Job Performance Measure

Evaluate License Holder's Status

JPM Number: SA-1-03-0

Revision Number: 04

Date: 08 / 21 / 2019

Developed By:	*Benjamin Reyes /s/* Instructor	08/21/2019 Date
Validated By:	*Timothy McDougal /s/* SME or Instructor	08/22/2019 Date
Reviewed By:	*Mace Davis /s/* Operations Representative	08/22/2019 Date
Approved By:	*J.E. Smith /s/* Training Department	10/10/2019 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

TLM	1.	Task description and number, JPM description and number are identified.
TLM	2.	Knowledge and Abilities (K/A) references are included.
TLM	3.	Performance location specified. (in-plant, control room, simulator, or other)
TLM	4.	Initial setup conditions are identified.
TLM	5.	Initiating cue (and terminating cue if required) are properly identified.
TLM	6.	Task standards identified and verified by SME review.
TLM	7.	Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
N/A	8.	If an alternate path is used, the task standard contains criteria for successful completion.
TLM	9.	Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure OP-AA-105-101 Rev: 22 Procedure OP-AA-105-102 Rev: 14 Procedure _____ Rev: _____
TLM	10.	Verify cues both verbal and visual are free of conflict.
TLM	11.	Verify performance time is accurate
N/A	12.	If the JPM cannot be performed as written with proper responses, then revise the JPM.
TLM	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, Initial revision of JPM

Comment	Resolution
OTPS: Need more than 1 critical step	Added criteria to determine reason each is not qualified and made each a critical step individually

Rev. 01-

Updated Procedure revisions

Updated dates used

Validated on 3/3/13 by Rob Lawlor and Bill Hochstetter

Revision 02 Applied new template TQ-AA-150-J020.

This JPM is modified from the 2013 NRC Exam JPM RA-1a.

Added an additional NSO who had performed a license reactivation.

Listed specific dates and times for watches stood, changed dates to more current, and rearranged listed NSO order.

NSO now listed as #4 changed from NOT qualified to stand the watch to qualified to stand the watch based on revision to OP-AA-105-101 since last delivered which revised the definition/requirements of Annual: once per calendar year.

Changed the task number to agree with VISION.

Revision 03 Revised to incorporate changes due to OP-AA-105-102 Revision 14 and OP-AA-105-101 Revision 22.
Changed dates to current year.

Per Facility Representative's request, NSO #2 changed from licensed issued previous quarter; along with four qualifying watches stood and one non-qualifying watch stood; to having license issued during the current quarter. No change as a result to Critical Step 3.

Revision 04

This JPM has been modified from administration as 2018 Certification Exam JPM RA-1 and 2017 NRC JPM RA-1. This JPM has been modified by making the following changes:

- NSO #3 revised to be qualified by changing date of last medical exam from greater than 730 days to within 730 days plus the current month.
- NSO #2 remains qualified, but license issuance changed from the current quarter to license issuance the immediately previous quarter.
- NSO #4 revised to be NOT qualified by changing date of last medical exam to greater than 730 days plus the current month.

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.

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:

   - OP-AA-105-101
   - OP-AA-105-102

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

   - NSO License Maintenance Record (page 11 of JPM)

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

The current date is October 30, 2019.

- All NSO's are eligible per ESOMS work hour rules.
- All hours from the previous quarter are contained in the attached NSO License Maintenance Record.

INITIATING CUE

The Shift Manager has directed you to evaluate five NSOs License Status to determine whether they are qualified to take duty as the Unit 1 NSO.

- Inform the Shift Manager of who is eligible
- Inform the Shift Manager of who is NOT eligible and why

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

Information For Evaluator's Use:

Task Performance Standard: Applicant properly determines the eligibility of the NSOs based on the information provided on the NSO License Maintenance Record in accordance with OP-AA-105-101 and OP-AA-105-102.

UNSAT requires written comments on respective step.

* Denotes critical steps: **2 - 6**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	These steps may be performed in any order.				
1	Refer to: o OP-AA-105-102, Rev 14, NRC Active License Maintenance o OP-AA-105-101, Rev 22, Administrative Process for NRC License and Medical Requirements	Evaluate NSO status IAW: o OP-AA-105-102, Rev 14, NRC Active License Maintenance o OP-AA-105-101, Rev 22, Administrative Process for NRC License and Medical Requirements	___	___	___
CUE	Provide candidate with OP-AA-105-101 and OP-AA-105-102.				
***2**	Evaluate NSO #1	• Determines that NSO #1 is **NOT qualified** because he has not met the 56-hour quarterly shift watch requirement in a qualifying watchstation during the previous quarter and informs the SM.	___	___	___
NOTE:	For NSO #2, though the license was active previous quarter, due to initial license issuance, the minimum watchstanding requirements were not required to be met to maintain an active license in the subsequent quarter.				
***3**	Evaluate NSO #2	• Determines that NSO #2 is **qualified** to perform watchstanding duties and informs the SM.	___	___	___
***4**	Evaluate NSO #3	• Determines that NSO #3 is **qualified** to perform watchstanding duties and informs the SM.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***5**	Evaluate NSO #4	• Determines that NSO #4 is **NOT qualified** because they have exceeded the required frequency for the Biennial Medical Examination and informs the SM.	___	___	___
***6**	Evaluate NSO #5	• Determine that NSO #5 is **qualified** to perform watchstanding duties and informs the SM.	___	___	___
7	Inform Shift Manager of the status of the NSOs evaluated.	o Inform Shift Manager of the status of the NSOs evaluated	___	___	___
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: Evaluate License Holder's Status

JPM Number: SA-1-03-0 Revision Number: 04

Task Number and Title: 8E.AM-029 Ensure minimum shift staffing and authorize additional shift staffing as necessary

K/A Number and Importance: G 2.1.4 : 3.8

Suggested Testing Environment: Classroom

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

Reference(s): Procedure OP-AA-105-101 Rev: 22
Procedure OP-AA-105-102 Rev: 14

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

Comments: _____

_____

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_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

The current date is October 30, 2019.

- All NSO's are eligible per ESOMS work hour rules.
- All hours from the previous quarter are contained in the attached NSO License Maintenance Record.

INITIATING CUE

The Shift Manager has directed you to evaluate five NSOs License Status to determine whether they are qualified to take duty as the Unit 1 NSO.

- Inform the Shift Manager of who is eligible
- Inform the Shift Manager of who is NOT eligible and why

Operator	Date	Description	Date of last NRC comprehensive requalification written exam	Date of last NRC operating exam	Date of last NRC medical exam
NSO #1		License was active during the last quarter.	11/02/2018	11/01/2018	5/22/2018
	8/01/2019	0700-1900 shift as Unit 1 NSO			
	8/02/2019	0700-1900 shift as Unit 1 NSO			
	8/03/2019	0700-1900 shift as Unit 1 Admin			
	8/05/2019	0700-1900 shift as WEC NSO			
	8/25/2019	0700-1900 shift as Unit 2 NSO			
NSO #2		License issued July 19, 2019.	N/A	N/A	1/10/2019
	8/01/2019	0700-1900 shift as Unit 2 NSO			
	8/02/2019	0700-1900 shift as Unit 2 NSO			
	8/03/2019	0700-1900 shift as Unit 2 Admin			
	8/04/2019	0700-1900 shift as Unit 1 Admin			
	8/25/2019	0700-1900 shift as WEC NSO			
NSO #3		License was active during the last quarter.	10/26/2018	10/24/2018	10/04/2017
	7/09/2019	1900-0700 shift as Unit 2 NSO			
	7/10/2019	1900-0700 shift as Unit 2 Admin			
	7/11/2019	1900-0700 shift as Unit 2 NSO			
	7/12/2019	1900-0700 shift as Unit 2 Admin			
	8/21/2019	0700-1900 shift as Unit 1 NSO			
NSO #4		License was active during the last quarter.	9/21/2018	9/19/2018	9/29/2017
	7/09/2019	1900-0700 shift as Unit 1 Admin			
	7/10/2019	1900-0700 shift as Unit 1 NSO			
	7/11/2019	1900-0700 shift as Unit 1 Admin			
	7/12/2019	1900-0700 shift as Unit 1 NSO			
	8/21/2019	0700-1900 shift as Unit 2 NSO			
NSO #5	Hours below were completed under the direction of the applicable Unit NSO to reactivate an RO license and included the completion of an activation guide, a review of turnover procedures and the completion of a plant tour under direction of a licensed RO.		11/16/2018	11/14/2018	8/30/19
	9/05/2019	0700-1900 on Unit 1			
	9/06/2019	0700-1900 on Unit 1			
	9/07/2019	0700-1900 on Unit 2			
	9/22/2019	0700-1300 on Unit 2			

