revision Record (Summary)

Revision 0

Comment	Resolution
Modified SA3 Rev. 0	Changed component that is in LCOAR

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.
2. Unit 1 is in MODE 1
3. MSIV 1D Hyd/Pneu Press Hi/Lo Alarm (1-1-E5) is LIT.
4. 5 minutes ago that the TR Operator reports that 1D MSIV Standby Nitrogen Pressure is 4750 psig.
5. IR 1234567 has been written to document the issue.
6. No other LCOARs or DELs exist on Unit 1.

INITIATING CUE

Evaluate condition and Initiate the LCOAR paperwork as necessary.

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 <u>1a, 3, 4, 10</u>**

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.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE Once the student demonstrates the ability to locate referenced procedure provide the student with a copy of the procedure.				
1. Refer to BAP 1400-6, Technical Specification Limiting Conditions for Operation Action Requirements (LCOAR)	° LOCATE and OPEN BAP 1400-6	____	____	____
*1.a Evaluate required LCOAR entry ° T.S 3.7.2 and/or Bases ° 1BOL 7.2 ° BAR 1-1-E5 ° 1BOSR MS-W1 ° BOP MS-5	• Identify that 1BOL 7.2 LCOAR entry is required. ° Utilize references as required	____	____	____
2. Refer to 1BOL 7.2, LCOAR Main Steam Isolation Valves (MSIVs) – Tech Spec LCO # 3.7.2	° LOCATE and OPEN 1BOL 7.2	____	____	____
*3. Section A of 1BOL 7.2 **Note: Notification occurred 5 minutes ago per initiating Cue.**	ENTER into Section A: • Time/Date: Today/5 minutes ago • By: Candidate's name • Title: Unit Supervisor • Present mode: 1 • Initiating event: Initiating event: 1MS001D Standby Pneumatic Pressure <4800 psig. • Condition: A	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4. Safety function determination ***Cue: All other MSIVs pass operability.***	PERFORM SFD • Indicate No in Section C • Sign Coversheet • Indicate NO on coversheet for invalidating current SFD	____	____	____
4.a LCO 3.0.6 Evaluation **Note: Acceptable if left Blank or may be placekept.**	Placekeep OR Leave Blank	____	____	____
5. Update DEL	○ Check “N/A” box	____	____	____
6. Determine Planned or Unplanned	○ Mark UNPLANNED on coversheet	____	____	____
NOTE Examinee may inform SM of entry at this time, however, the SM Notified and time/date is typically completed after Peer Check received by another SRO.				
7. Related WR/WO block **Note: IR # will be recorded here**	• List IR # 1234567	____	____	____
8. Fill in Related Clearance Orders **Note: Acceptable if left Blank**	○ N/A OR Leave Blank	____	____	____
9. Was an IR written?	○ Check “Yes” box	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*10. LCOAR TABLE of 1BOL 7.2 **Cue: This JPM is completed.**	COMPLETE LCOAR Table: ◦ CIRCLE Condition A • ENTER notification Time/Date AND sign Condition A	____	____	____

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Initiate a LCOAR. (SRO)

JPM Number: SA-c (Mod from SA3) Revision Number: 0

Task Number and Title: 8E.TS-007 ENSURE compliance with all applicable Tech Spec Action Statements.

K/A Number and Importance: 2.2.23 4.6

Suggested Testing Environment: Simulator

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

Reference(s):

- BAP 1400-6, Technical Specification Limiting Conditions for Operation Action Requirements (LCOAR) (Rev 33)
- 1BOL 7.2, LCOAR Main Steam Isolation Valves (MSIVs) Tech Spec LCO # 3.7.2 (Rev 6)
- BAR 1-1-E5, MSIV 1D HYD/PNEU Press High/Low (Rev 5)
- 1BOSR MS-W1, Unit One MSIV Checks Weekly Surveillance (Rev 11)
- BOP MS-5, MSIV Accumulator Operability Check (Rev 19)

CRITICAL STEPS (*) 1a, 3, 4, 10

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 the Unit 1 Unit Supervisor.
2. Unit 1 is in MODE 1.
3. MSIV 1D Hyd/Pneu Press Hi/Lo Alarm (1-1-E5) is LIT.
4. 5 minutes ago that the TR Operator reports that 1D MSIV Standby Nitrogen Pressure is 4750 psig.
5. IR 1234567 has been written to document the issue.
6. No other LCOARs or DELs exist on Unit 1.

