File Location: 1.02.0128

Note: fields required to satisfy the task standard are highlighted in yellow.

REFERENCE REACTIVITY DATA WORKSHEET

NOTE

Step F.1 of this surveillance is only required if this worksheet is supporting manual estimated critical calculations. If this surveillance is being executed to support margin or computer based estimated critical calculations, then proceed to step F.2

NOTE

This worksheet will be retained as plant documentation. DO NOT DISCARD. Forward completed form to the Operating Clerks for retention when no longer required on shift for reference.

NOTE

The following validated data sources may be used throughout this procedure as applicable:

Accumulated Core Burnup (EFPH):
- o PPC Burnup Recording Program (as available)
- o PPC point PDMA09
- o Reactor Engineering

Average Reactor Power Level (% RTP):
- o PPC Burnup Recording Program (as available)
- o PPC Calorimetric Program (U0923, U0925)
- o 2BOSR NR-1
- o PPC point PDMA09, by the following formula:
  100 * (duration difference in PDMA09) / (duration)
  duration expressed in hours
- o Reactor Engineering

Unit Two Startup Number 2023 - 1 - 1
Year - S/U# - RRD#

1. Stable Reference Reactivity Data

NOTE

The data recorded in step 1 shall be data from a stable core condition. Contact Reactor Engineering for assistance, if necessary. An exception to the stability criteria would be if this RRD were for a recent reactor startup.

1.a. Reference Date: today Reference Time: current time

REFERENCE REACTIVITY DATA WORKSHEET
(continued)

1.b. Control Bank D at 178 steps.

* 1.c. Inserted Control Bank Worth

BCB-2 Table 1-7, Figure 2, Figure 2C, or equivalent (-)110.3pcm

*, 2.b

* 1.d. Critical Boron Concentration from (CIRCLE mode of analysis used):

1). Accurate sample at a recent known stable condition,

n/a 2). Calculated by the Qualified Nuclear Engineer

(Attach calculations, logs, PPDS used)

C_B = 840 ppm Time/Date: 1 hour ago/ today

*, 2.h

1.e. Reference power level:

Stable Power: 80 %

1.f. Total Power Defect from:

BCB-2 Figure 17A, Table 2-1, or equivalent (-) 1451 pcm

1.g. **RECORD** accumulated core average burnup:

Core Average Burnup: 6500 EFPH

NOTE

If this RRD is being performed to reference a recent reactor startup, obtain the Samarium Worth from the applicable ECC step 3 for Startup Samarium Worth or 2BVSR XPT-13, as applicable. N/A the Samarium Equivalent Power.

1.h. Equivalent Power for Samarium Calculation:

Sm Eq. PWR = Unweighted average power over 5 days (120 hrs)

Sm Eq. PWR = 80 %

Sm Worth from BCB-2 Table 1-4 or equivalent at 0 hrs after shutdown (-) 1052 pcm

REFERENCE REACTIVITY DATA WORKSHEET
(continued)

NOTE
If this RRD is being performed to reference a recent reactor startup, obtain the Xe Worth from the applicable ECC step 4 for Startup Xenon Worth or 2BVSR XPT-13, as applicable.

1.i. Determine the Xenon Worth from power in step 1.e and time at 0 hours from BCB-2 Figure 8c, Table 1-2, or equivalent:

Xe Worth (-) 2965 pcm

2. Final Power Operation Reference Reactivity Data:

NOTE
The data recorded in step 2 shall include the operating history of the reactor until it is shutdown. If the reactor tripped from a stable condition, record the applicable data from step 1 into step 2.

2.a. Reference Date:_____ Reference Time: _____

NOTE
The PPC may be used to determine the information in steps F.2.b, F.2.c, and F.2.d by performing the following and attaching the PPC printout to this surveillance. Navigate to Operator Demandable, Core Burnup, Reports, then Generate Shutdown Reference Reactivity for the desired date and time.

2.b. RECORD accumulated core average burnup:

Core Average Burnup:_____EFPH

2.c. Equivalent Power for Samarium Calculation:

Sm Eq. PWR = Unweighted average power over 5 days (120 hrs)

Sm Eq. PWR =_____%

REFERENCE REACTIVITY DATA WORKSHEET
(continued)

2.d. Determine the Equivalent Power for Xenon Calculation:

Hours Prior to Shutdown	Average Power (%)	Multiplier		Product
0 to 1		x 6	=	
1 to 2		x 5	=	
2 to 3		x 5	=	
3 to 4		x 5	=	
4 to 5		x 4	=	
5 to 6		x 4	=	
6 to 7		x 4	=	
7 to 8		x 4	=	
8 to 9		x 4	=	
9 to 10		x 3	=	
10 to 11		x 3	=	
11 to 12		x 3	=	
12 to 13		x 3	=	
13 to 14		x 3	=	
14 to 15		x 3	=	
15 to 16		x 3	=	
16 to 17		x 2	=	
17 to 18		x 2	=	
18 to 19		x 2	=	
19 to 20		x 2	=	
20 to 21		x 2	=	
21 to 22		x 2	=	
22 to 23		x 2	=	
23 to 24		x 2	=	
24 to 25		x 2	=	
25 to 26		x 1	=	
26 to 27		x 1	=	
27 to 28		x 1	=	
28 to 29		x 1	=	
29 to 30		x 1	=	
30 to 31		x 1	=	
31 to 32		x 1	=	
32 to 33		x 1	=	
33 to 34		x 1	=	
34 to 35		x 1	=	
35 to 36		x 1	=	

TOTAL = _____

REFERENCE REACTIVITY DATA WORKSHEET
(continued)

2.d. continued

Equivalent Power for Xenon = $\frac{\text{Total}}{91} = \frac{\quad}{91}$

Xe Eq. PWR:_____%

Remarks: _____
_____
_____

*

NOTE
This procedure shall be performed by:

- Qualified Nuclear Engineer (QNE)
- o QNE
  o NSO

*, 2.c

Performed by:_____/_____(QNE)
Name Date

Reviewed by:_____/_____(NSO or QNE)
Name Date

SRO:_____/_____
Name Date

Exelon Generation

Job Performance Measure

Complete 2BGP 100-7T1, RRD

JPM Number: RA-1-04-23

Revision Number: 2

Date: 6/15/23

Developed By:	Barry Mingus / Barry Mingus /s/		6/15/23
	Instructor: Print / Sign		Date
Reviewed By:	William Hines / William Hines /s/		6/12/23
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / Austin Wilde /s/		6/12/23
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / Brian Lewin /s/		7/31/23
	Training Department: Print / Sign		Date

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

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. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure:	2BGP 100-7T1	Revision:	12
Procedure:	BCB-2 Table 1-2	Revision:	30
Procedure:	BCB-2 Table 1-4	Revision:	25
Procedure:	BCB-2 Table 1-7	Revision:	21
Procedure:	BCB-2 Table 2-1	Revision:	28
Procedure:	BCB-2 Figure 2C	Revision:	21
Procedure:	BCB-2 Figure 8C	Revision:	30
Procedure:	BCB-2 Figure 17A	Revision:	30

10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

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

Revision Record (Summary)

Revision #	Summary
Revision 01	Applied new template TQ-AA-150-J020 Revised to Unit 2 to ensure stable procedures during development and delivery. Modified to Unit 2 and Initial Conditions. Revision to critical steps to only include steps with determination using curve book/interpolation required. Changed referenced procedures to Unit 2 and included Curve Book Tables and Figures Updated task Title and Number to reflect Vision
Revision 2	Updated to current JPM template. Updated to current revisions of procedures and curve data.

Exelon Generation

JPM SETUP INSTRUCTIONS

1. This is an Administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.
2. Verify current revisions of the following information is available for JPM performance:
   - Byron Unit 2 Curve book
3. ENSURE the following is available during performance of JPM
   - Calculator
   - 2BGP 100-7
   - 2BGP 100-7T1
4. ENSURE the following between performances of JPM:
   - Any marks made within curve book are erased.
5. This completes the setup for this JPM.

Exelon Generation

INITIAL CONDITIONS

You are the Unit 2 NSO.

- A unit shutdown is planned.
- The unit has been at steady state 80.0% power for the previous 6 days.
- Control Bank D is currently at 178 steps withdrawn.
- Chemistry has reported a boron concentration of 840 ppm for a sample drawn one hour ago.
- Current Core Average Burnup is 6500 EFPH.
- No QNE is currently available.
- This is the first startup and the first RRD of the year.

INITIATING CUE

The Unit Supervisor directs you to perform Step F.1 of 2BGP 100-7T1, Reference Reactivity Data (RRD) Worksheet before the shutdown commences. Another NSO will perform step F.2

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: **4, 7, 9 & 10**

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:	JPM Sequence #: of

Task Standard:

Candidate accurately completes step F.1 2BGP 100-7T1 worksheet, per the highlighted portions of the key, in preparation for a planned shutdown.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide the candidate with a copy of 2BGP 100-7T1, and the Byron Unit 2 Curve Book.				
1	Enters Unit Two Startup Number.	• Year: **2023** • SU#: **1** • RRD#: **1**	___	___	___
NOTE:	Per the cue sheet, this is startup number 1 and RRD number 1 for this year.				
2	Enters Reference Date and Time (1.a)	• Today's Date • Current Time	___	___	___
3	Enters Control Bank steps (1.b)	• Control Bank **D** at **178** steps	___	___	___
NOTE:	To determine Control Rod Worth, the candidate may use BCB Unit 2 Figure 2C or interpolated from BCB Unit 2 Table 1-7, for 6350.7 EFPH, page 3 of 5 to obtain the (-)110.3 pcm value.				
***4**	Determines and enters Inserted Control Bank Worth (1.c)	• **(-) 110.3 pcm** (Acceptance criteria is (-) 100 pcm to (-) 125 pcm)	___	___	___
5	Determines and enters Critical Boron Concentration (1.d)	• Circles Accurate sample • C_B = **840 ppm** • 1 hour prior to Current Time • Today's Date	___	___	___
6	Enters Reference power level (1.e)	• **80 %**	___	___	___
NOTE:	To determine Power Defect, the candidate may use BCB Unit 2 Figure 17A page 3 of 4 or interpolated from BCB Unit 2 Table 2-1, for 6350.7 EFPH, page 5 of 8 to obtain the (-) 1451 pcm value.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***7**	Determines and enters Total Power Defect (1.f)	• **(-) 1451 pcm** (Acceptance criteria is (-)1425 to (-)1475 pcm)	___	___	___
8	Determines and enters Accumulated core average burnup (1.g)	• **6500 EFPH**	___	___	___
NOTE:	To determine Samarium Worth, the candidate may use BCB Unit 2 Table 1-4, for 6350.7 EFPH, page 4 of 5 to obtain the (-) 1052 pcm value.				
***9**	Determines and enters Samarium Worth (1.h)	○ Sm Eq. PWR = **80 %** • SM Worth = **(-) 1052 pcm**	___	___	___
NOTE:	To determine Xenon Worth, the candidate may use BCB Unit 2 Figure 8C pages 7 and 8 of 10 or BCB Unit 2 Table 1-2, for 6350.7 EFPH, page 4 of 5 to obtain the (-) 2965 pcm value.				
***10**	Determines and enters Xenon Worth (1.i)	• Xe Worth = **(-) 2965 pcm** (Acceptance criteria is (-)2800 to (-)3000 pcm)	___	___	___
CUE	This JPM is complete.				

Exelon Generation

JPM SUMMARY

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

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

JPM Title: Complete 2BGP 100-7T1, RRD

JPM Number: RA-1-04-23 Revision Number: 12

Task Number and Title: 4C.GP-01 PERFORM Reference Reactivity Data Calculation and Estimated Critical Condition Calulation

Task Standard: Candidate accurately completes step F.1 2BGP 100-7T1 worksheet, per the highlighted portions of the key, in preparation for a planned shutdown.

K/A Number and Importance: 2.1.37 Knowledge of procedures, guidelines, or limitations associated with reactivity management Importance: 4.3/4.6

Suggested Testing Environment: Classroom

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

Reference(s):

Procedure:	2BGP 100-7T1	Revision:	12
Procedure:	BCB-2 Table 1-2	Revision:	30
Procedure:	BCB-2 Table 1-4	Revision:	25
Procedure:	BCB-2 Table 1-7	Revision:	21
Procedure:	BCB-2 Table 2-1	Revision:	28
Procedure:	BCB-2 Figure 2C	Revision:	21
Procedure:	BCB-2 Figure 8C	Revision:	30
Procedure:	BCB-2 Figure 17A	Revision:	30

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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

You are the Unit 2 NSO.