Job Performance Measure

Review/Approve Shutdown Margin Calculation

JPM Number: SA-1-04-0

Revision Number: 11

Date: 08 / 19 / 2019

Developed By:	*Benjamin Reyes /s/* Instructor	10/10/2019 Date
Validated By:	*Timothy McDougal /s/* SME or Instructor	10/10/2019 Date
Reviewed By:	*Mace Davis /s/* Operations Representative	10/10/2019 Date
Approved By:	*J.E. Smith /s/* Training Department	10/10/2019 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

TLM	1.	Task description and number, JPM description and number are identified.
TLM	2.	Knowledge and Abilities (K/A) references are included.
TLM	3.	Performance location specified. (in-plant, control room, simulator, or other)
TLM	4.	Initial setup conditions are identified.
TLM	5.	Initiating cue (and terminating cue if required) are properly identified.
TLM	6.	Task standards identified and verified by SME review.
TLM	7.	Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
N/A	8.	If an alternate path is used, the task standard contains criteria for successful completion.
TLM	9.	Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure 1BOSR 1.1.1-1 Rev: 13 Procedure COLR U1 Cycle 22 Rev: 12 Procedure BCB-1 Table 1-1 Rev: 67 Procedure BCB-1 Table 1-1a Rev: 13 Procedure BCB-1 Table 1-2 Rev: 36 Procedure BCB-1 Table 1-4 Rev: 28 Procedure BCB-1 Table 1-5 Rev: 32 Procedure BCB-1 Figure 8B Rev: 31
TLM	10.	Verify cues both verbal and visual are free of conflict.
TLM	11.	Verify performance time is accurate
N/A	12.	If the JPM cannot be performed as written with proper responses, then revise the JPM.
TLM	13.	When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

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

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

Revision Record (Summary)

Revision 8

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 03/03/13 by Bill Hochstetter and Rob Lawlor, revised calculational errors
- Updated procedure ref.
- Changed Tave in initial conditions from 580 to 587

Revision 9

Revised to new cycle data

Revision 10

This JPM previously used as SAa on 2014 Certification exam. Applied new template TQ-AA-150-J020. Revised procedures referenced to current revision, and revised standards to current cycle data. Revised Task Number (typo).

Revision 11

This JPM was previously utilized on 2017 Certification Exam JPM SA-1. This JPM is modified by making the following changes:

- Removed dropped rod from the initial conditions
- Lowered reactor power to 50% from 100%
- Changed evaluation to mode 3 post trip instead of mode 1.

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 calculations to align with current tables and graphs.

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 1.1.1-1
   - COLR U1 Cycle 22
   - BCB-1 Table 1-1
   - BCB-1 Table 1-1a
   - BCB-1 Table 1-2
   - BCB-1 Table 1-4
   - BCB-1 Table 1-5
   - BCB-1 Figure 8B

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

   - A clean copy of partial performed 1BOSR 1.1.1-1 for review.

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 Unit Supervisor.

- Unit 1 tripped 25 minutes ago from 50% power.
- The unit had been at 50% for 1 week.
- Before the trip, Control Bank D was at 150 steps with all rods in proper alignment, bank overlap and sequence.
- All RCPs are running.
- All Rod At Bottom lights are lit.
- Boron concentration is 700 ppm per sample 3 hours ago.
- Boration completed 15 minutes ago.
- Chemistry reports subsequent RCS boron sample as 1090 ppm.
- Tave is 557°F, maintained on the steam dumps.
- Reactor average burn-up is 6500 EFPH, MOL.
- The plant is to be cooled to 500°F.
- The Reactor Operator just completed 1BOSR 1.1.1-1, Shutdown Margin Surveillance and determined that Shutdown Margin was met at time of trip.

INITIATING CUE

You are directed by the Shift Manager to review the SDM calculation for accuracy to determine if the SDM is:

- Sufficient for current conditions
- Sufficient to support the cooldown to 500°F

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

Information For Evaluator's Use:

Task Performance Standard: Applicant reviews the Shutdown Margin to be sufficient for both as found conditions and to support cooldown to 500°F. This SDM is flawed. The applicant is required to identify incorrect calculations and determine that the SDM will be adequate for cooldown. This will be performed by reviewing a partial completed copy and evaluating it in accordance with 1BOSR 1.1.1-1.

UNSAT requires written comments on respective step.