INITIATING CUE

Evaluate condition and Initiate the LCOAR paperwork as necessary.

Exelon Nuclear

Job Performance Measure

Review Liquid Release Package

JPM Number: SA d

Revision Number: 02

Date: 10/18/2013

Developed By:	Robert Peterson Instructor	10/18/2013 Date
Validated By:	S. Harvey SME or Instructor	12/11/2015 Date
Approved By:	B. Lewin Operations Representative	12/11/2015 Date

INITIAL CONDITIONS

You are the Unit Supervisor.

A Liquid Radwaste Release Form BCP 400-TWX01 is currently being processed.

You have the Liquid Release Package and it is completed up to step 7.5 for your approval.

INITIATING CUES

You are to review BCP 400-TWX01 and ensure it has been completed properly to authorize the liquid release.

TASK STANDARDS:

1. Determine that section 6.8.5 Rad Monitor Setpoints were incorrectly chosen.
2. Determine that the signature is missing for the Radiation Protection Supervisor in section 5.9 .
3. Determine that section 6.16.1 is incorrectly indicating the wrong release path (0WX001 is recorded instead of 0WX630).
4. Determine that step 6.16.10 is missing a verification initial.

RECORD START TIME:_____

EVALUATOR NOTE: These steps may be performed in any order.					
STEP	**ELEMENT**	**STANDARD**	**SAT**	**UNSAT**	**CMT#**
1	Refer to BCP 400-TWX01, Liquid Radwaste Release Form.	Determine procedure is completed up to step 8.5 where the Field Supervisor is to review Release Package to ensure it is completed properly.	___	___	___
***2.**	Determine that the Rad Protection Supervisor did not sign step 5.9.	STEP 5.9 The Rad Protection Supervisor signature is missing.	___	___	___
***3**	Determine that the Rad Monitor Setpoints are incorrect.	STEP 6.8.5 Alert and High Alarm Setpoints are reversed.	___	___	___
***4**	Determine that the NSO recorded the wrong release flow path in step 6.16.1.	STEP 6.16.1 NSO recorded the incorrect flow path. Should be 0WX001 NOT 0WX630.	___	___	___
***5**	Determine the verification blank for step 6.16.10 is not initialed.	STEP 6.16.10 The Verification Blank is not initialed for the Rad Monitor setpoints.	___	___	___
CUE	**This JPM is complete.**				

RECORD STOP TIME:_____

JPM SUMMARY

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

JPM Title: Review Liquid Release Package

JPM Number: SA d Revision Number: 01

Task Number and Title: S-HP-001 Authorize Liquid Rad Waste Release

K/A Number and Importance: GEN 2.3.6, Imp Factor 2.0/3.8

Suggested Testing Environment: Classroom

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

Reference(s):

- BCP 400-TWX01 Rev 65
- Chemistry Sample results from 0WX01T
- Radiation Protection analysis for a Liquid Release Package

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**: _____

Exelon Nuclear

Job Performance Measure

Classify Event and Fill Out a NARS Form
(Loss of Required Vital DC in Mode 5)

JPM Number: SA-e

Revision Number: 00

Date: 11/30/2015

Revised By:	R. F. Peterson Instructor	11/30/2015 Date
Validated By:	S. Harvey SME or Instructor	12/11/2015 Date
Approved By:	B. Lewin Operations Representative	12/11/2015 Date

INITIAL CONDITIONS

1. You are the Shift Emergency Director.
2. The Unit 1 Supervisor has provided you with information related to a Unit 1 event and informed you to perform an Emergency Plan evaluation.