- A unit shutdown is planned.
- The unit has been at steady state 80.0% power for the previous 6 days.
- Control Bank D is currently at 178 steps withdrawn.
- Chemistry has reported a boron concentration of 840 ppm for a sample drawn one hour ago.
- Current Core Average Burnup is 6500 EFPH.
- No QNE is currently available.
- This is the first startup and the first RRD of the year.

INITIATING CUE

The Unit Supervisor directs you to perform Step F.1 of 2BGP 100-7T1, Reference Reactivity Data (RRD) Worksheet before the shutdown commences. Another NSO will perform step F.2

UNIT ONE
QUADRANT POWER TILT RATIO CALCULATION
DATA SHEET D3
Note: fields required to satisfy the task standard are highlighted in yellow.

DVM QA# n/a Cal Date n/a

	N41	N42	N43	N44
today / now Time / Date	99.8 %	99.8 %	99.8 %	99.8 %

UPPER DETECTORS (A)	N41	N42	N43	N44
Detector Current	203.5	200.2	203.5	205.8
100% Detector Current	200.5	199.2	200.5	200.8
Normalized Detector Current	1.0150	1.0050	1.0150	1.0150
Average Normalized Current	//	1.0125	//	
Quadrant Power Tilt Ratio ($\phi \leq 1.02$)	1.0025 ¢	0.9926 ¢	1.0025 ¢	1.0023 ¢

LOWER DETECTORS (B)	N41	N42	N43	N44
Detector Current	196	195.3	194.5	195.5
100% Detector Current	201	201.3	199.5	200.5
Normalized Detector Current	0.9751	0.9702	0.9750	0.9751
Average Normalized Current	//	0.9739	//	
Quadrant Power Tilt Ratio ($\phi \leq 1.02$)	1.0013 ¢	0.9963 ¢	1.0012 ¢	1.0013 ¢

Acceptance Criteria

No Quadrant Power Tilt Ratio shall exceed 1.02 (SR 3.2.4.1).

Exelon Generation

Job Performance Measure

Perform a QPTR Calculation

JPM Number: RA-2-1-23

Revision Number: 10

Date: 6/15/23

Developed By:	Barry Mingus / Barry Mingus /s/	Instructor: Print / Sign	6/15/23 Date
Reviewed By:	William Hines / William Hines /s/	SME or Instructor: Print / Sign	6/15/23 Date
Reviewed By:	Austin Wilde / Austin Wilde /s/	Operations Representative: Print / Sign	6/15/23 Date
Approved By:	Brian Lewin / Brian Lewin /s/	Training Department: Print / Sign	7/31/23 Date

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

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. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: 1BOSR 2.4.1-1 Revision: 16
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

SME / Instructor (Print/Sign)		Date
Bill Hines	/	6/15/23
	/	
	/	

Revision Record (Summary)

Revision #	Summary
10	− Applied new template TQ-JA-150-02 Rev.1 − Updated to revision 16 of 1BOSR 2.4.1-1 - Modified plant data
09	– Verified/ updated KAs and TPOs to current revision
08	– Validated 03/03/13 by Bill Hochstetter and Rob Lawlor, only change was procedure rev that did not affect JPM. Rev number carried over from JPM N-18 Rev 8

JPM SETUP INSTRUCTIONS

1. This is an administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.

2. Verify current revisions of the following information is available for the JPM performance:

- 1BOSR 2.4.1-1 Rev 16

3. IF this JPM will be done in an environment other than the simulator or MCR, THEN ENSURE the following items are available during performance of the JPM:

Operator Aid titled “UNIT 1 Nuclear Instrumentation Settings” (Simulator)

Image of current for:
- N41
- N42
- N43
- N44

Calculator

4. ENSURE the following between performances of the JPM:

• New clean procedure copies for examinee to work from during performance

5. This completes the setup for this JPM.

INITIAL CONDITIONS

- You are the Unit 1 Assist NSO
- The unit is in MODE 1, 100% steady state power
- The plant process computer has been inoperable for the last 30 minutes
- PDMS is inoperable

  NI Power indication
  - N41 = 99.8%
  - N42 = 99.8%
  - N43 = 99.8%
  - N44 = 99.8%

INITIATING CUE

- The Unit Supervisor instructs you to perform 1BOSR 2.4.1-1, UNIT ONE QUADRANT POWER TILT RATIO CALCULATION using the installed meters to satisfy the weekly surveillance frequency.

- Another NSO will monitor the Main Control Board panels and address alarms as necessary.

- An IM Technician AND Station Reactor Engineer are NOT available.

- All NI Channels are OPERABLE.

- The Shift Manager has given his permission and the cover sheet has been signed.

- Inform the Unit Supervisor when you have completed 1BOSR 2.4.1-1

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: **4-9**

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:	JPM Sequence #: of

Task Standard:

Applicant correctly completes 1BOSR 2.4.1-1, Unit 1 Quadrant Power Tilt Ratio Calculation per the key to determine if related T.S. requirements are met.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1	Refer to 1BOSR 2.4.1-1 Unit 1 Quadrant Power Tilt Ratio Calculation Verify all applicable Prerequisites, Precautions, Limitations and Actions are satisfactorily addressed	Refer to 1BOSR 2.4.1-1 Verify all applicable Prerequisites, Precautions, Limitations and Actions are satisfactorily addressed	☐	☐	___
CUE:	All Prerequisites are met				
2	Reads Main Body Note	Determines Section F.2 is applicable ○ Marks section F.1 as N/A	☐	☐	___
3	Records step 2.a data on Data sheet D3 Indicated power for: ° N41 = 99.8% ° N42 = 99.8% ° N43 = 99.8% ° N44 = 99.8%	At 1PM07J On Data sheet **D3** Records: ° Date ° Time Indicated power for: ° N41 = 99.8% ° N42 = 99.8% ° N43 = 99.8% ° N44 = 99.8%	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE to EVALUATOR This JPM is calculated so that QPTR will meet surveillance acceptance criteria. Detector currents and interpretation of provided NI current readings may differ slightly (±3.5) from the values indicated in the steps below. If the values vary far enough to cause QPTR to exceed 1.02 then the examinee has failed this JPM.					
***4**	Determine detector currents Upper Detector Current • N-41 • N-42 • N-43 • N-44 Lower Detector Current • N-41 • N-42 • N-43 • N-44	At 1PM07J (or from visual aid) record: (step b.1).) Upper Detector Current • N-41 = 203.5 • N-42 = 200.2 • N-43 = 203.5 • N-44 = 205.8 Lower Detector Current • N-41 = 196 • N-42 = 195.3 • N-43 = 194.5 • N-44 = 195.5 On Data Sheet D3 ○ Mark DVM QA number and Cal Date as **N/A**	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5	From provided Operator Aid Records: 100% Upper Detector Current • N-41 • N-42 • N-43 • N-44 100% Lower Detector Current • N-41 • N-42 • N-43 • N-44	Use provided Operator Aid placed on 1PM07J (or provided to the examinee if outside the simulator) record last determined 100% Power NIS current on Data Sheet D3 (step F.2.c) 100% Upper Detector Current • N-41 = 200.5 • N-42 = 199.2 • N-43 = 200.5 • N-44 = 202.8 100% Lower Detector Current • N-41 = 201 • N-42 = 201.3 • N-43 = 199.5 • N-44 = 200.5	☐	☐	___
*6	Determine Normalized Detector Current Upper Detector Current • N-41 • N-42 • N-43 • N-44 Lower Detector Current • N-41 • N-42 • N-43 • N-44	On Data Sheet D3 divide the obtained detector current by the 100% current: (step F.2.d) Upper Detector Current • N-41 = 203.5/200.5 **= 1.0150** • N-42 = 199.2/200.2 **= 1.0050** • N-43 = 203.5/200.5 **= 1.0150** • N-44 = 205.8/202.8 **= 1.0150** Lower Detector Current • N-41 = 196.0/201.0 **= 0.9751** • N-42 = 195.4/201.3 **= 0.9702** • N-43 = 194.5/199.5 **= 0.9750** • N-44 = 195.5/200.5 **= 0.9751**	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*7	Determine Average Normalized Detector Current for: Upper detectors: Lower detectors:	On Data Sheet D3 compute the average normalized current for: (step F.2.e) Upper detectors: 1.0150+1.0050+1.0150+1.0148 =4.0500/4 = **1.0125** Lower detectors: 0.9751+0.9702+0.9750+0.9751 =3.8954/4 = **0.9739**	☐	☐	___
*8	Determine Quadrant Power Tilt Ratio Upper Detector Current • N-41 • N-42 • N-43 • N-44 Lower Detector Current • N-41 • N-42 • N-43 • N-44	On Data Sheet D3 compute the QPTR: (step F.2.f) Upper Detector Current • N-41 = **1.0150 / 1.0125 = 1.0025** • N-42 = **1.0050 / 1.0125 = 0.9926** • N-43 = **1.0150 / 1.0125 = 1.0025** • N-44 = **1.0148 / 1.0125 = 1.0023** Lower Detector Current • N-41 = **0.9711 / 0.9739 = 1.0013** • N-42 = **0.9655 / 0.9739 = 0.9963** • N-43 = **0.9706 / 0.9739 = 1.0012** • N-44 = **0.9706 / 0.9739 = 1.0013**	☐	☐	___
*9	Determines QPTR requirements are met	Determines QPTR has not exceeded 1.02 and informs Unit Supervisor	☐	☐	___
CUE:	**This JPM is complete.**				

JPM Stop Time: _____

JPM SUMMARY

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

Exelon Generation

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

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

JPM Title: UNIT ONE QUADRANT POWER TILT RATIO CALCULATION

JPM Number: RA-2-1-23 Revision Number: 10

Task Number and Title: 4C.RK-01 PERFORM A QPTR Calculation

Task Standard: Applicant correctly completes 1BOSR 2.4.1-1, Unit 1 Quadrant Power Tilt Ratio Calculation per the key to determine if related T.S. requirements are met.

K/A Number and Importance: 2.1.7 Ability to evaluate plant performance and make operational judgements based on operating characteristics, reactor behavior, and instrument interpretation.

Importance: 4.3/4.6

Suggested Testing Environment: Simulator or Classroom

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

Reference(s):

Procedure: 1BOSR 2.4.1-1 Revision: 16

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 25 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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

- You are the Unit 1 Assist NSO
- The unit is in MODE 1, 100% steady state power
- The plant process computer has been inoperable for the last 30 minutes
- PDMS is inoperable

  NI Power indication
  - N41 = 99.8%
  - N42 = 99.8%
  - N43 = 99.8%
  - N44 = 99.8%

INITIATING CUE

- The Unit Supervisor instructs you to perform 1BOSR 2.4.1-1, UNIT ONE QUADRANT POWER TILT RATIO CALCULATION using the installed meters to satisfy the weekly surveillance frequency.

- Another NSO will monitor the Main Control Board panels and address alarms as necessary.

- An IM Technician AND Station Reactor Engineer are NOT available.

- All NI Channels are OPERABLE.

- The Shift Manager has given his permission and the cover sheet has been signed.

- Inform the Unit Supervisor when you have completed 1BOSR 2.4.1-1

Performance Measure

Determine the Expected Plant Configuration

JPM Number: RA-3-01-23

Revision Number: 1

Date: 05/23/2023

Developed By:	Barry Mingus / *Barry Mingus /s/*		05/23/2023
	Instructor: Print / Sign		Date
Reviewed By:	Bill Hines / *Bill Hines /s/*		05/23/2023
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / *Austin Wilde /s/*		05/23/2023
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / *Brian Lewin /s/*		07/31/23
	Training Department: Print / Sign		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. BM
2. Knowledge and Abilities (K/A) references are included. BM
3. Performance location specified. (in-plant, control room, simulator, or other) BM
4. Initial setup conditions are identified. BM
5. Initiating cue (and terminating cue if required) are properly identified. BM
6. Task standards identified and verified by instructor or SME review. BM
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BM
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BM
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Drawing : 6E-1-4008BJ Revision: AD
   Procedure: BOP SX-E1 Revision: 6
   Procedure: BOP WE-E1 Revision: 5
   Procedure: BOP WF-E1 Revision: 1
10. Verify cues both verbal and visual are free of conflict. BM
11. Verify performance time is accurate. BM
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below:

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

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

Revision Record (Summary)

Revision #	Summary
1	Modified from RA-2 administered on 2017 ILT NRC Exam Renamed and updated to current template. Changed equipment impacted.
0	This new JPM was developed for the 2017 ILT NRC Exam.