* Denotes critical steps: **3, 8, 10, 11, 13, 15, 16, and 17**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	JPM task conditions and initiating cues provide the values for core average burnup (6500), RCS Tave (557), and RCS boron concentration (700).				
NOTE:	Minor calculational differences may exist between the examinee's calculation and the provided surveillance for values that are correctly calculated. All calculated values should be sufficient to prove accuracy of the completed sections. The Bounding values indicated are values found in the appropriate tables.				
NOTE:	Note: Step 1 may be performed at any time				
1	Refer to 1BOSR 1.1.1-1, Shutdown Margin Surveillance.	o Candidate reviews completed 1BOSR 1.1.1-1	___	___	___
CUE	**Hand the candidate the completed copy of 1BOSR 1.1.1-1.**				
2	Post Reactor Trip Assessment (12 Hours)	o Goes to step F.2 (from F.1.e).	___	___	___
NOTE:	Required SDM from COLR is 1.3% ΔK/K = 1300 pcm				
CUE	**Provide the examinee with a copy of the Byron Curve Book or applicable tables and figures upon request.**				
***3**	Post Reactor Trip Assessment (4 Hours)	• Determines Shutdown Margin is acceptable for 4 hours • Examinee initials and dates section	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4	Shutdown Margin Requirements Supporting Rapid Cooldown	Candidate reviews: o Existing RCS Boron concentration (**700 ppm** from turnover) (F.3.a) o Correct Core average Temperature for cooldown (F.3.b) (**500°F**) o Correct RCS average temperature (F.3.c) (**847 ppm**) o Boration of RCS to meet minimum required performed (F.3.d) o Verify new RCCS boron sample indicates more than the minimum required (F.3.e) (**1090 ppm** from recorded sample) o Shutdown Margin is acceptable until time recorded in F.3.f) o Examinee initials and dates section	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
5	Present Conditions	Candidate reviews: o Time and date (F.4.a) o Core average burnup (F.4.b) (**6500 EFPH** from turnover) o RCS average temperature (F.4.c) (**557°F** from note) o RCS boron concentration (F.4.d) (**1090 ppm** from sample report) o Total inoperable control rods (F.4.e) (**0**) o Required SDM from COLR (F.4.f) (**1.3% ΔK/K = 1300 pcm**)	___	___	___
6	Bounding Assumptions	Candidate reviews: o REVIEW bounding core average temperature (F.5.a) o REVIEW most limiting core average temperature (F.5.b) (**500°F**) o REVIEW bounding time and date (F.5.c) (**12 hours** from turnover)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7	Minimum Required Boron Concentration	Candidate reviews: o REVIEW Minimum Required Boron Concentration from BCB-1 Table 1-1 (F.6.a) o **1065** ppm from Table 1-1. o Add **120** ppm for Bias. o Total = **1185** ppm o REVIEW and initial and date for minimum boron concentration (F.6.a) o Present RCS Boron Concentration **is NOT** ≥ Minimum Required Boron Concentration (F.6.b)	___	___	___
NOTE:	Two values are given for the subsequent steps; One indicating the reference value and the second is the bounding value from the tables (used to complete the presented 1BOSR 1.1.1-1) Candidates may/will perform calculations to verify accuracy of the completed 1BOSR 1.1.1-1. The candidate's values should be sufficient to prove values correct or incorrect.				
CUE	**If candidate determines incorrect value is used and contacts NSO to recalculate, inform him that the Shift Manager directs him to continue his review of the SDM calculation, document any discrepancies, and determine unit requirements.**				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***8**	Reactivity Worth of Boron (F.7.a.1)	Candidate reviews: o Integral Boron Worth from 1BCB-Table 1-5 at limiting core avg temperature and current boron concentration (F.7.a.1) (7.a.1) **(Indicated)** • Identifies an incorrect value of **-6010 pcm** (Incorrect value based on 1BCB Table 1-5 6357 burnup for 675 ppm at 500°F) (7.a.1) **(Correct)** • Determines correct value of **-9174 pcm** bounding value from 1BCB Table 1-5 6357 burnup for 1050 ppm at 500°F	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
9	Reactivity Worth of Boron (F.7.a.2)	Candidate reviews: o Integral Boron Worth from 1BCB-Table 1-5 at limiting core avg temperature and minimum required boron concentration (F.7.a.2) (7.a.2) **(Indicated)** o **-10404 pcm** (Correct value based on 1BCB Table 1-5 6357 burnup 1200 ppm at 500°F) (7.a.2) **(Correct)** o **-10404 pcm**	___	___	___
***10**	Reactivity Worth of Boron (F.7.a.3)	Candidate reviews: o Subtract the result of above 2 steps (F.7.a.3) (7.a.3) **(Indicated)** • Identifies an incorrect value of **+4394 pcm** (Incorrect. Error carried forward.) (7.a.3) **(Correct)** • Determines correct value of **+1230 pcm**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***11**	Reactivity Worth of Boron (F.7.B)	Candidate reviews: Calculate net Boron Reactivity Worth. (F.7.b) (7.b) **(Indicated)** • Identifies an incorrect value of **+3094 pcm** (Incorrect. Error carried forward.) (7.b) **(Correct)** • Determines correct value of **-70 pcm**	___	___	___
12	Reactivity Worth of Untrippable Rods	Candidate reviews: o (F.8.a) Number of inoperable control rods (**0**) o (F.8.b) Calculate Reactivity Worth of Untrippable Rods (**0 pcm**)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***13**	Reactivity Change Due to Xenon	Candidate reviews: o (F.9.a) Review Xenon Equivalent power from RRD o (F.9.b) Review SD Time and date • (F.9.c) Identifies an incorrect value utilized for Xenon Worth using RRD and BCB-1 Table 1-2 • Determines the value on SDM is incorrect: -3019 pcm (used for at 12 hours from SD instead of the more conservative value of NOW). Actual value should be **-2581 pcm**.	___	___	___
CUE	**If candidate determines incorrect value is used and contacts NSO to recalculate, inform him that the Shift Manager directs him to continue his review of the SDM calculation, document any discrepancies, and determine unit requirements.**				
14	Reactivity Worth of Samarium	Candidate reviews: o Credit not taken for Samarium (calculation, if performed, equates to **0** at time of shutdown)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***15**	Correction for Boron Effects on Xenon and Samarium Worths (F.11) **(Bounding)**	Candidate reviews: (F.11) **(Indicated)** • (F.11.a) Identifies an incorrect integral worth of boron (**-6010 pcm** error carried forward) o (F.11.b) Correction factor (**0.926)** • (F.11.c) Identifies an incorrect Xenon Worth is utilized Xe and Sm worth (**-3019 pcm** error carried forward) • (F.11.d) Identifies an incorrect net value of fission product is obtained (**-2798 pcm** error carried forward) (F.11) **(Correct)** • (F.11.a) Determines the correct value of (**-9174 pcm**) • (F.11.b) Determines the correct value of (**0.89)** • (F.11.c) Determines the correct value of (**-2581 pcm**) • (F.11.d) Determines the correct value of (-**2297 pcm**)	___	___	___
CUE	**If candidate determines incorrect value is used and contacts NSO to recalculate, inform him that the Shift Manager directs him to continue his review of the SDM calculation, document any discrepancies, and determine unit requirements.**				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***16**	Total Shutdown Margin (F.12) **(Bounding)**	Candidate reviews: (F.12) **(Indicated)** • Identifies an incorrect Boron Worth utilized (**3094 pcm**) • Identifies a correct Untrippable Rod Worth utilized (**0 pcm**) • Identifies an incorrect Fission Product Worth utilized (**-2798 pcm**) • Identifies an incorrect Total Shutdown Margin obtained (**+296 pcm**) • Present Operating Mode (**3**) (F.12) **(Correct)** • Determines correct value of Boron Worth (**-70 pcm**) • Determines correct value of Untrippable Rod Worth (**0 pcm**) • Determines correct value of Fission Product Worth utilized (**-2297 pcm**) • Determines correct value of Total Shutdown Margin **(-2367 pcm)** • Present Operating Mode (**3**)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***17**	Determine Acceptance Criteria	• (F.12.c) Determines acceptance criteria for Shutdown Margin is actually MET and calculated is more negative than –1300 pcm **(-2367 pcm)** • Determines that acceptance criteria is **MET** • Does NOT provide Initials/dates for incorrect calculation o Returns to NSO for new performance o Notifies SM of incorrect performance and actual status	___	___	___
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: Review/Approve Shutdown Margin Calculation

JPM Number: SA-1-04-0 Revision Number: 11

Task Number and Title: 8E.AM-123 REVIEW surveillances to ensure compliance with Tech Specs and Non-Tech Spec requirements

K/A Number and Importance: 2.1.37 Importance: 4.6

Suggested Testing Environment: Simulator or Classroom

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

Reference(s): Procedure 1BOSR 1.1.1-1 Rev: 13
Procedure COLR U1 Cycle 22 Rev: 12
Procedure BCB-1 Table 1-1 Rev: 67
Procedure BCB-1 Table 1-1a Rev: 13
Procedure BCB-1 Table 1-2 Rev: 36
Procedure BCB-1 Table 1-4 Rev: 28
Procedure BCB-1 Table 1-5 Rev: 32
Procedure BCB-1 Figure 8B Rev: 31

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

Comments: _____

_____

_____

_____

Evaluator's Name (Print): _____

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

INITIAL CONDITIONS

You are the Unit 1 Unit Supervisor.

- Unit 1 tripped 25 minutes ago from 50% power.
- The unit had been at 50% for 1 week.
- Before the trip, Control Bank D was at 150 steps with all rods in proper alignment, bank overlap and sequence.
- All RCPs are running.
- All Rod At Bottom lights are lit.
- Boron concentration is 700 ppm per sample 3 hours ago.
- Boration completed 15 minutes ago.
- Chemistry reports subsequent RCS boron sample as 1090 ppm.
- Tave is 557°F, maintained on the steam dumps.
- Reactor average burn-up is 6500 EFPH, MOL.
- The plant is to be cooled to 500°F.
- The Reactor Operator just completed 1BOSR 1.1.1-1, Shutdown Margin Surveillance and determined that Shutdown Margin was met at time of trip.

INITIATING CUE

You are directed by the Shift Manager to review the SDM calculation for accuracy to determine if the SDM is:

- Sufficient for current conditions
- Sufficient to support the cooldown to 500°F

Exelon Generation

BYRON STATION

PROCEDURE NO.
1BOSR 1.1.1-1

UNIT NO.
1

REVISION NO.
15

PROCEDURE TITLE:

UNIT ONE
SHUTDOWN MARGIN SURVEILLANCE

Rev	Summary	IR/AT#	EC#	Procedure Database Tracking #
15	Add model bias term to step F.13	4095955		26330
14	Add notes to make the procedure more user friendly			25704
13	Editorial enhancement due to lessons learned	2677310		24929
12	Clarify SDM calculations.			22276
11	Clarify SDM calculations.	2489685-02		21280
10	Editorial to clarify language due to confusion.			
9	Add new step F.3, Shutdown Margin Supporting Rapid Cooldown.			

Continuous Use

UNIT ONE
SHUTDOWN MARGIN SURVEILLANCE

A. STATEMENT OF APPLICABILITY:

1. This procedure applies to the verification of Shutdown Margin in Mode 2 with K_{eff} < 1.0 and Modes 3, 4, and 5.

   a. Daily when the Present RCS Boron Concentration is greater than the Minimum Required Boron Concentration.

   b. Shiftly when the Present RCS Boron Concentration is less than or equal to the Minimum Required Boron Concentration.

   c. More frequently, as appropriate, when the bounding assumptions are due to expire or be exceeded.