PLANT CONDITIONS:

1. Unit 1 is shutdown in **MODE 5** preparing for refueling.
2. DC bus 111 is currently Out of Service (De-Energized) for a Planned Bus Outage.
3. DC Bus 112 just experienced a loss of Vital DC Power, indicated by voltage readings of 0VDC at DC112.
4. DC112 Feed Breaker is tripped and cannot be reclosed.
5. Electrical Maintenance Technicians and Engineering are currently in the EM Shop reviewing prints and developing a Troubleshooting plan.

INITIATING CUE

1. Perform an Emergency Plan evaluation and fill out the NARS form for transmittal for the plant conditions provided
2. **This is a time critical JPM**.

JPM START TIME:_____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE **The completion of Step 2 fulfills the critical time portion of this JPM.**				
1. Refer to Exelon Nuclear – Radiological Emergency Plan Annex for Byron Station. **Note: This step may be performed at any time**	o Locate and Open, EP-AA-1002 Addendum 3, Classification of Emergencies	____	____	____
*2. Classify the Event utilizing Section 3, Classification of Emergencies. **Critical portion stop time _____**	• Classify event as Unusual Event, from CU3 Loss of Required DC power for 15 Minutes or Longer (<108VDC on unit 125VDC batter busses 111 and 112)	____	____	____
Time from start to Classification = **_____ minutes**	**¢ < 15 minutes**	____	____	____
3. Obtain NARS form, EP-MW-114-100-F-01, Nuclear Accident Reporting System (NARS). **Note: Step 3 may be performed at any time**	° Obtain NARS form.	____	____	____
NOTE **Provide the examinee with a copy of the NARS form.**				

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4. Refer to EP-MW-114-100, MWROG Offsite Notifications, to complete NARS form. **Note: Step 4 is optional and may be performed at any time**	° Locate and Open, EP-MW-114-100, MWROG Offsite Notifications, Section 4.1, to complete NARS form.	____	____	____
NOTE **Provide the examinee with Wind Speed and Wind Direction cues after examinee has explained where to obtain the information from the computer or from the main control board.**				
*5. Fill out NARS form according to instructions, EP-MW-114-100, Section 4.1, Completing the NARS Form. ***Cue: The wind direction on AM004 is 286°.*** ***Cue: The wind speed on AM001 is 16 meters/sec.*** ***Cue: An SRO has provided a peer check and signed the "Verified With:" section.***	• Fill out NARS form according to instructions, EP-MW-114-100, Section 4.1 Completing the NARS Form. • BLOCKS 2 thru 9 must be filled correctly to meet the critical portion of filling out the NARS form. (See attached KEY). ○ Block 10 should be filled in "None" ○ Verified with another SRO peer check	____	____	____
CUE: The JPM is complete.				

JPM STOP TIME: _____

JPM SUMMARY

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

JPM Title: Classify Event and Fill Out a NARS Form Earthquake

JPM Number: SA-a Revision Number: 00

Task Number and Title: 8F.ZP-008 CLASSIFY/RECLASSIFY Emergency Action Levels

K/A Number and Importance: 2.4.41 4.6

Suggested Testing Environment: Simulator

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

Reference(s):

EP-MW-114-100 (Rev 16), Midwest Region Offsite Notifications
EP-MW-114-100-F-01 (Rev. H) Nuclear Accident Reporting System (NARS) Form
EP-AA-1002 Addendum 3 (Rev 0) Emergency Action Levels for Byron Station
EP-AA-1002 (Rev 34) Exelon Nuclear Radiological Emergency Plan Annex for Byron Station

CRITICAL STEPS (*) 2 & 5

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**: _____