JPM SETUP INSTRUCTIONS

1. This is an Administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.
2. Verify current revisions of the following information is available for JPM performance:
   - 6E-0-4008BJ
   - BOP SX-E1
   - BOP WE-E1
   - BOP WF-E1
3. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the WEC NSO.

- The WEC Supervisor has just taken a call from a plant carpenter stating that while he was transiting the Aux Building with scaffold poles that he bumped Panel 134V1 and may have repositioned breakers A2, B3, or E1.
- Passport is Out of Service for the next five hours during a software upgrade.

INITIATING CUE

The WEC Supervisor directs you to use design and configuration control documentation to determine:

- the affected components EPN and noun name
- the normal position of each breaker

Document below and notify the WEC Supervisor of your findings.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps. **3, 5, & 7**

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

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard: Evaluate station electrical drawings and procedures to determine the normal configuration of potentially mis-positioned equipment. Document per the key and notify supervisor.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	If this JPM is being administered in a classroom, provide drawing 6E-1-4008BJ and procedures BOP WE-E1, WF-E1, and SX-E1. If being performed in the simulator, ensure the procedures are available for the examinee to locate. The examinee may elect to use Key Diagram, Electrical Lineup or both to determine component and normal position.				
1	Locate correct drawing	• LOCATE 6E-1-4008BJ ○ Use computer such as HPI ○ Use key diagram book	☐	☐	___
2	Locate correct procedure	○ LOCATE BOP WF-E1 ○ Use computer such as HPI	☐	☐	___
***3**	Determine 134V1 cubicle A2 component affected and expected position	For 134V1 A2: • Determine component is 1WF04PB - AUX BLDG SUMP PUMP 1B • Determine normal position is ON ○ Document / Notify WEC Supervisor	☐	☐	___
4	Locate correct procedure	• LOCATE BOP SX-E1 ○ Use computer such as HPI	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***5**	Determine 134V1 cubicle B3 component affected and expected position	For 134V1 B3: • Determine component is 1SX150B - ESSENTIAL SERVICE WATER PUMP STRAINER • Determine normal position is ON ○ Document / Notify WEC Supervisor			
6	Locate correct procedure	• LOCATE BOP WE-E1 ○ Use computer such as HPI			
***7**	Determine 134V1 cubicle E1 component affected and expected position	For 134V1 E1: • Determine component is 0WE04MA – S/G (BLOWDOWN) SAMPLE COLLECTION TANK PUMP • Determine normal position is OFF ○ Document / Notify WEC Supervisor			
8.	Present findings	• Document findings • notify WEC supervisor			
CUE:	**This JPM is complete.**				

JPM Stop Time: _____

JPM SUMMARY

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

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

JPM Title: Determine the Expected Plant Configuration

JPM Number: RA-3-01-23 Revision Number: 1

Task Number and Title: 4C.AM-18, DEMONSTRATE general knowledge of Configuration Management by understanding that the physical plant must match the Design Documents, Procedures and Drawings

Task Standard: Evaluate station electrical drawings and procedures to determine the normal configuration of potentially mis-positioned equipment. Document per the key and notify supervisor.

K/A Number and Importance:

2.2.15: Ability to determine the expected plant configuration using design and configuration control documentation, such as drawings, lineups, or tagouts (reference potential) importance 3.9/4.3

Suggested Testing Environment: Classroom

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

Reference(s):

Procedure:	6E-0-4001BJ	Revision:	AD
Procedure:	BOP SX-E1	Revision:	6
Procedure:	BOP WE-E1	Revision:	5
Procedure:	BOP WF-E1	Revision:	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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____ **Date**: _____

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

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

- KEY – RA-3-01-23

134V1	Component EPN	Component name	Normal Position
A2	1WF04PB	AUX BLDG SUMP PUMP 1B	ON
B3	1SX150B	ESSENTIAL SERVICE WATER PUMP STRAINER	ON
E1	0WE04MA	S/G (BLOWDOWN) SAMPLE COLLECTION TANK PUMP	OFF

INITIAL CONDITIONS

You are the WEC NSO.

- The WEC Supervisor has just taken a call from a plant carpenter stating that while he was transiting the Aux Building with scaffold poles that he bumped Panel 134V1 and may have repositioned breakers A2, B3, or E1.
- Passport is Out of Service for the next five hours during a software upgrade.

INITIATING CUE

The WEC Supervisor directs you to use design and configuration control documentation to determine:

- the affected components EPN and noun name
- the normal position of each breaker

Document below and notify the WEC Supervisor of your findings.

134V1	Component EPN	Component name	Normal Position
A2			
B3			
E1			

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

Exelon Generation

Job Performance Measure

Change RM-11 Setpoints in Preparation for a Unit 1 Containment Release

JPM Number: RA-4-2-23

Revision Number: 1

Date: 6/15/23

Developed By:	Barry Mingus / Barry Mingus /s/		6/15/23
	Instructor: Print / Sign		Date
Reviewed By:	William Hines / William Hines /s/		6/15/23
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / Austin Wilde /s/		6/15/23
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / Brian Lewin /s/		7/31/23
	Training Department: Print / Sign		Date

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

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. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: BCP 400-ECNMT/ROUTINE Revision: 2
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

Bill Hines /		6/15/23
SME / Instructor (Print/Sign)		Date
/		
SME / Instructor (Print/Sign)		Date
/		
SME / Instructor (Print/Sign)		Date

Revision Record (Summary)

Revision #	Summary
1	− Applied new template TQ-JA-150-02 Rev.1 − Incorporated Rev 2 of BCP 400-ECNMT/ROUTINE
0	JPM used for NRC 2016 NRC exam

Exelon Generation

JPM SETUP INSTRUCTIONS

NOTE:	It is okay to use a similar IC to the IC listed, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

1. Reset to IC-71

2. Ensure that either the 0A or 0B Aux Building Exhaust Fan is in operation.

3. Verify that the RMS values for the appropriate channels agree with the surveillance paperwork.

4. Run SmartScenario file RA-4.ssf . This will enter indication for Noble gas trend for 1PR11J (1PB111) on RMS as ***4.684 E-06*** by entering in expert mode: ***ramp rmr1pr11b .00000486 .00000486 7200***

5. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist

6. This completes the setup for this JPM

Exelon Generation

INITIAL CONDITIONS

- You are the Unit 1 Assist NSO.
- A Unit 1 Containment release is pending.
- 1RE-PR011 is not in service and has been in LCOAR since beginning BCP preparations.
- Daily Channel Checks of 1RE-PR001 has been performed Satisfactory per 0BOSR 0.1-0.
- 1BOSR 11.b.6-1, Radioactive Gaseous Effluent Monitoring Instrumentation Surv. CNMT Purge Effluent (1(2)PR01J Source/Channel Check) has been completed

INITIATING CUE

You have been directed to perform Section 4 of BCP 400-ECNMT/ROUTINE in preparation for this release.

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: **6-9 and 12-13**

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:	JPM Sequence #: of
Task Standard: Candidate puts RMS into supervisor mode and selects monitor 1PB101, then Inputs Alert alarm setpoint of 3.14 E-04 and High Alarm setpoint of 5.86 E-04 per BCP 400-ECNMT/ROUTINE into the RMS system in preparation for a release.	

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE: To initiate this JPM, hand the partially completed BCP 400-ECNMT/ROUTINE and Pre-Release Permit Report to the examinee.					
1	Refer to the partially completed BCP 400-ECNMT/ROUTINE	REVIEW BCP 400-ECNMT/ROUTINE for completeness up to Section 4	☐	☐	___
2	Step 4.2.1.1 Complete daily channel checks	VERIFY/COMPLETE the daily channel check on 1RE-PR001	☐	☐	___
Cue: The daily channel check of 1RE-PR001 has been performed satisfactorily					
3	Step 4.2.1.2 Perform Source/Channel check	PERFORM the 1PR01J source/channel check	☐	☐	___
Cue: 1BOSR 11.b.6-1 has been completed and reviewed satisfactorily.					
4	Step 4.2.1.3 Noble gas trend for 1PR11J (1PB111)	VERIFY noble gas trend from 1PB111 has not increased by >10% from current reading on Gaseous Pre-release Permit Report	☐	☐	___
5	Step 4.2.1.4 “As Found” setpoints of 1RE-PR001	At the RMS, RECORD “As Found” setpoints of 1RE-PR001 Gas Channel: • High alarm setpoint • Alert alarm setpoint	☐	☐	___
***6**	Step 4.2.1.5 RMS supervisory mode	At the RMS: • PLACE RMS in Supervisory Mode by clicking on Mode Select Button	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***7**	Step 4.2.1.6 Select monitor	At the RMS, Grid 2: • SELECT 1PB101	☐	☐	___
***8**	Step 4.2.1.7 Select high alarm setpoint channel	At the RMS: • SELECT "Channel ITEMS" • SELECT "9"	☐	☐	___
***9**	Step 4.2.1.8-11 High alarm setpoint	At the RMS: • ENTER high alarm setpoint on 1PB101 **(5.86 E-04)** • SELECT "Save" • SELECT "Yes" • RECORD new value ◦ Request verification	☐	☐	___
CUE:	Your request for verification is acknowledged, please continue.				
NOTE:	The next steps repeat Steps 4.2.1.5-11 for the Alert Alarm setpoint.				
10	RMS supervisory mode NOTE: This step may be met per Step 6 above.	At the RMS: ○ VERIFY/PLACE RMS in Supervisory Mode by clicking on Mode Select Button	☐	☐	___
11	Select monitor NOTE: This step may be met per Step 6 above.	At the RMS, Grid 2: ○ VERIFY/SELECT 1PB101	☐	☐	___
***12**	Select Alert alarm setpoint channel	At the RMS: • VERIFY/SELECT "Channel ITEMS" • SELECT "10"	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***13**	Select Alert alarm channel	At the RMS: • ENTER Alert alarm setpoint on 1PB101 **(3.14 E-04)** • SELECT "Save" • SELECT "Yes" • RECORD new value ◦ Request verification	☐	☐	___
CUE:	Your request for verification is acknowledged, please continue.				
14	Step 4.2.1.13 Place the RMS in Normal Mode	At the RMS: • PLACE the RMS in NORMAL MODE by clicking on Mode Select Button	☐	☐	___
15	Step 4.3 Aux building exhaust fan status	At 0PM02J: • ENSURE the 0A OR 0B Aux Building Exhaust Fan is in operation	☐	☐	___
16	Turn in Package for approval	• Hand in Release package to unit Supervisor for approval.	☐	☐	___
CUE:	This JPM is complete.				

JPM Stop Time: _____

Exelon Generation

JPM SUMMARY

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

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

JPM Title: Change RM-11 Setpoints in Preparation for a Unit 1 Containment Release

JPM Number: RA-4-2-23 Revision Number: 1

Task Number and Title: Title: 4C.GW-01 PERFORM a Gaseous Release

Task Standard: Candidate puts RMS into supervisor mode and selects monitor 1PB101, then Inputs Alert alarm setpoint of 3.14 E-04 and High Alarm setpoint of 5.86 E-04 per BCP 400-ECNMT/ROUTINE into the RMS system in preparation for a release.

K/A Number and Importance: 2.3.5 Ability to use RMSs, such as fixed radiation monitors and alarms or personnel monitoring equipment. Importance: 2.9/2.9

Suggested Testing Environment: Simulator or Classroom

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

Reference(s):

Procedure: BCP 400-CNMT/ROUTINE Revision: 2

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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

- You are the Unit 1 Assist NSO.
- A Unit 1 Containment release is pending.
- 1RE-PR011 is not in service and has been in LCOAR since beginning BCP preparations.
- Daily Channel Checks of 1RE-PR001 has been performed Satisfactory per 0BOSR 0.1-0.
- 1BOSR 11.b.6-1, Radioactive Gaseous Effluent Monitoring Instrumentation Surv. CNMT Purge Effluent (1(2)PR01J Source/Channel Check) has been completed

INITIATING CUE

You have been directed to perform Section 4 of BCP 400-ECNMT/ROUTINE in preparation for this release.