2. The procedure applies to the verification of shutdown margin during the following infrequent conditions:

   a. Within one hour after detection of one or more inoperable shutdown or control rod(s) in Modes 1 and 2. (LCO 3.1.4)

   b. Within one hour after detection of one shutdown or control rod not within alignment limits and at least once per 12 hours thereafter while the rod is not within alignment limits. (LCO 3.1.4)

   c. Within one hour after detection of more than one shutdown or control rod not within alignment limits. (LCO 3.1.4)

   d. Within one hour after detection of one or more shutdown banks not within the insertion limits specified in the COLR in Mode 1 and 2 with any control bank not fully inserted. (LCO 3.1.5)

   e. Within one hour after detection of one or more control banks not within the insertion, sequence or overlap limits specified in the COLR in Modes 1 and 2 with $k_{eff} \geq 1.0$. (LCO 3.1.6)

   f. Within one hour after detection of two Boron Dilution Alert channels being inoperable in Modes 3, 4, and 5. (LCO 3.3.9)

   g. Within one hour after last RCP Shutdown in Modes 3, 4, and 5. (LCO 3.3.9)

   h. Within one hour after first RCS Loop Isolation Valve not open in Modes 3, 4, and 5. (LCO 3.3.9)

B. REFERENCES:

1. Tech Spec Surveillance Requirements:
   a. LCO 3.1.1
   b. LCO 3.1.4
   c. LCO 3.1.5
   d. LCO 3.1.6
   e. LCO 3.1.8
   f. LCO 3.3.9
   g. SR 3.1.1.1
   h. SR 3.1.8.4
2. TRM:
   a. LCO 3.1.h
3. UFSAR:
   a. Section 4.3.1.5, Shutdown Margin.
   b. Section 15.1, Increase in Heat Removal by the Secondary System.
   c. Section 15.4, Reactivity and Power Distribution Anomalies.
4. Station Procedures:
   a. BCB-1, Byron Curve Book - Unit One.
   b. 1BGP 100-5, Plant Shutdown and Cooldown.
   c. 1BGP 100-7T1, Reference Reactivity Data Worksheet.
   d. 1BOL 1.1, Shutdown Margin (SDM).
   e. 1BOL 1.h, Shutdown Margin (SDM) Mode 1 and Mode 2 with $K_{eff} \geq 1.0$.
   f. BOP CV-6, Operation of the Reactor Makeup System in the Borate Mode.

B.4. continued

g. BOP CV-7, Operation of the Reactor Makeup System in the Auto Makeup or Manual Mode.

h. 1BOSR NR-1, Unit One Power History Hourly Surveillance.

5. Core Operating Limits Report (COLR).

6. NDIT No. NFM9800254, Byron and Braidwood Shutdown Margin within four (4) hours after Reactor Trip (or Shutdown).

7. Station Commitments:

a. **CM-1** 454-402-90-01702-01

b. **CM-2** 454-251-88-15100

8. Design Analysis No. PNDCN: 01-002, Generic 12 hour SDM Calculation.

9. Westinghouse Technical Bulletin 13-5: Calculation of Shutdown Margin for N-2 Configurations

C. PREREQUISITES:

1. Receive permission from the Shift Manager or designated SRO licensed assistant prior to performing the surveillance by having the Data Package Cover Sheet signed and dated.

2. 1BGP 100-7T1 is available prior to completing Step F.3 of this surveillance. If the unit is in Mode 1 or 2, the RRD shall be completed assuming the reactor trips from its present condition.

D. PRECAUTIONS:

1. None.

E. LIMITATIONS AND ACTIONS:

1. As stated in Technical Specification LCO 3.1.1 and TRM LCO 3.1.h.

2. In the event the Acceptance Criteria is not met during the performance of this surveillance, IMMEDIATELY NOTIFY the Shift Manager or designated SRO licensed assistant to initiate procedure 1BOL 1.1 or 1BOL 1.h, as applicable.

E. continued

3. The RCS Average Temperature shall be determined using the following:

N/A a. If in Mode 1 or 2, use 557°F.

b. If any RCP's are running:

1). At ≥ 530°F, loop average temperature on unisolated loops with RCP(s) running.

N/A 2). At < 530°F, WR T_{hot} and T_{cold} temperature on unisolated loops with RCP(s) running.

N/A c. If on Natural Circulation:

N/A 1). WR T_{hot} and T_{cold} temperature on unisolated loops.

N/A d. If RH is providing Shutdown Cooling, and if no RCP's are running:

N/A 1). RH pump discharge temperature (to represent hot leg) and RH HX return temperature (to represent cold leg) of the RH train providing shutdown cooling for core average temperature.

N/A 4. If RH is providing Shutdown Cooling, and if no RCP's are running, temporarily stabilize RCS temperature during heatup or cooldown to obtain a more accurate core average temperature.

F. MAIN BODY:

NOTE

IF the Unit is in Mode 1 or 2, this surveillance should be performed assuming the reactor has tripped and is in Mode 3 with RCS T_{ave} at 557°F.

NOTE

IF this surveillance is being executed in Modes 3, 4, or 5, using COLR values, THEN proceed to step F.4.

NOTE

Step F.1 verifies adequate SDM when certain conditions are met. IF it is desired to cooldown, THEN perform this step and proceed to step F.3.

1. POST REACTOR TRIP ASSESSMENT (12 HOURS)

   a. Is the performance of this surveillance for Mode 3 conditions with the reactor trip breakers open?

      Yes ------> Continue with step F.1.b.
      No -------> Go to step F.4.

   b. Are all control rods operable? (LCO 3.1.4)

      Yes ------> Continue with step F.1.c.
      No -------> Go to step F.4.

   c. Were all control rods within their alignment (LCO 3.1.4), insertion (LCOs 3.1.5 and 3.1.6), sequence (LCO 3.1.6), and overlap (LCO 3.1.6) limits?

      Yes ------> Continue with step F.1.d.
      No -------> Go to step F.4.

   d. Has the RCS boron concentration NOT been diluted subsequent to Mode 3 entry?

      Yes ------> Continue with step F.1.e.
      No -------> Go to step F.4.

F.1. continued

e. Was Control Bank D greater than 200 steps withdrawn immediately prior to the reactor trip?

Yes ------> Continue with step F.1.f.
No -------> Go to step F.2.

N/A f. Was reactor power greater than 60% RTP for the 72 hour period prior to the Mode 3 entry?

Yes ------> Continue with step F.1.g.
No -------> Go to step F.2.

g. Was the RCS boron concentration greater than 100 ppm prior to the reactor trip?

Yes ------> Continue with step F.1.h.
No -------> Go to step F.2.

h. Is the Core Average Temperature greater than or equal to 550°F?

Yes ------> Continue with step F.1.i.
No -------> Go to step F.4.

i. **RECORD** the time and date at which the Mode 3 entry was made.

_____/_____
Time Date

j. Add 12 hours to the time and date recorded in step F.1.i.

_____/_____
Time Date

k. Shutdown Margin is acceptable until the time recorded in step F.1.j as long as the conditions listed in step F.1 are maintained. The balance of this procedure shall be performed prior to the time and date recorded in step F.1.j or prior to initiating a plant cooldown or RCS dilution.

_____ _____ _____ _____ **(¢)**
NSO or QNE Date SRO Date

l. **MARK** step F.2 N/A and **CONTINUE** with step F.3.

F. continued

2. POST SHUTDOWN ASSESSMENT (4 HOURS)

NOTE
IF certain conditions in step F.1 are not met, this step may be performed to verify adequate SDM for 4 hours. IF it is desired to cooldown, THEN perform this step and proceed to step F.3.

a. Is the Core Average Temperature at nominal 557°F?

Yes ------> Continue with step F.2.b.
No -------> Go to step F.4.

b. **RECORD** the time and date of the Mode 3 entry.

25 minutes ago / Today
Time Date

c. **ADD** 4 hours to the time and date recorded in step F.2.b.

3 hours and 35 minutes from now / Today
Time Date

d. Shutdown Margin is acceptable until the time recorded in step F.2.c as long as the applicable conditions listed in steps F.1 and F.2 are maintained. The balance of this procedure shall be performed prior to the time and date recorded in step F.2.c or prior to initiating a plant cooldown or RCS dilution.

BJC	Today			(¢)
NSO or QNE	Date	SRO	Date	

F. continued

NOTE
IF steps F.1 or F.2 were performed and a plant cooldown is desired, THEN perform step F.3 to determine the required RCS boron concentration for adequate SDM.

3. SHUTDOWN MARGIN REQUIREMENTS SUPPORTING RAPID COOLDOWN

a. **RECORD** the Existing (pre-shutdown) RCS Boron Concentration (from most recent sample prior to the reactor shutdown). **INCLUDE** sample time and date:

700 ppm 3 hours ago / Today
Time Date

b. **RECORD** the Core Average Temperature for the proposed plant cooldown:

500 °F

c. **RECORD** the minimum required RCS Boron Concentration for the proposed Core Average Temperature in step F.3.b (top row) using the Existing RCS Boron Concentration in step F.3.a (left column) from BCB-1, Table 1-1a.

847 ppm

NOTE
Before a plant cooldown to the desired lower RCS Temperature, steps F.3.d through F.3.g shall be completed.

d. **BORATE** the RCS to the minimum required RCS Boron Concentration in step F.3.c for the proposed Core Average Temperature using 1BGP 100-5, BOP CV-6, or BOP CV-7.

e. **VERIFY**, through RCS Boron chemistry sampling, that the minimum RCS Boron Concentration recorded in step F.3.c is obtained or exceeded. **RECORD** the current boron concentration below.

1090 ppm

F.3. continued

f. **RECORD** the current RCS 557°F based Shutdown Margin expiration time from step F.1.j or F.2.c as previously determined:

3 hours and 35 minutes from now / Today
Time Date

g. SHUTDOWN MARGIN is acceptable until the time recorded in step F.3.f down to the temperature recorded in step F.3.b. If it is desirable to dilute the RCS or cool down the RCS below that which is recorded in step F.3.b, either step F.3 shall be re-performed or the balance of this procedure shall be performed for that lower RCS temperature. Either way, the balance of this procedure shall be performed prior to the time and date recorded in step F.3.f.

BJC	Today			(¢)
NSO or QNE	Date	SRO	Date	

NOTE

This procedure calculates the available shutdown margin by comparing core conditions to a reference condition based on BCB-1, Table 1-1. This table lists the boron concentration required to provide the shutdown margin specified in the COLR at various core burnups and RCS temperatures. The table was derived by using the following assumptions:

a. No Xenon.

b. Equilibrium Samarium (i.e. Time = 0).

c. All rods at bottom with the exception of the highest worth rod, which is assumed to be stuck out.

d. Boron concentrations listed in BCB-1, Table 1-1, include 100 ppm factor of safety.

Deviations from each of the base assumptions and from the reference boron value given in the table are calculated in the procedure, and the sum of these effects is added to the required SDM to arrive at the actual shutdown margin available.

F. continued

NOTE
In the event that a control rod is known to be untrippable, this is adjusted for in addition to the rod assumed to be stuck in the table.

NOTE
Use 1BGP 100-7T1 for reactivity information prior to the shutdown.

4. PRESENT CONDITIONS

a. **RECORD** Time and Date.

25 minutes ago / Today
Time Date

b. **RECORD** the Core Average Burnup in EFPH (RRD, step F.2.b prior to core reload).

6500 EFPH

NOTE
The minimum temperature that can be used when performing a shutdown margin calculation is 60°F. Notify the Shift Manager and a Qualified Nuclear Engineer if the RCS temperature is less than 60°F. **(CM-1)**

c. **RECORD** the RCS Average Temperature (if in Mode 1 or 2, use 557°F).

557 °F

NOTE
IF a trend of the RCS Boron Concentration indicates an unexpected decrease, THEN determine the cause of the trend and either increase the RCS boron or request additional boron samples.

If boration/dilution processes have occurred since the most recent sample, request a new boron concentration sample to determine present boron concentration.

d. **RECORD** the Present RCS Boron Concentration (from most recent sample of the RCS or RH Train if it is providing shutdown cooling). Include the sample time and date.

10 minutes ago / Today 1090 ppm
Time Date

F.4. continued

NOTE
IF this surveillance is being executed in Modes 3, 4, or 5, using COLR values, THEN proceed to step F.13.

NOTE
A control rod is considered to be inoperable if it is untrippable or fails to fully insert upon a reactor trip.

e. **RECORD** the Total Number of Inoperable Control Rods. 0

NOTE
IF one or more control rod(s) is (are) inoperable or not within alignment limits, THEN perform this surveillance within one hour and at least once per 12 hours thereafter.

If the inoperable control rod(s) is (are) untrippable, then this surveillance must be performed in its entirety.

NOTE
1% $\Delta k/k$ = 1000 pcm = 0.01 $\Delta k/k$

f. **RECORD** the required SDM from the COLR.

(-)1300 pcm

5. BOUNDING ASSUMPTIONS

NOTE
The Shutdown Margin verification is dependent upon the bounding assumptions recorded in step F.5. These assumptions should be broad enough to not challenge expected plant conditions, but specific enough to avoid unnecessary RCS boron adjustments. A Qualified Nuclear Engineer may be requested to provide guidance in making these assumptions.

The actual conditions recorded in step F.4 shall lie within the bounding values recorded in step F.5. This procedure shall be re-performed if these bounding assumptions are due to expire or will be exceeded.

a. **DETERMINE** and **RECORD** the bounding Core Average Temperature for this verification.

500 °F to 557 °F

F.5. continued

b. **RECORD** the most Limiting Core Average Temperature within the above temperature range. This is the temperature from BCB-1, Table 1-1, with the largest minimum required boron concentration at the current core burnup.

500 °F

c. **DETERMINE** the bounding Time and Date for this verification.

Now / Today to up to +12 hours / Today

NOTE
When obtaining values from the Byron Curve Book, interpolation or a bounding value may be used. Each individual step will include guidance on what constitutes a bounding value.

6. MINIMUM REQUIRED BORON CONCENTRATION

NOTE
The minimum required boron concentration may be obtained from either BCB-1, Table 1-1, directly from a QNE, or from a QNE signed document written for this specific application. Independent verification is required for determining the minimum required boron concentration from the QNE supplied document to ensure the value is bounded by the assumptions recorded in step F.5.

a. **OBTAIN** the Minimum Required Boron Concentration from either BCB-1, Table 1-1 (bounding value would be the largest number), a QNE, or a QNE supplied document, as appropriate.

o BCB-1, Table 1-1, using the burnup from step F.4.b and the RCS Tave from step F.5.b: 1065 ppm

Add cycle Model Bias Term from BCB-1 Table 1-1: + 120 ppm

= 1185 ppm

o N/A
Qualified Nuclear Engineer N/A ppm

F.6.a. continued

o QNE supplied document N/A ppm

BJC	Today	DLR	Today
NSO	Date	NSO or SRO	Date

b. Is the Present RCS Boron Concentration (F.4.d) ≥ Minimum Required Boron Concentration (F.6.a)?

Yes ------> Continue with step F.6.c.
No -------> Go to step F.7.

N/A c. Are all control rods operable? (LCO 3.1.4)

Yes ------> Continue with step F.6.d.
No -------> Go to step F.7.

d. The SDM requirement is satisfied and this surveillance may be performed on a daily basis, provided the bounding assumption is step F.5 remain satisfied. Mark the remainder of this procedure N/A.

NSO or QNE	Date	SRO	Date	**(¢)**

7. REACTIVITY WORTH OF BOREN

a. **CALCULATE** the reactivity difference between the current boron concentration and the concentration specified in Table 1-1.

1). **RECORD** the Integral Boron Worth from BCB-1, Table 1-5 at the limiting core average temperature (F.5.b) for the time period specified in F.5.c and current boron concentration (F.4.d). (A bounding value would be the least negative number.)

500 °F	700 ppm	(-) 6010 pcm	*Incorrect values. Correct values noted below.*
Core Tavg (F.5.b)	C_b from (F.4.d) or bounding C_b used in Table 1-5		

Bounding - 1050 -9174

F.7.a. continued

2). **RECORD** the Integral Boron Worth from BCB-1, Table 1-5 at the limiting core average temperature (F.5.b) and minimum required boron concentration from Table 1-1 (F.6.a). (A bounding value would be the most negative number.)