ATTACHMENT 1:
Reactivity Maneuver Approval Cover Page
Page 1 of 1

Station: BYRON	Unit: 02	Cycle: XX	ReMA Plan #: BY2CXX-TH-04.0

Title of Reactivity Maneuver:

Generic Thumbrules

Purpose / Overview of Reactivity Maneuver:

The purpose of this ReMA is to serve as a foundation supporting small reactivity change estimates, which otherwise, may not be encompassed within more specific contingency or maneuver-specific ReMAs.

This ReMA contains pertinent reactivity data that may support day-to-day Unit Operations at Hot Full Power or at reduced power levels. Reactivity parameters contained within this ReMA were derived from Beacon core models at static steady state and while ramping the Unit at 3 MWe/min to reduced power levels. Achieving reduced power levels by alternate profiles do not significantly alter the ReMA's generic supportive intent. The overall focus of this ReMA is associated with maintenance of RCS Tave.

As a generic reactivity reference, this ReMA is anticipated to be active during the ReMA's assigned burnup window. Step 1 completion may be addressed upon ReMA termination.

Maneuver Steps (as Required):	
# 1	Provide predictive and compensatory reactivity estimates supporting Unit operation.

Burnup Valid from: 8500 EFPH	**Burnup Valid to:** 11000 EFPH

ReMA Preparer (QNE / Task Qualified RE):		**ReMA Reviewer (QNE):**	
Signature *Bill QNE*	Date *Today*	Signature *Joe QNE*	Date *Today*

RE Manager Approver:		**Authorized by (SRO):**	
Signature *Adam QNE*	Date *Today*	Signature *Sam SRO*	Date *Today*

NF RE Oversight Reviewer / Designee:			**ReMA Activated:**	**ReMA Terminated:**
Reviewed (Y) / N	*Adam QNE* Signature \ ☐ Verbal Approval	Date *Today*	*Sam SRO* *Today / - 8 hrs* Unit Supervisor \ Date / Time	Unit Supervisor \ Date / Time

Generic Issues / Assumptions:

1. The reference reactivity data contained within this ReMA does not model an exact maneuver; the reactivity data stems from steady state and at reduced power levels reached at 3 MWe/min from 10000 EFPH. Additional calculation assumptions are contained in Addendum A.

2. Addendum Tabular Interpolation and biased parameter adjustment by observed reactivity response remain acceptable.

3. Reference Attachment 5 with Unit One generic monitoring issues; reference ReMA binder OPEX Section supporting Reactivity Briefs. In particular, review INPO IER L2 15-29.

ATTACHMENT 2:
Reactivity Maneuver Guidance Sheet
Page 1 of 1

ReMA Step #:	1 of 1	ReMA Plan #: BY2CXX-TH-04.0

QNE Coverage Requirements:	☐ Required in Control Room ☐ Remote Monitoring ☒ None ☐ Required Onsite ☐ Per SM Instructions:

Initial Conditions: ☐ None (To be verified at the START of the step)

Parameter	Value or Range	✓	Parameter	Value or Range	✓
Reactor Power	100% to 4% RTP	✓			

Description of Step: Provide predictive and compensatory reactivity estimates supporting Unit operation.

1. **DETERMINE** the magnitude and direction of the RCS Tave change desired.
2. **REFERENCE** Addendum A for estimated reactivity need for the change desired.
3. **OBSERVE** PDMA02 Trends for expectant AO changes with changes in RCS Tave.
4. **DETERMINE** timeframe to implement changes with RCS Tave.
5. **PERFORM** method and magnitude of the reactivity change per Station Procedures.
6. **OBSERVE** resultant reactivity change upon RCS Tave.

Key Parameters: ☐ None ☒ See Attachment for Step (to be verified DURING the step)

Key Parameter Details			Limit(s) High / Low	Contingency Action
Key Parameter	Monitoring Details	Applicability		
RCS T_{ave}-T_{ref}	U8060	Turbine Online	(+/-) 4 °F	• **RESTORE** T_{ave}-T_{ref} within Limit per 2BGP 100-8 • **NOTIFY QNE**

ReMA Step Completed at: ***Today / - hours*** **(Date / Time)**

ATTACHMENT 3:
Reactor Engineer ReMA Issues and Tools

ReMA Plan #: BY2CXX-TH-04.0

Tools Used in Planning Evolution	Used (Yes / No)
Core monitoring system predictions	Yes
Work management schedule	No
Outstanding equipment issues which may impact the evolution	No
Xenon modeling software	Yes
B-10 depletion modeling software or B-10 sample data	Yes
Previous ReMA's from similar evolutions	Yes
RE shift log / OPs shift log	No
Rules of thumb / trend data	Yes
Cycle design documents (curvebook, physics manual, technical databook)	Yes
Technical Specification / COLR	Yes
Internal / External OPEX	Yes
Other:	

ReMA Issues and Considerations	Preparer Initials	Reviewer Initials
Power level for steps have been clearly defined	BQ	JQ
Equipment evolutions with potential to affect reactivity identified	BQ	JQ
Impact of material conditions issues evaluated	BQ	JQ
Adequate margin to fuel operating limits	BQ	JQ
Cycle design documents present no conflict to planned evolution	BQ	JQ
Fuel conditioning limits / ramp rates considered	BQ	JQ
Xenon transient has been evaluated for impact on evolution	BQ	JQ
ReMA steps have been developed based upon milestones or limiting conditions	BQ	JQ
Key parameters are identified for each step if mrplicable	BQ	JQ
Instrumentation or computer points are identified for monitoring Key parameters	BQ	JQ
Contingencies developed if initial conditions or Key parameters are not met or if target conditions cannot be achieved	BQ	JQ
Chemistry sampling points or frequencies have been identified if required	BQ	JQ
Boron / dilution volumes tables have been developed based upon CMS predictions	BQ	JQ
Rod insertion limits have been considered	BQ	JQ
Predictions have correct inputs and acceptable outputs	BQ	JQ
Contingencies for core monitoring system out of service	BQ	JQ
Attachment 2 and Attachment 5 of this T&RM are coordinated	BQ	JQ
Other:	BQ	JQ

ATTACHMENT 4:
Reactor Engineering's Key Parameter Checklist

ReMA Plan #: BY2CXX-TH-04.0

Parameter	Key Parameter (Y / N)	Applicable Step(s)	Preparer Initials	QNE Reviewer Initials
Power Level	N			
Fuel Conditioning Restrictions	N			
Ramp Rates	N			
Axial Offset / Axial Imbalance / Axial Shape Index	N			
Reactor Temperature / Program Deviation	Y	1	BQ	JQ
Control Rod Limitations	N			
Boration / Dilution Limitations	N			
Chemistry Restrictions	N			
Equipment Limitations	N			
Core Tilt	N			
Peaking Factors	N			
Bypass / Steam Dump Capability	N			
Feed / Auxiliary Feed / Emergency Feed Capability	N			
Pressurizer Level	N			
Pressurizer Heater Capability	N			
Charging / Letdown Capability	N			
Condenser Vacuum	N			
Dropped Rod Recovery Limitations	N			
Valve Testing Limitations (Turbine, MSIV, etc.)	N			
Technical Specification Requirement	N			
Xenon Inventory	N			
Steam Generator Pressure	N			
Heatup / Cooldown Rates	N			
Coastdown Limitations	N			
Environment Restrictions	N			
Failed Fuel Limitations	N			
Waste Processing Limitations	N			
Tank Inventory / Capacity	N			
Electrical Grid Considerations	N			
Instrumentation Setpoints	N			
Time	N			
Other:				

ATTACHMENT 5
Reactor Engineer's Evolution Plan / Guidance
Page 1 of 1

Station: BYRON	Unit: 02	Cycle: XX	ReMA Plan #: BY2CXX-TH-04.0

Burnup Valid from: 8500 EFPH	Burnup Valid to: 11000 EFPH

Purpose / Overview of Reactivity Maneuver:

The purpose of this ReMA is to serve as a foundation supporting small reactivity change estimates, which otherwise, may not be encompassed within more specific contingency or maneuver-specific ReMAs.

This ReMA contains pertinent reactivity data that may support day-to-day Unit Operations at Hot Full Power or at reduced power levels. Reactivity parameters contained within this ReMA were derived from Beacon core models at static steady state and while ramping the Unit at 3 MWe/min to reduced power levels. Achieving reduced power levels by alternate profiles do not significantly alter the ReMA's generic supportive intent. The overall focus of this ReMA is associated with maintenance of RCS Tave.

As a generic reactivity reference, this ReMA is anticipated to be active during the ReMA's assigned burnup window. Step 1 completion may be addressed upon ReMA termination.

Special Considerations:

Control of RCS Tave is based upon RCS Auctioneered High Tave.

ReMA Preparer (QNE / Task Qualified RE):		ReMA Reviewer (QNE):	
Signature *Bill QNE*	Date *Today*	Signature *Joe QNE*	Date *Today*

RE Manager Approver:	
Signature *Adam QNE*	Date *Today*

Guidance:

Activity #	Activity / Guidance	Key Evaluation (optional)	Actual Results (optional)	Activity Complete
1.A	Verify Qualifications & Review OPEX			
1.B	Verify continued applicability of Generic Issues and Assumptions			
1.C	Monitor Desired Control Bands and Key Parameters as stated in the ReMA			
1.D	Consider timing/changes with PDMA02 with timing/changes with RCS Tave			
1.E	IF ramping, monitor closely transition points such as: Rod Bank Overlaps, boration/dilution switchovers, and approaches towards RIL LO-1 as highlighted in alternate contingency ReMAs			

ATTACHMENT 6
ADDENDUM A
BY2CXX-TH-04.0

Thumbrules Burnup (EFPH): 10000
Utilized B10 Ratio (%): 18.282
RWST (ppm): 2350
BAST (ppm): 7450
DILUTION (gal) per 12-hour Shift: 260

Rated Thermal Power (%RTP)	**100**	**80**	**50**	**20**	**4**
RCS Boron Concentration (ppm)	488	502	499	463	423
Control Bank D Position (steps)	221	182	89	40	0
RCS Vessel Tave (F)	581.0	578.0	569.1	560.2	556.1
ITC (pcm/F)	-28.0	-25.7	-22.1	-19.3	-19.0
DBW (pcm/ppm)	-8.26	-8.29	-8.37	-8.47	-8.43
DRW (pcm/step)	3.7	4.9	9.3	8.8	6.5
Power Coefficient (pcm/%RTP)	-16.9	-16.9	-16.9	-16.9	-19.8
Boration (ppm) per 1F	3.39	3.10	2.64	2.28	2.25
Gallons BA per ppm (gallons)	9.44	9.35	9.36	9.30	9.24
Gallons BA per 1F	**32**	**29**	**25**	**21**	**21**
Gallons BA via RWST per ppm	35.3	35.2	35.2	34.4	33.7
Gallons RWST Boration per 1F	**120**	**109**	**93**	**78**	**76**
Dilution (ppm) per 1F	3.69	3.38	2.87	2.48	2.45
Gallons PW per ppm (gallons)	126.0	123.0	123.0	132.3	144.7
Gallons PW per 1F	**465**	**415**	**353**	**328**	**355**
Change in CBD per 1F (steps)	**7**	**5**	**2**	**2**	**3**
Change in %RTP per 1F (%RTP)	**1.44**	**1.35**	**1.11**	**0.92**	**0.89**
Change in MWe per 1F (MWe)	**17.47**	**16.46**	**13.46**	**11.20**	**N/A**

NOTE

The needed RCS Boron change (in ppm) supporting a 1 °F change in RCS Tave may be determined for Unit conditions from the Plant Process Computer "**Plant Displays**" menu selecting "**PDMS Inputs and Outputs**" and using the following equation:

Required RCS Boron Concentration (ppm) Change:
[ITC/DBW] ⇉ (PDMA22 / PDMA21) for normal BAST **boration**
[ITC/DBW] ⇉ [(PDMA22 / PDMA21) * (19.9% / B10 Ratio %)] for **dilution**; where the B10 Ratio may be used.

Computer point PDMA11 may be utilized to determine RCS Boron concentration. With these values determined and RCS Tave known, BCB-2 Table 3-1 may be consulted for boration/dilution batch size (gallons).

Xenon Worth Plant Process Computer Points are: PDMA17 and PDMC04. Ramp rate and fuel conditioning requirements are contained within procedure NF-AP-440.