500 °F
Core Tavg (F.5.b)

1185 ppm
C_b from (F.6.a) or bounding C_b used in Table 1-5

(-)10404 pcm

Incorrect values. Correct values noted.

3). **SUBTRACT** the result of step F.7.a.2) from step F.7.a.1).

9174
(-) 6010 pcm - (-) 10404 pcm = (+) 4394 pcm 1230
F.7.a.1 F.7.a.2

b. **CALCULATE** the net worth of boron by **ADDING** the result of step F.7.a.3) to the required SDM (F.4.f).

1230
(+) 4394 pcm + (-) 1300 pcm = 3094 pcm 70
(F.7.a.3)) (F.4.f)

8. REACTIVITY WORTH OF UNTRIPPABLE RODS

a. **RECORD** the Total Number of Untrippable Control Rods from step F.4.e.

0 Total Rods

NOTE
IF the number of untrippable rods in step F.8.a is greater than 2, proceed to step F.13.

b. **CORRECT** for untrippable control rods by **MULTIPLYING** the Total Number of Stuck Rods (F.8.a) by the Most Reactive Stuck Rod Worth from BCB-1, Table 1-6 for Modes 2 (k_{eff} < 1.0), 3, 4, and 5.

0 Total Rods x 2400 pcm/rod = (+) 0 pcm
(F.8.a) Predicted Worth

F. continued

9. REACTIVITY CHANGE DUE TO XENON

a. **RECORD** the Xenon Equivalent Power from RRD, step F.2.d.

50 % Xe Pwr

b. **RECORD** the Shutdown Time and Date from RRD, step F.2.a.

S/D Time Now S/D Date Today

c. **DETERMINE** the Xenon Worth using the Xe Equivalent Power (F.9.a) and "Time After Shutdown". From BCB-1, Figure 8C or Table 1-2, select the time within the "bounding time" from step F.5.c that corresponds to the least negative (most positive) amount of reactivity. **RECORD** the respective Xe Worth and **RECORD** the associated "Time after Shutdown". Choosing the least negative (most positive) Xe Worth over the shift will yield a bounding SDM calculation.

Number of Hours Shutdown 0 hrs

(-) 3019 pcm Xe Worth

(-) 2581

Incorrect values. Correct values noted.

10. REACTIVITY WORTH OF SAMARIUM

NOTE

For accumulated burnup less than 600 EFPH, make no adjustments for Samarium. Mark steps F.10.a and F.10.b N/A.

a. **RECORD** the Samarium equivalent power from the RRD step F.2.c.

50 % Sm Pwr

b. **CALCULATE** the worth of Samarium from BCB-1, Table 1-4 by determining the Sm at the equivalent power from step F.10.a, with the number of hours shutdown based on the present time and **SUBTRACTING** the Sm worth at time of shutdown (t=0). (A bounding value would be 0 pcm for Sm Worth. If zero is entered, mark other blanks N/A.)

N/A pcm - Sm Worth at present time for % Sm Pwr

N/A = Sm Worth at S/D (time = 0) for % Sm Pwr (F.10.a)

(-) 0 pcm Sm Worth

F. continued

11. CORRECTION FOR BORON EFFECTS ON XENON AND SAMARIUM WORTHS

a. From step F.7.a.1) **RECORD** the integral worth of boron.

(-) 6010 pcm *9174 Incorrect values. Correct values noted.*

b. From BCB-1, Figure 8B **DETERMINE** the correction factor at the integral boron worth recorded in F.11.a.

0.926 *0.89*

c. **ADD** the Xenon worth from step F.9.c and the Samarium worth from step F.10.b.

2581

(-) 3019 pcm (F.9.c) + (-) 0 pcm (F.10.b) = (-) 3019 pcm *2581*

d. **MULTIPLY** the sum of the fission product poison worths (step F.11.c) by the correction factor (F.11.b). This is the net value of fission product adjusted for competition effects of boron.

2581 *0.89*

(-) 3019 pcm (F.11.c) x 0.9268 (F.11.b) = (-) 2798 pcm *(-) 2297*

12. TOTAL SHUTDOWN MARGIN

a. **CALCULATE** the Total Shutdown Margin, in "pcm", by adding:

BORON WORTH (step F.7.b) 3094 pcm *-70*

\+ UNTRIPPABLE CONTROL ROD WORTH (step F.8.b)

(+) 0 pcm *Incorrect values. Correct values noted.*

\+ FISSION PRODUCT WORTH (step F.11.d)

(-) 2798 pcm *(-) 2297*

= TOTAL SHUTDOWN MARGIN 296 pcm *-2367*

b. **RECORD** the present Operating Mode (1-5). Mode 3

F.12. continued

NOTE
For Modes 1-5, the Total Shutdown Margin (F.12.a) must be equal to or more Negative than the Shutdown Margin specified in the COLR (F.4.f).

c. **ANSWER** whether the Acceptance Criteria is satisfied or not and **INITIAL**. (YES or NO)

YES NO (¢)

Incorrect value. Correct value noted.

BJC	Today		
NSO or QNE	Date	SRO	Date

If the Acceptance Criteria is not satisfied, **IMMEDIATELY** notify the Shift Manager and **INITIATE** 1BOL 1.1 or 1BOL 1.h.

If the Acceptance Criteria is satisfied, this surveillance should be performed each shift provided the bounding assumptions in step F.5 remain satisfied. Mark the remainder of this procedure N/A.

N/A 13. COLR BORON CONCENTRATION

NOTE
The minimum required boron concentration shall be obtained from the current operating cycle COLR, Section 2.13.2. plus the cycle Model Bias Term from BCB-1 Table 1-1. This SDM maintains keff ≤ 0.987 with all shutdown and control rods fully withdrawn in MODES 3, 4, or 5.

a. **CALCULATE** the Minimum Required Boron Concentration as follows:

- **RECORD** COLR Section 2.13.2 boron concentration: _____ ppm
- **ADD** cycle Model Bias Term from BCB-1 Table 1-1: +_____ ppm

=_____ ppm

F.13. continued

N/A

NOTE
For Modes 3, 4, or 5, the Present RCS Boron Concentration (F.4.d) must be greater than or equal to the Minimum Required Boron Concentration (F.13.a)

b. **ANSWER** whether the Acceptance Criteria is satisfied or not and **INITIAL**. (YES or NO)

_____ **(¢)**

_____	_____	_____	_____
NSO or QNE	Date	SRO	Date

If the Acceptance Criteria is not satisfied, **IMMEDIATELY** notify the Shift Manager and **INITIATE** 1BOL 1.1 or 1BOL 1.h.

If the Acceptance Criteria is satisfied, this surveillance should be performed each shift provided the bounding assumptions in step F.5 remain satisfied.

G. ACCEPTANCE CRITERIA:

1. For Modes 1-5, SDM shall be within the limits of the COLR (SR 3.1.1.1). This is verified by one of the following methods:

   a. For the first 12 hours following a reactor trip by having the following conditions met (F.1.k):

      1). All RCCAs operable.

      2). All RCCAs within alignment, insertion, sequence, and overlap limits prior to trip.

      3). No RCS dilutions since reactor trip.

      4). Control Bank D greater than 200 steps withdrawn prior to the trip.

      5). Reactor power was greater than 60% RTP for the 72 hour period prior to the reactor trip.

      6). RCS boron concentration greater than 100 ppm.

      7). RCS Tave greater than 550°F or a lower temperature evaluated in section F.3.

G.1. continued

OR

b. For the first 4 hours following a shutdown by having the following conditions met (F.2.d):

1). All RCCAs operable.

2). All RCCAs within alignment, insertion, sequence, and overlap limits prior to trip.

3). No RCS dilutions since reactor trip.

4). RCS T_{ave} at nominal 557°F or at a lower evaluated temperature from section F.3.

OR

c. At any time when the Present RCS Boron Concentration is greater than or equal to the Minimum Required Boron Concentration with no untrippable control rods (F.6.d).

OR

d. At any time when the Total Shutdown Margin (F.12.a) is equal to or more negative than the SDM specified in the COLR (F.4.f).

OR

e. At any time when the Present RCS Boron Concentration is greater than or equal to the Minimum Required Boron Concentration found in the COLR Section 2.13.2 (F.13.b)

Job Performance Measure

Complete a Plant Barrier Impairment for 0DSD351

JPM Number: SA-2-02-0

Revision Number: 00

Date: 08 / 21 / 2019

Developed By:	*Benjamin Reyes /s/* Instructor	10/10/2019 Date
Validated By:	*Timothy McDougal /s/* SME or Instructor	10/10/2019 Date
Reviewed By:	*Mace Davis /s/* Operations Representative	10/10/2019 Date
Approved By:	*J.E. Smith /s/* Training Department	10/11/2019 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

TLM	1.	Task description and number, JPM description and number are identified.
TLM	2.	Knowledge and Abilities (K/A) references are included.
TLM	3.	Performance location specified. (in-plant, control room, simulator, or other)
TLM	4.	Initial setup conditions are identified.
TLM	5.	Initiating cue (and terminating cue if required) are properly identified.
TLM	6.	Task standards identified and verified by SME review.
TLM	7.	Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
N/A	8.	If an alternate path is used, the task standard contains criteria for successful completion.
TLM	9.	Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure CC-AA-201 Rev: 12 Procedure BAP 1100-3 Rev: 024 Procedure BAP 1100-3A3 Rev: 042 Procedure 0BOL 10.g Rev: 009 Procedure Pre-Fire Plan #43 – PFP FZ 5.2-1 Rev: 004
TLM	10.	Verify cues both verbal and visual are free of conflict.
TLM	11.	Verify performance time is accurate
N/A	12.	If the JPM cannot be performed as written with proper responses, then revise the JPM.
TLM	13.	When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

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

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

Revision Record (Summary)

Revision 00, JPM created for 19-2 NRC ILT Exam 2019.

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.

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:

   - CC-AA-201
   - BAP 1100-3
   - BAP 1100-3A3
   - 0BOL 10.g
   - Pre-Fire Plan #43 – FZ 5.2-1

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

   - None

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 WEC Supervisor.

- You have just received a call that door 0DSD351 (Door Fire / Security TB1 to ESF-11 RM A252) will not latch.
- IR# 01234567 has been submitted.
- WO# 11121314 has been generated.
- MMD estimates 24 hours to complete repairs.

INITIATING CUE

The Shift Manager has directed you to determine if a Plant Barrier Impairment (PBI) is required, and if so, complete the PBI.

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

Information For Evaluator's Use:

Per BAP 1100-3 Step D.5.c, A fire door is considered **"inoperable"** if it will not latch (manipulation of the door handle to help latch the door is not allowed.

BAP 1100-3A3
Revision 42
Page 17 of 60

EPN	FIRE		SEC	VENT	HELB	POST-LOCA RAD. EQ	FLOOD	MISSILE	OCC RP	EL'	COL	ROW	EQUIPMENT NAME
	NON-TRM	TRM											
0DSD330									RP1	401	25	P	DOOR 0WX08DC RM FROM LADDER A-239
0DSD331									RP1	401	25	N	DOOR AB2 FROM 0WX08DC RM A-239
0DSD332									RP1	401	24	P	DOOR SURF COND RM FROM LADDER A-239
0DSD333									RP1	401	24	N	DOOR AB2 FROM 0WX08DC RM A-239
0DSD334									RP1	401	23	P	DOOR SURF COND RM FROM LADDER A-239
0DSD335									RP1	401	23	N	DOOR AB2 FROM 0WX08DA RM A-239
0DSD336		F6		X						401	29	P	DOOR FIRE 2DG01KA RM TO OIL TK RM A-240
0DSD337		F6		X						401	29	P	DOOR 2DG01KB RM FROM HVAC EQUIP RM A-240
0DSD338		F6		X						401	27	P	DOOR FIRE 2DG01KA RM TO HVAC RM A-240
0DSD339				X					RP1	401	12	Q	DOOR RXB1 FROM 1B1 A-241
0DSD340		F6		X						401	7	P	DOOR FIRE 1DG01KA RM TO OIL TK RM A-237
0DSD341		F4		VA1					RP1	401	15	U	DOOR AB1 FROM PIPE PENETRATION AREA
0DSD342				X					RP1	401	16	V	DOOR AB1 FROM VALVE AISLE A-242
0DSD343				X					RP1	401	16	Q	DOOR AB1 FROM VALVE AISLE A-242
0DSD344				X					RP1	401	19	Q	DOOR AB2 FROM VALVE AISLE A-242
0DSD345				X					RP1	401	19	V	DOOR AB2 FROM VALVE AISLE A-242
0DSD346		F4		VA1					RP1	401	20	U	DOOR AB2 FROM PIPE PENETRATION AREA
0DSD347										417	24	M	DOOR STAIR#A-22 FROM PASSAGEWAY A-251
0DSD348		F7	S2	X	H2					426	6	L	DOOR FIRE/SECURITY TB1 TO ESF-12 A-252
0DSD349		F2		X						426	6	P	DOOR FIRE ESF-12 RM TO VENT RM A-252
0DSD350		F2		X						426	8	P	DOOR FIRE ESF-11 RM TO VENT RM A-252
0DSD351		F7	S2	X	H2					426	8	L	DOOR FIRE/SECURITY TB1 TO ESF-11 RM A-252
0DSD352				X					RP1	426	11	P	DOOR AB1 FROM CONT CLOTHES HAMPER A-253
0DSD353				X					RP1	426	11	P	DOOR AB1 FROM LAUNDRY RM A-253
0DSD354				X					RP1	426	11	P	DOOR AB1 FROM LAUNDRY RM A-253
0DSD355				X					RP1	426	12	N	DOOR AB1 FROM LAB HVAC EQUIP RM A-253
0DSD356				VL1					RP1	426	12	N	DOOR AB1 FROM HIGH LEVEL LAB A-253
0DSD357		F2		X						426	12	L	DOOR FIRE STAIR#A-2 TO LAB HVAC RM A-253
0DSD358										426	15	M	DOOR CORRIDOR FROM HIGH LEVEL LAB A-253
0DSD359										426	17	M	DOOR CORRIDOR TO STORAGE RM A-253
0DSD360										426	15	M	DOOR CORRIDOR TO LOW LEVEL LAB A-253
0DSD361										426	15	M	DOOR CORRIDOR TO COUNTING RM A-253
0DSD362										426	18	M	DOOR CORRIDOR TO RAD CHEM MGNT A-254
0DSD363										426	18	M	DOOR CORRIDOR TO SUPPLY RM A-254
0DSD364										426	18	L	DOOR CORRIDOR TO RAD CHEM SUPER A-254
0DSD365										426	19	L	DOOR SUPER OFFICE FROM SUPPLY RM A-254
0DSD366										426	19	L	DOOR CORRIDOR TO RAD SUPER OFFICE A-254
0DSD367										426	20	L	DOOR CORRIDOR TO RAD OFFICE A-254
0DSD368										426	21	L	DOOR CORRIDOR TO RAD OFFICE A-254
0DSD369				X						426	20	P	DOOR AB2 TO MASK CLEANING RM A-254
0DSD370		F2								426	7	N	DOOR FIRE ESF-11 RM TO ESF-12 RM A-252

Task Performance Standard: Applicant determines all required compensatory actions for the inoperability of door 0DSD351 in accordance with BAP 1100-3 and completes PBI Form CC-AA-201 Attachment 1.

UNSAT requires written comments on respective step.