Job Performance Measure

Evaluate a Reactivity Change

JPM Number: SA-1-01-23

Revision Number: 04

Date: 8/17/23

Developed By:	William Hines / William Hines /s/		8/17/23
	Instructor: Print / Sign		Date
Reviewed By:	Barry Mingus / Barry Mingus /s/		8/18/23
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / Austin Wilde/s/		8/24/23
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / Brian Lewin /s/		8/24/23
	Training Department: Print / Sign		Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

1. Task description and number, JPM description and number are identified. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

   Procedure: 1BOSR XPT-17 Revision: 5
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____

10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below:

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

Revision Record (Summary)

Revision 00 Initial revision of JPM

Revision 01 Revised JPM for modification of calculation

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

Revision 03 Updated Rema for Rev 7 of OP-AP-300-1004.

Revision 04 Modified JPM errors to make them independent of each other and not an error carried forward. Updated to current template

INITIAL CONDITIONS:

1. Unit 2 is at 50% power, 9100 EFPH, 500 ppm boron, with CB D at 89 steps, Tave and Tref matched.
2. 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.
3. The NSO has calculated a reactivity change to move rods, then 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

JPM Start Time:	JPM Sequence #: of

Task Standard:

The candidate reviews the Reactivity Change Determination Form and determines there are two errors: a transposition error under 'method and amount required for the reactivity change' of 2 steps vice 4 steps, and a procedure use error, where the candidate incorrectly calculates the value for boration using the RWST vice the BAST(93 gal/ºF vice 25 gal/ºF).

STEP	ELEMENT	STANDARD	SAT	UNSAT	CMT#
CUE	**Provide completed copy of OP-AP-300-1004 and a copy of the Unit 2 Rema thumbrules**				
EVALUATOR NOTE: These steps may be performed in any order.					
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**	<u>Part 1</u> Review Attachment 1 of OP-AP-300-1004 4 steps on Control Bank D will give a 2°F change in Tave that will need to be compensated for.	○ Station: Byron Unit: 2 ○ Desired change ○ Withdraw Rods 4 steps for PDMA02 control ○ Borate to lower Tave (2°F) to match Tref ○ Reason for change ○ PDMA02 control ○ Temperature control ○ What is the method & amount required for the reactivity change? • **2 steps withdrawal of CB D** ○ And a 186 gallon boration ○ Inputs ○ Rema thumbrules • *Identify that for the subsequent step, the RO records 2 steps instead of 4 based on a transposition with the 2°F.*	____	____	____
CUE:	**When examinee identifies the deficiency, direct them to review the rest of the calculations**				

***3**	Part 2 Review Attachment 1 of OP-AP-300-1004 **NOTE: Calculation of correct numbers is NOT required for success**	○ Calculation of change: ○ Withdrawal of CB D 4 steps raises temp 2°F • Then borate to lower temperature by 2F: **93 gal/°F** X 2F = **186 gal** • *Identify an incorrect thumbrule was used to calculation the magnitude of the boration. (Used RWST values instead of BA values (93Gal/Deg vs 25 Gal/Deg)*	____	____	____
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-1-01-23 Revision Number: 04

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 Knowledge of procedures, guidelines, or limitations associated with reactivity management

Importance 4.6

Suggested Testing Environment: Classroom

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

Reference(s):

Procedure: OP-AP-300-10041 Revision: 4

Procedure: Unit 2 Rema Thumbrules Revision: BY2CXX-TH-04.0

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:

3. Unit 2 is at 50% power, 9100 EFPH, 500 ppm boron, with CB D at 89 steps, Tave and Tref matched.
4. 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.
5. The NSO has calculated a reactivity change to move rods, then 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 4 steps for PDMA02 control
Borate to lower Tave (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 186 gallons of Boration

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 Demineralized Water for 1% Rod Insertion)

Withdrawal of control rods 4 steps raises temp 2°F.
Then borate to lower temperature by 2°F: 93 gals/°F x (2°F) = 186 gals boration.

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

Shift Manager Notified: Yes No

Exelon Generation

Job Performance Measure

Perform a Manual Safety Assessment (Shutdown)

JPM Number: SA-2-1-23

Revision Number: 02

Date: 6/19/23

Developed By:	Barry Mingus / Barry Mingus /s/		6/19/23
	Instructor: Print / Sign		Date
Reviewed By:	William Hines / William Hines /s/		6/19/23
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / Austin Wilde/s/		6/19/23
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / Brian Lewin /s/		7/31/23
	Training Department: Print / Sign		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.

BM	1.	Task description and number, JPM description and number are identified.
BM	2.	Knowledge and Abilities (K/A) references are included.
BM	3.	Performance location specified. (in-plant, control room, simulator, or other)
BM	4.	Initial setup conditions are identified.
BM	5.	Initiating cue (and terminating cue if required) are properly identified.
BM	6.	Task standards identified and verified by SME review.
BM	7.	Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
BM	8.	If an alternate path is used, the task standard contains criteria for successful completion.
BM	9.	Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure OU-AP-104 Rev: 29 Procedure _____ Rev: _____ Procedure _____ Rev: _____
BM	10.	Verify cues both verbal and visual are free of conflict.
BM	11.	Verify performance time is accurate
BM	12.	If the JPM cannot be performed as written with proper responses, then revise the JPM.
BM	13.	When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

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

Revision Record (Summary)

Revision 00, This JPM developed/modified from LORT Bank JPM S013 revision 4. Additional items marked for current revision of OU-AP-104 on Attachment 1. Initial Configurations modified to obtain an Orange result for Reactivity Control and for Shutdown Cooling and a Red result for Inventory Control. Applied new template TQ-AA-150-J020

Revision 01 This JPM has been modified from administration as 2018 Certification Exam JPM SA-1. This JPM has been modified by making the following changes:

- The initial conditions have changed.
- The change of conditions has created new safety function status.

JPM number format has been revised to better track JPMs as opposed to changing letter designations based on where placed sequentially on ES-301 forms. Added a Task Performance Standard. Verified/ updated KAs and TPOs to current revision. Updated the referenced procedure.

Revision 02 JPM clarified to provide better operational validity.
Overall strategy of the JPM maintained.

JPM SETUP INSTRUCTIONS

1. This is an Administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.
2. Verify current revisions of the following information is available for JPM performance:
   - OU-AP-104, SHUTDOWN SAFETY MANAGEMENT PROGRAM BYRON / BRAIDWOOD ANNEX
3. ENSURE the following is available during performance of the JPM:
   - OU-AP-104, SHUTDOWN SAFETY MANAGEMENT PROGRAM BYRON / BRAIDWOOD ANNEX
4. ENSURE the following between performances of the JPM:
   - New clean procedure copies for examinee to work from during performance
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are an extra Senior Reactor Operator.

- Unit 2 is in Mode 6.
- The conoseals are open (broken) for head venting.
- Containment is intact.
- RX Vessel Level is stable at 398.5'.
- Time to SFP Boil is 20.3 hours.
- Preparations in progress to lift the RX Head.
- Switchyard activities are NOT allowed.
- Bus 241 is faulted and cannot be re-energized.
- Unit 0 Component Cooling Pump is unavailable.
- PARAGON is unavailable.

INITIATING CUE

You have been handed a partially completed OU-AP-104, SHUTDOWN SAFETY MANAGEMENT PROGRAM BYRON / BRAIDWOOD ANNEX, Attachment 1, and have been requested to perform a manual assessment to determine the Unit Overall Safety Level.

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

Information For Evaluator's Use:

Task Performance Standard: Applicant performs a Manual Safety Assessment per OU-AP-104 and determines the correct Overall Unit Status by evaluating each Safety Function Status. The applicant will need to perform an assessment of each Safety Function to ensure no Red status occurs AND identify at least 1 of 2 Orange Safety Function Status to achieve an Overall Unit Status of Orange.

UNSAT requires written comments on respective step.

* Denotes critical steps: **1, (11 or 15), and 36**

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:	JPM Sequence #: of

Task Standard:

The candidate performs an assessment of each Safety Function; determines no Red status exists, that two safety functions are orange per the key, and an Overall Unit Status of Orange.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	**Provide applicant a copy of OU-AP-104, Attachment 1**				
CUE	**Provide applicant a copy of OU-AP-104, SHUTDOWN SAFETY MANAGEMENT PROGRAM BYRON / BRAIDWOOD ANNEX.**				
***1**	Determine current plant configuration. from OU-AP-104 Attachment 9, Figure 1.	Determine: • Mode 6 • RCS Volume: ≤ 415 ft Cav (M6) L • RCS Status: Vented • Use Configuration 4	___	___	___
CUE	**(If asked): The RX Head has NOT been lifted. Bolts have been removed.**				
2	Perform Manual Safety Assessment: Reactivity; from OU-AP-104 Attachment 9, Configuration 4.	**Safety Assessment: Reactivity** Determine Reactor Vessel Head on Vessel Flange? ○ Yes	___	___	___
3	Perform Manual Safety Assessment: Reactivity; from OU-AP-104 Attachment 9, Configuration 4.	Determine Source Range Channels Available: ○ 2 for NI's or PAM's.	___	___	___
4	Perform Manual Safety Assessment: Reactivity; from OU-AP-104 Attachment 9, Configuration 4.	Determine SDM: ○ Y	___	___	___
5	Perform Manual Safety Assessment: Reactivity; from OU-AP-104 Attachment 9, Configuration 4.	Determine CV Trains Number Available: ○ 1 (B Train only available)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6	Perform Manual Safety Assessment: Reactivity; from OU-AP-104 Attachment 9, Configuration 4.	Determine Reactivity Risk: ○ GREEN	___	___	___
7	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: ○ Check Reactivity Control Box - Green	___	___	___
8	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4.	**Safety Assessment: Shutdown Cooling** Determine M6 with Rx Cavity ≥ 415' • N	___	___	___
9	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine RH Trains with Suction from RWST Number Available: • 1 (B Train only available)	___	___	___
10	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Feed & Bleed Available: • Y	___	___	___
NOTE:	The applicant only needs to identify ONE of the Orange Safety Function Status in Step 11 or 15 to successfully determine the Overall Status and satisfy the Task Standard for this JPM.				
***11**	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Shutdown Cooling Risk: • ORANGE	___	___	___
12	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: • Check Shutdown Cooling Box - Orange	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
13	Perform Manual Safety Assessment: Inventory Control; from OU-AP-104 Attachment 9, Configuration 4	**Safety Assessment: Inventory Control** Determine RH Trains with Suction from RWST Number Available: • 1 (B Train only available)	___	___	___
14	Perform Manual Safety Assessment: Inventory Control; from OU-AP-104 Attachment 9, Configuration 4	Determine CV/SI Pumps Number Available: • 2 (B Train only available – 1 CV Pump and 1 SI Pump)	___	___	___
***15**	Perform Manual Safety Assessment: Inventory Control; from OU-AP-104 Attachment 9, Configuration 4	Determine Inventory Control Risk: • ORANGE	___	___	___
16	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: • Check Inventory Control Box - Orange	___	___	___
17	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4.	**Safety Assessment: Spent Fuel Pool Cooling** Determine Time to 200F > 72 Hours ○ N	___	___	___
18	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine SFP Trains Number Available: ○ 2 (Powered from Non-ESF Buses)	___	___	___
19	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Inventory Control Trains Number Available: ○ $\geq$ 2	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
20	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Spent Fuel Pool Cooling Risk: ○ GREEN	___	___	___
21	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: ○ Check Fuel Pool Cooling Box - Green	___	___	___
22	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4.	**Safety Assessment: Electrical Power Control** Determine Switchyard Activities I/P OR LOOP HRE in effect ○ N (Per Initial cue turnover)	___	___	___
23	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Offsite Power Sources Number Available: ○ 2 (Switchyard intact and both SATs Operable)	___	___	___
24	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Outage Unit AC Divisions Number Available: ○ 1 (B Train only available)	___	___	___
25	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Outage Unit Diesel Generator Number Available: ○ 1 (B only available)	___	___	___
26	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Instrument Bus: ○ 2 Operable (Instrument Buses 112 & 114)	___	___	___
27	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Electrical Power Control Risk: ○ YELLOW	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
28	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: ○ Check Electrical Power Control - Yellow	___	___	___
29	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4.	**Safety Assessment: Containment** Determine Containment Intact ○ Y (Per Initial cue turnover)	___	___	___
30	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Containment Risk: ○ GREEN	___	___	___
31	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: ○ Check Containment - Green	___	___	___
NOTE:	The opposite units SX System can be credited as a train of SX for the Outage Unit if both of the SX pumps are AVAILABLE and capable of being cross tied. The 1 + 1 availability is defined as only 1 opposite unit SX train both Available and capable of being cross tied concurrent with only 1 Outage Unit SX pump being available.				
32	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4.	**Safety Assessment: Vital Systems** Determine SX Trains Number Available: • ≥ 2	___	___	___
33	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine CC Trains Number Available: • 1 (B Train only available)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
34	Perform Manual Safety Assessment: Shutdown Cooling; from OU-AP-104 Attachment 9, Configuration 4	Determine Vital Systems Risk: • YELLOW	___	___	___
35	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Safety Function Status by Functional Category: • Check Vital Support Systems Box - Yellow	___	___	___
***36**	CHECK the appropriate box on page 2 of Attachment 1, Shutdown Safety Equipment Status Checklist.	Overall Unit Status: • Check Box - ORANGE	___	___	___
NOTE	Candidate may request 1BOA PRI10 to continue the procedure. In that event, acknowledge the request and end the JPM				
CUE	This JPM is complete.				

JPM Stop Time: _____

JPM SUMMARY

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

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

JPM Title: Perform a Manual Safety Assessment (Shutdown)

JPM Number: SA-2-1-23 Revision Number: 01

Task Number and Title: 8E.AM-182 PERFORM Shutdown Risk Evaluation

Task Standard: The candidate performs an assessment of each Safety Function; determines no Red status exists, that two safety functions are orange per the key, and an Overall Unit Status of Orange.

K/A Number and Importance: 2.1.23, Ability to perform general and/or normal operating procedures during any plant condition importance 4.4

Suggested Testing Environment: Classroom

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

Reference(s): Procedure OU-AP-104 Rev: 28

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 40 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**: _____

Outage Unit (check one): ☐ Unit 1 ☐ Unit 2 ✕

The equipment designated below, is in the indicated state (circle applicable):

KEY

EQUIPMENT	TRAIN A			TRAIN B		
RH	OP	Avail	**Unavail**	**OP**	Avail	Unavail
CV	OP	Avail	**Unavail**	OP	**Avail**	Unavail
SI		Avail	**Unavail**		**Avail**	Unavail
AF		Avail	**Unavail**		Avail	**Unavail**
SX Outage Unit	OP	Avail	**Unavail**	**OP**	Avail	Unavail
SX Opp Unit	**OP**	Avail	Unavail	OP	**Avail**	Unavail
DG this Unit	OP	Avail	**Unavail**	OP	**Avail**	Unavail
DG opposite Unit (including Xtie BKRS)	OP	Avail	**Unavail**	OP	**Avail**	Unavail
Source Range Channels	**OP**	Avail	Unavail	**OP**	Avail	Unavail
Gamma Metrics Channels		Avail	**Unavail**		Avail	**Unavail**
125 VDC (including Battery)	OP	**Avail**	Unavail	**OP**	Avail	Unavail
FHB Fans	OP	Avail	**Unavail**	**OP**	Avail	Unavail
CC		Avail	**Unavail**		**Avail**	Unavail
Pressurizer PORVs/Blocks	OP	Avail	**Unavail**	OP	**Avail**	Unavail

Instr. Busses	211	212	213	214
With Inverter	OP **Avail** Unavail	**OP** Avail Unavail	OP **Avail** Unavail	**OP** Avail Unavail
CVT'S	Avail **Unavail**	**Avail** Unavail	Avail **Unavail**	**Avail** Unavail
	A	B	C	D
Steam Generator	Avail **N/A**	Avail **N/A**	Avail **N/A**	Avail **N/A**
Stm Gen PORV	Avail **N/A**	Avail **N/A**	Avail **N/A**	Avail **N/A**
RCFCs	Avail **Unavail**	**Avail** Unavail	**Avail** Unavail	Avail **Unavail**

RWST	Level >10% **Yes** No	
SDM	**Met (Avail)** Not Met (Unavail)	
SFP Make up trains available	1 2 3 **4**	
	Unit 1	Unit 2
FC Loops	**Avail** Unavail	**Avail** Unavail
System Aux. Transformers	**Avail** Unavail	**Avail** Unavail

KEY

Exelon Generation

KEY

Equipment Hatch Status (check one):

☒ Interlocks Installed ☐ 1 Door Closed ☐ Both Doors Open ☐ Removed

Emergency Hatch Status (check one):

☒ Interlocks Installed ☐ 1 Door Closed ☐ Both Doors Open

RWST Level >10% ☒ Yes ☐ No

If RWST boron concentration is less than the COLR limits for Mode 6 **then ENTER** BOL / BwOL 3.9.2 as applicable.

Switchyard Activities (check one): ☐ In Progress ☐ Permitted ☒ Not Permitted

Time to RCS Boil: 11 (min) / hrs (circle)

Time to Core Uncovery: 2.25 hours

Source (check one): ☐ Paragon ☒ Graphs

Safety Function Status by Functional Category (check one):

Reactivity Control	☐ Red	☐ Orange	☐ Yellow	☒ Green
Shutdown Cooling	☐ Red	☒ Orange	☐ Yellow	☐ Green
Inventory Control	☐ Red	☒ Orange	☐ Yellow	☐ Green
Fuel Pool Cooling	☐ Red	☐ Orange	☐ Yellow	☒ Green
Electric Power Control	☐ Red	☐ Orange	☒ Yellow	☐ Green
Containment	☐ Red	☐ Orange	☐ Yellow	☒ Green
Vital Support Systems	☐ Red	☐ Orange	☒ Yellow	☐ Green

Overall Unit Status (Least Desirable Key Safety Function Level):

☐ Red ☒ Orange ☐ Yellow ☐ Green

KEY

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

INITIAL CONDITIONS

You are an extra Senior Reactor Operator.

- Unit 2 is in Mode 6.
- The conoseals are open (broken) for head venting.
- Containment is intact.
- RX Vessel Level is stable at 398.5’.
- Time to SFP Boil is 20.3 hours.
- Preparations in progress to lift the RX Head.
- Switchyard activities are NOT allowed.
- Bus 241 is faulted and cannot be re-energized.
- Unit 0 Component Cooling Pump is unavailable.
- PARAGON is unavailable.

INITIATING CUE

You have been handed a partially completed OU-AP-104, SHUTDOWN SAFETY MANAGEMENT PROGRAM BYRON / BRAIDWOOD ANNEX, Attachment 1, and have been requested to perform a manual assessment to determine the Unit Overall Safety Level.

Job Performance Measure

Determine Post-Maintenance Testing Requirements

JPM Number: SA-3-1-23

Revision Number: 6

Date: 3/30/2022

Developed By:	Barry Mingus / *Barry Mingus /s/*		6/16/2023
	Instructor: Print / Sign		Date
Reviewed By:	Barry Mingus / *Barry Mingus /s/*		6/16/2023
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / *Austin Wilde /s/*		6/16/2023
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / *Brian Lewin /s/*		7/31/2023
	Training Department: Print / Sign		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. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   - Procedure: BAP 1600-11 Revision: 17
   - Procedure: BAP 1600-11A1 Revision: 26
   - Procedure: BAP 1600-11A2 Revision: 10
   - Procedure: MA-AA-716-012 Revision: 27
   - Procedure: 1BOL 7.7 Revision: 10
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. BH
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

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

Revision Record (Summary)

Revision #	Summary
03	Modified from SAc administered on the 2016 Certification Exam. Revised component requiring PMT determination from AOV 1RY8028 to MOV 1CC9412B, 1B RH CC Outlet Isol Vlv and identified procedures required to satisfy PMT. Updated task number to Vision task number. Applied new template TQ-AA-150-J020.
04	This JPM was previously utilized on 2019-1 NRC Exam as SA-3. JPM number format revised to better track JPMs as opposed to changing letter designations based on where placed sequentially on ES-301 forms. Updated referenced procedures and test designations to current revisions.
05	Updated referenced procedures and test designations to current revisions. Applied new template TQ-AA-150-J020.
06	Modified to 1CC9413A which adds in a required containment isolation valve LLRT.

JPM SETUP INSTRUCTIONS

1. This is an Administrative JPM that may be performed in any setting where the necessary procedures and support information/materials can be provided.
2. Verify current revisions of the following information marked up and is available for JPM performance:
   - 1BOL 7.7, 1BOL 7.7, LCOAR COMPONENT COOLING WATER (CC) SYSTEM TECH SPEC LCO # 3.7.7, marked up as designated for JPM performance through Section E.
3. Verify current revisions of the following information is available for JPM performance:
   - BAP 1600-11, WORK REQUEST POST MAINTENANCE TESTING (PMT) GUIDANCE.
   - BAP 1600-11A1, WORK ORDER TESTING REQUIREMENTS.
   - BAP 1600-11A2, WORK ORDER TESTING GENERAL GUIDANCE (Special Programs).
   - MA-AA-716-012, POST MAINTENANCE TESTING.
4. ENSURE computer with LAN access to perform HPI search is available
5. ENSURE the following between performances of JPM:
   - HPI Search Parameters cleared.
   - Clear recent documents from computer.
   - On computer that can access the Internet, open Internet Explorer, under Tools tab, Delete Browsing History and verify/close EDMS program(s).
6. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Unit Supervisor.

- The torque switch for valve 1CC9413A, CC to U-1 RC PPS 1st ISOL VLV was not controlling the valve's actuator correctly.
- The valve was taken Out of Service for a torque switch adjustment.
- The maintenance is complete, and the clearance has been lifted.
- Passport is unavailable.

INITIATING CUE

The Shift Manager has directed you to determine the Post Maintenance Testing requirement(s) to demonstrate LCOAR restoration by completing 1BOL 7.7 Section E.1.

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. **6, 7, 8 & 9**

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

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard: Candidate evaluates Post Maintenance Testing requirement(s) for restoration of 1CC9413A per BAP 1600-11, BAP 1600-11A1, BAP 1600-11A2, and MA-AA-716-012 determining that a stroke time test, a control room functional stroke, Static Diagnostic Test and a leak rate test are required, at a minimum, to satisfy the procedure requirements for restoration of the valve to Operability.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE: To initiate this JPM, Provide the applicant with a copy of LCOAR 1BOL 7.7 filled out up to Section E, Restoration. The candidate may desire to log into Passport to assist in determining PMT requirements. From Initiating Cue, Passport is unavailable. PMT procedures will be provided. HPI may be utilized to obtain/identify procedures for PMT determination.					
1	Review LCOAR 1BOL 7.7 to determine reason for LCOAR entry.	○ Review LCOAR package for completion	☐	☐	___
NOTE: Step 2 may be completed at any time.					
2	Refer to BAP 1600-11, Work Request Post Maintenance Testing (PMT) Guidance.	• LOCATE and OPEN BAP 1600-11. • LOCATE and OPEN BAP 1600-11A1. • LOCATE and OPEN BAP 1600-11A2 • LOCATE and OPEN MA-AA-716-012.	☐	☐	___
NOTE: The applicant may refer to BAP 1600-11A1, Work Order Testing Requirements, and/or BAP 1600-11A2, Work Order Testing General Guidance (Special Programs).					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
3	Refer to BAP 1600-11A1, Work Order Testing Requirements (page 4 of 49) to determine 1CC9413A PMT requirements.	• Determines the following post-maintenance IST/Appendix J tests are required: • IST Valve Exercise Test (EXTST) • Position Indication Test (PIT) • Local Leak Rate Test (LLRT)	☐	☐	___
4	Refer to BAP 1600-11A2, Work Order Testing General Guidance (Special Programs), (pages 6 and 7 of 11) to determine 1CC9413A torque switch adjustment PMT requirements.	• Determines the following post-maintenance IST/Appendix J tests are required: • Step 12, IST Valve Exercise Test (EXTST) • Step 15, IST Valve Position Indication Test (PIT) • Step 16, Local Leak Rate Test (LLRT)	☐	☐	___
5	Refer to MA-AA-716-012 Attachment 2, MOV Post Maintenance Test Matrix, (pages 53 and 54) to determine 1CC9413A torque switch adjustment PMT requirements.	• Determines the following post-maintenance tests are required: • Control Room Functional Stroke. • Static Diagnostic Test • LLRT • OPS IST Operability Stroke Time Test.	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	HPI search may be utilized to execute a search via LAN computer to determine applicable Surveillance procedure following determination of the types of tests to perform. The critical portion is the identification of the type of test to perform. The selected BOSRs included as open bullets are examples the applicant may choose to satisfy the type of test specified.				
***6**	Indicate in 1BOL 7.7, LCOAR Component Cooling Water (CC) System Tech Spec LCO # 3.7.7, Section E.1, Restoration, the required testing before 1CC9413A can be declared OPERABLE	Records the following in 1BOL 7.7, Section E.1: • Stroke Time Test (STT) ○ 1BOSR 6.3.5-18, UNIT ONE 1CC9414, 1CC9416, 1CC685, 1CC9438, 1CC9413A, AND 1CC9415 STROKE TIME AND POSITION INDICATION TEST	☐	☐	___
***7**	Indicate in 1BOL 7.7, LCOAR Component Cooling Water (CC) System Tech Spec LCO # 3.7.7, Section E.1, Restoration, the required testing before 1CC9412B can be declared OPERABLE	Records the following in 1BOL 7.7, Section E.1: • Position Indication Test (PIT) ○ 1BOSR 6.3.5-18, UNIT ONE 1CC9414, 1CC9416, 1CC685, 1CC9438, 1CC9413A, AND 1CC9415 STROKE TIME AND POSITION INDICATION TEST	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***8**	Indicate in 1BOL 7.7, LCOAR Component Cooling Water (CC) System Tech Spec LCO # 3.7.7, Section E.1, Restoration, the required testing before 1CC9413A can be declared OPERABLE	Records the following in 1BOL 7.7, Section E.1: • Control Room Functional Stroke. ○ 1BOSR 6.3.5-18, UNIT ONE 1CC9414, 1CC9416, 1CC685, 1CC9438, 1CC9413A, AND 1CC9415 STROKE TIME AND POSITION INDICATION TEST ○ 1BOSR 6.1.1-12, UNIT ONE PRIMARY CONTAINMENT TYPE C LOCAL LEAKAGE RATE TESTS AND IST TESTS OF COMPONENT COOLING SYSTEM	☐	☐	___
***9**	Indicate in 1BOL 7.7, LCOAR Component Cooling Water (CC) System Tech Spec LCO # 3.7.7, Section E.1, Restoration, the required testing before 1CC9413A can be declared OPERABLE	Records the following in 1BOL 7.7, Section E.1: • Local Leak Rate Test. ○ 1BOSR 6.1.1-12, UNIT ONE PRIMARY CONTAINMENT TYPE C LOCAL LEAKAGE RATE TESTS AND IST TESTS OF COMPONENT COOLING SYSTEM	☐	☐	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
10	Indicate in 1BOL 7.7, LCOAR Component Cooling Water (CC) System Tech Spec LCO # 3.7.7, Section E.1, Restoration, the required testing before 1CC9413A can be declared OPERABLE	Records the following in 1BOL 7.7, Section E.1: • Static Diagnostic Test			
NOTE:	**It is acceptable to document the procedures to be used if all required items are covered. If the applicant lists procedures instead of tests, the needed procedures would be:** • **1BOSR 6.3.5-18 (PIT, STT)** • **1BOSR 6.1.1-12 (LLRT and will complete the 2-stroke functional)** ○ **ER-AA-302-1008 (applicable portions for Static Diagnostic Test)**				
CUE:	**This JPM is complete.**				

JPM Stop Time: _____

JPM SUMMARY

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

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

JPM Title: Determine Post-Maintenance Testing Requirements

JPM Number: SA-3-1-23 Revision Number: 05

Task Number and Title: 8E.AM-141, VERIFY post-maintenance operability of safety-related equipment

Task Standard: Candidate evaluates Post Maintenance Testing requirement(s) for restoration of 1CC9413A per BAP 1600-11, BAP 1600-11A1, BAP 1600-11A2, and MA-AA-716-012 determining that a stroke time test, a control room functional stroke, Static Diagnostic Test and a leak rate test are required, at a minimum, to satisfy the procedure requirements for restoration of the valve to Operability.

K/A Number and Importance: 2.2.21, Knowledge of pre- and post-maintenance operability requirements importance 4.1

Suggested Testing Environment: Classroom

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

Reference(s):

Procedure:	BAP 1600-11	Revision:	17
Procedure:	BAP 1600-11A1	Revision:	26
Procedure:	BAP 1600-11A2	Revision:	10
Procedure:	MA-AA-716-012	Revision:	27
Procedure:	1BOL 7.7	Revision:	9

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 30 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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

You are the Unit Supervisor.

- The torque switch for valve 1CC9413A, CC to U-1 RC PPS 1st ISOL VLV was not controlling the valve's actuator correctly.
- The valve was taken Out of Service for a torque switch adjustment.
- The maintenance is complete, and the clearance has been lifted.
- Passport is unavailable.

INITIATING CUE

The Shift Manager has directed you to determine the Post Maintenance Testing requirement(s) to demonstrate LCOAR restoration by completing 1BOL 7.7 Section E.1.

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

Exelon Generation

Job Performance Measure

Review Containment Release package in preparation for a Unit 1 Containment Release

JPM Number: SA-4-1-23

Revision Number: 08

Date: 6/15/21

Developed By:	Barry Mingus / Barry Mingus /s/		6/12/23
	Instructor: Print / Sign		Date
Reviewed By:	William Hines / William Hines /s/		6/19/23
	SME or Instructor: Print / Sign		Date
Reviewed By:	Austin Wilde / Austin Wilde /s/		6/19/23
	Operations Representative: Print / Sign		Date
Approved By:	Brian Lewin / Brian Lewin /s/		7/31/23
	Training Department: Print / Sign		Date

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

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. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: BCP 400-ECNMT/ROUTINE Revision: 2
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

Barry Mingus / Barry Mingus /s/		6/14/23
SME / Instructor (Print/Sign)		Date
_____ / _____		_____
SME / Instructor (Print/Sign)		Date
_____ / _____		_____
SME / Instructor (Print/Sign)		Date

Exelon Generation

Revision Record (Summary)

Revision #	Summary
04	Applied new template TQ-JA-150-02 Rev.1 Verified/ updated KAs and TPOs to current revision Changed Non Licensed Operator to Equipment Operator
05	Revised to SRO Only review of containment release prior to approval
06	Applied new template TQ-AA-150-J020 to JPM SA-3 from 2012 NRC Exam. Removed simulator setup instructions – administrative JPM can be performed in classroom. Added cue for the 0A Aux. Bldg. Exhaust Fan in operation Updated task to VISION nomenclature Revised procedure revision.
07	Revised to update due to new revision of procedure from BCP 400-TCNMT/ROUTINE to BCP 400-ECNMT/ROUTINE. JPM number format has been revised to better track JPMs as opposed to changing letter designations based on where placed sequentially on ES-301 forms. Added a Task Performance Standard. Verified/ updated KAs and TPOs to current revision. Updated the referenced procedures to the current revisions. Revised the set-up instructions to reflect the changes to include date changes to data sheet to make current.
08	Updated to newest revisions of JPM template and procedures. Updated handouts to current year.

Exelon Generation

JPM SETUP INSTRUCTIONS

1. This is an administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.
2. Verify current revisions of the following information is available for the JPM performance:
   - BCP 400-ECNMT/ROUTINE
3. ENSURE the following is available during performance of the JPM:
   - BCP 400-ECNMT/ROUTINE partial completed handout
4. ENSURE the following between performances of the JPM:
   - New clean procedure copies for candidate to work from during performance
5. This completes the setup for this JPM.

Exelon Generation

INITIAL CONDITIONS

You are the Unit 1 Unit Supervisor.

- A Unit 1 Containment release is pending.
- 1PR11J is inoperable.
- The Unit has been at 100% power and stable for the past 72 hours

INITIATING CUE

You have been instructed to review Sections 1 through 4 and perform Section 5 to approve the release per BCP 400-ECNMT/ROUTINE

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: **2, 3 & 5**

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:	JPM Sequence #: of

Task Standard:

Candidate does not approve the release after determining step 4.2.1.11 number doesn't match section 2.7 and that the signature is missing in Section 3, page 5.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	To initiate this JPM, hand the partially completed BCP 400-ECNMT/ROUTINE to the candidate. Evaluation of the RETDAS/Release Permit and 1BOSR 11.b.6-1; Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance are NOT included in the Task Standard and do NOT need to be reviewed. If the candidate asks, then provide the CUE following Performance Step 1. Examine may start with section 5 first (step 4 below), then continue with review of previous sections.				
1	Refer to the partially completed BCP 400-ECNMT/ROUTINE	○ REVIEW BCP 400-ECNMT/ROUTINE for completeness up to Section 3	___	___	___
CUE	**(if asked) Section 2 has been verified along with the RETDAS Gaseous Release Rate printouts.**				
CUE	**(if asked) The isotopic printout and the RP-BY-900-OH3BUBBLER have been verified unit specific, and the stop time verified appropriate (3.1 first two bullets are complete)**				
NOTE:	The candidate should determine the release cannot occur until the missing signature is resolved.				
***2**	Notices signature missing in Section 3, page 5	• Notices 'Reviewed by' signature line is NOT signed and dated	___	___	___
NOTE:	The candidate as an SRO may elect to sign Section 3 and continue. This is acceptable.				
CUE	***If candidate returns the paperwork for signature*, acknowledge the error and request further review for accuracy.**				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	The candidate should determine the release cannot proceed during subsequent step due to setpoint number transposition and proceed to performance of JPM step 5.				
***3**	Reviews Section 4	• REVIEW BCP 400-ECNMT/ROUTINE for completeness of Section 4 • Determine Step 4.2.1.11 number doesn't match section 2.7 (8.56 E-4 versus 5.86 E-4 µCi/cc)	___	___	___
CUE	**(If asked to confirm 1PB101 HIGH Alarm Setpoint) Provide screen shot of RMS showing current 1PB101 HIGH Alarm Setpoint is 8.56E-4 µCi/cc.**				
CUE	**(If asked) The Unit 2 Supervisor has verified that the 0A Aux. Bldg. Exhaust Fan is in operation.**				
4	Performs Section 5:	○ Determines that the first paragraph is satisfied. ○ Determines that "containment release" placard must be placed on 0PM02J ○ Determines that 1BOSR 11.b.6-1 must be completed and reviewed	___	___	___
CUE	**(If asked) The unit NSO will place the placard.**				
CUE	**(If asked) The Unit 2 Supervisor has verified 0BOSR 0.1-0 and 1BOSR 11.b.6-1 are complete and have been reviewed.**				
***5**	Does NOT approve the release	• Determines that the release should NOT be approved.	___	___	___
CUE	This JPM is complete.				

Exelon Generation

JPM SUMMARY

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

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

JPM Title: Review Containment release package in preparation for a Unit 1 Containment Release

JPM Number: RA-4-01-0 Revision Number: 08

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

Task Standard: Candidate does not approve the release after determining step 4.2.1.11 number doesn't match section 2.7 and that the signature is missing in Section 3, page 5.

K/A Number and Importance: 2.3.6, Ability to approve liquid or gaseous release permits Importance 3.8

Suggested Testing Environment: Classroom

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

Reference(s):

Procedure: BCP 400-ECNMT/ROUTINE Revision: 02

Procedure: _____ Revision: _____

Procedure: _____ Revision: _____

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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

You are the Unit 1 Unit Supervisor.

- A Unit 1 Containment release is pending.
- 1PR11J is inoperable.
- The Unit has been at 100% power and stable for the past 72 hours

INITIATING CUE

You have been directed to review Sections 1 through 4 and perform Section 5 to approve the release per BCP 400-ECNMT/ROUTINE

Note: fields required to satisfy the task standard are highlighted in yellow.

NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM

OR ELECTRONIC FACSIMILE

UTILITY MESSAGE NO. 3 **STATE MESSAGE NO.** n/a

1. STATUS
[A] ACTUAL
[X] DRILL/EXERCISE

2. STATION
[A] BRAIDWOOD [C] CLINTON [E] LASALLE
[X] BYRON [D] DRESDEN [F] QUAD CITIES

3. ONSITE CONDITION
[A] UNUSUAL EVENT
[B] ALERT
[C] SITE AREA EMERGENCY
[X] GENERAL EMERGENCY
[E] RECOVERY
[F] TERMINATED

4. ACCIDENT CLASSIFIED
TIME (3[A-E]): current time
DATE (3[A-E]): Today
EAL#: FG1

ACCIDENT TERMINATED
TIME (3[F]): n/a
DATE (3[F]): n/a

5. RELEASE STATUS **6. TYPE OF RELEASE**
[A] NONE ⟷ [A] NOT APPLICABLE
[X] OCCURRING ⟷ [X] GASEOUS
[C] TERMINATED ⟷ [C] LIQUID

7. WIND DIR
193
(DEGREES FROM)

8. WIND SPEED
[A] METERS/SEC.: n/a
[X] MILES/HR.: 8.6

9. RECOMMENDED ACTIONS

UTILITY RECOMMENDATION
[A] NONE (UE, Alert and SAE Only)

---------- (General Emergency Only) ----------
[B] SHELTER ILLINOIS SUB-AREAS: _____
[C] SHELTER IOWA SUB-AREAS: _____
[X] EVACUATE ILLINOIS SUB-AREAS: sub-areas: 17, 19, 23
[E] EVACUATE IOWA SUB-AREAS: _____
AND
ADVISE THE REMAINDER OF THE 10 MILE EPZ TO MONITOR AND PREPARE
AND
FOR ILLINOIS ONLY, CONSIDER JIC ADVISORY WITH POTASSIUM IODIDE (KI) STATEMENT IN ACCORDANCE WITH STATE PROCEDURES

STATE RECOMMENDATION
[F] NONE
[G] SHELTER SUB-AREAS: _____
[H] EVACUATE SUB-AREAS: _____
[I] RECOMMEND POTASSIUM IODIDE (KI) PER PROCEDURES
[J] COMMENCE RETURN OF PUBLIC
[K] OTHER _____

10. ADDITIONAL INFORMATION None

Verified With: n/a Approved By: candidate name

11. TRANSMITTED BY: NAME PHONE NUMBER TIME/DATE
[A] EXELON: _____ _____ _____
[B] STATE: _____ _____ _____
[C] COUNTY: _____ _____ _____

12. RECEIVED BY: NAME ORGANIZATION TIME/DATE
_____ _____ _____

NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM

OR ELECTRONIC FACSIMILE

Braidwood
BW 38

Initial Time — Final

____ **# Illinois EMA** ☐
(Time) (217)782-7860
☐ *** Grundy County** ☐
☐ *** Kankakee County** ☐
☐ *** Will County** ☐

Clinton
CL 36

Initial Time — Final

____ **# Illinois EMA** ☐
(Time) (217)782-7860
☐ *** DeWitt County** ☐

LaSalle
LS 25

Initial Time — Final

____ **# Illinois EMA** ☐
(Time) (217)782-7860
☐ *** Grundy County** ☐
☐ *** LaSalle County** ☐

Byron
BY 37

Initial Time — Final

_____ **# Illinois EMA** ☐
(Time) (217)782-7860
☐ **^ Ogle County** ☐
☐ **^ Rochelle Police** ☐

Dresden
DR 22

Initial Time — Final

____ **# Illinois EMA** ☐
(Time) (217)782-7860
☐ *** Grundy County** ☐
☐ *** Kendall County** ☐
☐ *** Will County** ☐

Quad Cities
QC 23

Initial Time — Final

____ **# Illinois EMA** ☐
(Time) (217) 782-7860
☐ **# Iowa HSEMD** ☐
(515) 725-3231
☐ **# Clinton County** ☐
(563) 242-9211
☐ **# Scott County** ☐
(563) 388-3904
☐ *** Rock Island County** ☐
☐ *** Whiteside County** ☐

NOTES: # Indicates that this agency is required to be notified within 15 minutes for all NARS messages

* Indicates that this agency is required to be notified within 15 minutes if the initiating event is a General Emergency

^ Indicates that only one of Ogle County or Rochelle Police is required to be notified within 15 minutes if the initiating event is a General Emergency (Byron Only)

Exelon Generation

Job Performance Measure

Perform Follow-up PARS for a General Emergency

JPM Number: SA-5-02-23

Revision Number: 1

Date: 6/16/23

Developed By:	Barry Mingus / Barry Mingus /s/	Instructor: Print / Sign	6/15/23 Date
Reviewed By:	William Hines / William Hines /s/	SME or Instructor: Print / Sign	6/12/23 Date
Reviewed By:	Austin Wilde / Austin Wilde /s/	Operations Representative: Print / Sign	6/12/23 Date
Approved By:	Brian Lewin / Brian Lewin /s/	Training Department: Print / Sign	7/31/23 Date

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

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. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure:	EP-MW-114-100-F01	Revision:	K
Procedure:	EP-AA-111	Revision:	23
Procedure:	EP-AA-111-F-03	Revision:	J
Procedure:	EP-AA-1002 Addendum 3	Revision:	06
Procedure:	EP-AA-1002	Revision:	37
Procedure:	EP-MW-114-100	Revision:	20

10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

_____ / _____ _____
SME / Instructor (Print/Sign) Date

Revision Record (Summary)

Revision #	Summary
Revision 00	JPM creation for NRC Exam 19-2 SRO only
Revision 01	Updated for current revision of JPM template and procedures

Exelon Generation

JPM SETUP INSTRUCTIONS

1. This is an administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.

2. Verify current revisions of the following information is available for the JPM performance:

   NOTE: Site Emergency Director binder may be accessed to obtain the required procedures if JPM is administered in the Simulator

   - EP-AA-1002, RADIOLOGICAL EMERGENCY PLAN ANNEX FOR BYRON STATION
   - EP-AA-1002 Addendum 3, EMERGENCY ACTION LEVELS FOR BYRON STATION
   - EP-MW-114-100, MIDWEST REGION OFF-SITE NOTIFICATIONS
   - EP-AA-111-F-03 Rev I, BYRON PAR FLOWCHART
   - EP-MW-114-100-F-01 Rev J NARS Form Reference

3. ENSURE the following is available during performance of the JPM:

   - EP-AA-1002, RADIOLOGICAL EMERGENCY PLAN ANNEX FOR BYRON STATION
   - EP-AA-1002 Addendum 3, EMERGENCY ACTION LEVELS FOR BYRON STATION
   - EP-MW-114-100, MIDWEST REGION OFF-SITE NOTIFICATIONS
   - EP-AA-111-F-03 Rev I, BYRON PAR FLOWCHART
   - EP-MW-114-100-F-01 Rev J NARS Form Reference
   - Data sheet

4. ENSURE the following between performances of the JPM:

   - New clean procedure copies and references for examinee to work from during performance

5. This completes the setup for this JPM.

INITIAL CONDITIONS

FG1 General Area Emergency was declared 30 minutes ago due to the SG rupture / faulted outside of containment with a Safety Injection and RCS Activity.

- The meteorological data has just changed since the initial EAL declaration
- The TSC has NOT been activated
- A Rapidly Progressing Severe Accident is NOT in progress
- EONS in unavailable

INITIATING CUE

As Shift Emergency Director, perform an Emergency Plan evaluation due to the changes in meteorological data.

- Perform a PARS evaluation due to change in wind direction.
- Fill out NARS form for transmittal.
    - Note: The STA is unavailable to perform a Peer Check.

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: **12, 13, 14**

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:	JPM Sequence #: of

Task Standard: Candidate determines Protective Action Recommendations and completes the NARS Form per the annotated key, in ≤15 minutes.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide candidate with the completed Nuclear Accident Reporting System NARS Forms for Utility Messages #1 and #2 along with the meteorological PPCS printout with the new data.				
1	Refer to Exelon Nuclear – Radiological Emergency Plan Annex for Byron Station.	○ Locate and Open, EP-AA-1002 Addendum 3, EMERGENCY ACTION LEVELS FOR BYRON STATION	___	___	___
2	Classify the Event utilizing EP-AA-1002 Addendum 3.	• Classify event as GENERAL EMERGENCY, **FG1**. No change to classification.	___	___	___
3	Obtain NARS form.	○ Locate and Open EP-MW-114-100-F-01, NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM	___	___	___
NOTE:	Step 4 is optional and may be performed at any time.				
4	Refer to EP-MW-114-100, MWROG Offsite Notifications, to complete NARS form.	○ Locate and Open, EP-MW-114-100, MWROG Offsite Notifications, Section 4.2, to complete NARS form.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
5	Complete NARS Form, Message No.	○ UTILITY MESSAGE NO. ○ Enter: **3** ○ STATE MESSAGE NO. ○ Enter: **N/A**	___	___	___
6	Complete NARS Form, block 1.	○ 1. STATUS: ○ Mark: **[B] DRILL/EXERCISE**	___	___	___
7	Complete NARS Form, block 2.	○ 2. STATION: ○ Mark: **[B] BYRON**	___	___	___
8	Complete NARS Form, block 3.	○ 3. ONSITE CONDITION: ○ Mark: **[D] GENERAL EMERGENCY**	___	___	___
NOTE:	Change in wind direction will require new PAGs to be designated. Event does NOT meet the requirements for a Rapidly Progressing Severe Accident.				
9	Complete NARS Form, block 4.	• 4. ACCIDENT CLASSIFIED: • TIME: • Enter: **"actual time classified"** ○ DATE: ○ Enter: **"today's date"** • EAL#: • Enter: **FG1** ○ ACCIDENT TERMINATED: ○ TIME: ○ Enter: **N/A** ○ DATE: ○ Enter: **N/A**	___	___	___
10	Complete NARS Form, block 5.	○ 5. RELEASE STATUS: ○ Mark: **[B] OCCURRING**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
11	Complete NARS Form, block 6.	○ 6. TYPE OF RELEASE: ○ Mark: **[B] GASEOUS**	___	___	___
***12**	Complete NARS Form, block 7.	• 7. WIND DIR: • Enter: **193**	___	___	___
***13**	Complete NARS Form, block 8.	• 8. WIND SPEED: • Mark: **[B] MILES/HR:** • Enter: **8.6**	___	___	___
***14**	Complete NARS Form, block 9.	• 9. RECOMMENDED ACTIONS: • UTILITY RECOMMENDATION: • Mark: **[D] EVACUATE Illinois Sub-areas: 17, 19, and 23,** as determined from EP-AA-111-F-03 Table B and carried over from previous PARS Recommendation. • PARS classification - determined in ≤15 minutes.	___	___	___
NOTE	Change in wind direction will require new PAGs to be designated. Event does NOT meet the requirements for a Rapidly Progressing Severe Accident.				
NOTE	Record time PARs determined: _____:_____:_____ (PARs determined) – (JPM Start time) = _____:_____:_____ (<15 minutes)				
15	Complete NARS Form, block 10.	○ 10. ADDITIONAL INFORMATION: ○ Enter: **None**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
16	Complete NARS Form, approval block.	○ Verified With: ○ Enter: **N/A** ○ Approved By: ○ Enter: **"candidate's signature"**	___	___	___
CUE	If examinee requests a Peer Check for NARS form completion, respond: "STA is unavailable."				
CUE	This JPM is complete.				

Exelon Generation

JPM SUMMARY

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

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

JPM Title: Perform Follow-up PARS for a General Emergency

JPM Number: SA-5-02-23 Revision Number: 01

Task Number and Title: 8F.ZP-012 RESPOND to Station Emergency as Station Director

Task Standard: Candidate determines Protective Action Recommendations and completes the NARS Form per the annotated key, in <15 minutes.

K/A Number and Importance: G 2.4.44 Knowledge of emergency plan implementing procedures protective action recommendations (SRO Only) 4.4

Suggested Testing Environment: Classroom

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

Reference(s):

Procedure:	EP-MW-114-100-F01	Revision:	K
Procedure:	EP-AA-111	Revision:	23
Procedure:	EP-AA-111-F-03	Revision:	J
Procedure:	EP-AA-1002 Addendum 3	Revision:	06
Procedure:	EP-AA-1002	Revision:	37
Procedure:	EP-MW-114-100	Revision:	20

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

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR 4282419).

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

FG1 General Area Emergency was declared 30 minutes ago due to the SG rupture / faulted outside of containment with a Safety Injection and RCS Activity.

- The meteorological data has just changed since the initial EAL declaration
- The TSC has NOT been activated
- A Rapidly Progressing Severe Accident is NOT in progress
- EONS in unavailable

INITIATING CUE

As Shift Emergency Director, perform an Emergency Plan evaluation due to the changes in meteorological data.

- Perform a PARS evaluation due to change in wind direction.
- Fill out NARS form for transmittal.
    - Note: The STA is unavailable to perform a Peer Check.

This is a Time Critical JPM.