* Denotes critical steps. **2 – 4, 7 & 11**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	When Plant Barrier Impairment (PBI) procedure requested, provide candidate a copy of CC-AA-201, Plant Barrier Control Program.				
NOTE:	The following additional resources may be solicited during the performance of this JPM: • BAP 1100-3, PLANT BARRIER IMPAIRMENT (PBI) PROGRAM • BAP 1100-3A3, PRE-EVALUATED PLANT BARRIER MATRIX • 0BOL 10.g LCOAR FIRE ASSEMBLIES TRM LCO # 3.10.g • PFP FZ 5.2-1 Division 11 ESF Switchgear Room Additional Evaluator Notes are contained within JPM where they are likely to be requested and subsequently provided to the candidate.				
1	Refer to CC-AA-201.	• Determine that Attachment 1, Plant Barrier Impairment Permit needs to be filled out.	___	___	___
CUE	When site specific procedures are requested; provide candidate a copy of BAP 1100-3, Plant Barrier Impairment Program for guidance and BAP 1100-3A3, Pre-Evaluated Plant Barrier Matrix.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	Wording equivalent to that provided in the standard is acceptable for completion of the Barrier Impairment Permit.				
***2**	Complete Section I. of PBI Permit	Complete Section I. of PBI Permit o Component: **Door Fire/Security TB1 to ESF-11 RM** o WO: **11121314** • EPN / ID: **0DSD351** o Unit: **1** • Col/Row/Elevation: **8/L/426** o Applicable Dwgs: **A-252** • Description of Barrier Impairment: **Door will not latch properly** • Reason for Barrier Impairment: **Broken latch** o Support of Maint Activity: **Yes** o Planned Duration: **1 day** • Initiator signature: ***(candidate)* and date *(current)***	___	___	___
CUE	The next sequential PBI log number is 19-859.				
NOTE:	If applicant asks for Pre-Fire plan drawing for the affected zone, provide PFP FZ 5.2-1 AUX. BLDG. 426'-0" ELEV. DIVISION 11 ESF SWITCHGEAR ROOM.				
NOTE:	When Fire Protection LCOAR procedure requested, provide candidate a copy of 0BOL 10.g LCOAR Fire Assemblies TRM LCO # 3.10.g.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***3**	Complete Fire Barrier, Section II. of PBI Permit	Complete Section II. of PBI Permit • Fire Barrier Applicable: **Yes** o Per: **BAP 1100-3A3** • Compensatory Action Required: **Yes** • Type of Fire Watch Required: **Hourly** or **Continuous** • Fire Detection OP Check Required: **Yes** (for Hourly watches) or **NO** (for Continuous watch) • Detection Zones: **1D-78** • Fire Zones: **5.2-1** o Testing required: **No** o CO2/Halon area affected: **No** • Fill in written compensatory action block: **Per BAP 1100-3A3, compensatory action F7 required for Fire. Enter 0BOL 10.g.** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***4**	Complete Security Barrier, Section II. Of PBI Permit	• Security Barrier: **Yes** o Per: **BAP 1100-3A3** • Compensatory Action Required: **Yes** • Fill in written compensatory action block: **Security has been contacted and is providing compensatory actions per the Security Plan.** AND **PBI Permit is required for other design-basis disciplines** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___
CUE	If applicant notifies security provide the following cue: A Security Guard will be posted.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	Per BAP 1100-3A3, the ventilation column is marked with an X. This states that "these are doors, penetrations and floor plugs in the ventilation boundary for the VA, VC, VD, VI, VL, VS, VT, VV, and WW systems. They are either interior doors which do not impact the ventilation boundary, OR have been determined to not negatively impact the ventilation design basis of the plant if impaired. Therefore control under the PBI program is not necessary.*" This means that no compensatory actions are required. This may lead some examinees to mark the Ventilation Barrier as NO. This also acceptable as long as the applicant references the above definition as reason for the decision.				
5	Complete Ventilation Barrier, Section II. Of PBI Permit IF "Ventilation Barrier" type is checked "No," THEN the only other item required to be completed is the Reviewer signature and date. IF "Yes" is checked, THEN section should be completed as indicated.	• Ventilation Barrier: **Yes/No** o Per: **BAP 1100-3A3** o Compensatory Action Required: **No** o Mode restrictions: **No** o Fill in written compensatory action block: **None** o 90-day clock applicable: **No** o Is a 50.59 review required?: **No** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6	Complete Flood Barrier, Section II. Of PBI Permit IF barrier type is checked "No," THEN the only other item required to be completed is the Reviewer signature and date.	• Flood Barrier: **No** o Per: **BAP 1100-3A3** o Compensatory Action Required: **No** o Mode restrictions: **No** o Fill in written compensatory action block: **None** o 90-day clock applicable: **No** o Is a 50.59 review required?: **No** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___
***7**	Complete HELB Barrier, Section II. Of PBI Permit	• HELB Barrier: **Yes** o Per: **BAP 1100-3A3** • Compensatory Action Required: **Yes** • Mode restrictions: **No** • Fill in written compensatory action block: **Temporary HELB Barrier required** • 90-day clock applicable: **Yes** • Is a 50.59 review required?: **No** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
8	Complete Missile Barrier, Section II. Of PBI Permit IF barrier type is checked "No," THEN the only other item required to be completed is the Reviewer signature and date.	• Missile Barrier: **No** o Per: **BAP 1100-3A3** o Compensatory Action Required: **No** o Mode restrictions: **No** o Fill in written compensatory action block: **None** o 90-day clock applicable: **No** o Is a 50.59 review required?: **No** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___
9	Complete Occupational Rad Protection, Section II. Of PBI Permit IF barrier type is checked "No," THEN the only other item required to be completed is the Reviewer signature and date.	• Occupational Rad Protection: **No** o Per: **BAP 1100-3A3** o Compensatory Action Required: **No** o Mode restrictions: **No** o Fill in written compensatory action block: **None** o 90-day clock applicable: **No** o Is a 50.59 review required?: **No** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
10	Complete Post LOCA Radiation EQ, Section II. Of PBI Permit IF barrier type is checked "No," THEN the only other item required to be completed is the Reviewer signature and date.	• Post LOCA Radiation EQ: **No** o Per: **BAP 1100-3A3** o Compensatory Action Required: **No** o Mode restrictions: **No** o Fill in written compensatory action block: **None** o 90-day clock applicable: **No** o Is a 50.59 review required?: **No** • RECORD name ***(candidate)*** **and date** ***(current)*** as reviewer	___	___	___
CUE	If candidate asks, reply that PBI tags are prepared.				
***11**	Complete Section III. of PBI Permit Sign and Date	• Sign ***(candidate)*** **/ date** ***(current)*** Section III. Approval of Plant Barrier Impairment	___	___	___
CUE	If examinee asks, reply the FIN supervisor reports expected repair time is 24 hours.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
12	Complete Section IV. of PBI Permit Sign and Date	• Est. Barrier Degradation Period: **1 day** • Is 90-day time clock applicable: **Yes** • Expiration Date: **Today's Date + 90 days** • Time: **JPM Start Time** • Sign ***(candidate)*** **/ date** ***(current)*** Section IV. Permission to Impair Barrier as WEC Supvr.	___	___	___
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: Complete a Plant Barrier Impairment for 0DSD351
JPM Number: SA-2-02-0 Revision Number: 00
Task Number and Title: 8E-AM-089 PROCESS a Fire Protection / Plant Impairment Permit
K/A Number and Importance: G 2.2.21 : 4.1
Suggested Testing Environment: Classroom
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s): Procedure CC-AA-201 Rev: 12
Procedure BAP 1100-3 Rev: 024
Procedure BAP 1100-3A3 Rev: 042
Procedure 0BOL 10.g Rev: 009
Procedure Pre-Fire Plan #43 – FZ 5.2-1 Rev: 004

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

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

ATTACHMENT 1
PLANT BARRIER IMPAIRMENT PERMIT
PBI No. 19-859
Page 1 of 4

I. INITIATOR SECTION- BARRIER IMPAIRMENT INFORMATION

Component: Door Fire/Security TB1 to ESF-11 RM A-252 W/O – C/O# 11121314
EPN/ID 0DSD351 Unit 1 Col/Row/Elevation 8 / L / 426
Applicable Dwgs A-252
Description of Barrier Impairment
Door will not latch properly
Reason for Barrier Impairment
Broken latch
Support of Maintenance Activity: [X] Yes [ ] No Planned Duration (No. Days): 1

INITIATOR /Date Candidate Today/ / **EXT.** Ext

II. COMPENSATORY ACTIONS

Fire Barrier

Barrier Type Applicable: [X] Yes [ ] No Per BAP 1100-3A3
Compensatory Action Required: [X] Yes [ ] No
Type of Fire Watch Required: [ ] Continuous [X] Hourly [ ] Other
Fire Detection OP Check Required: [X] Yes [ ] No
Detection Zones 1D-78 Fire Zones 5.2-1
Testing required: [ ] Yes [X] No
CO2/Halon area affected: [ ] Yes [X] No

	Initiation	Performance
Per BAP 1100-3A3, compensatory action F7 required. Enter OBOL 10.g		

Reviewer: Candidate (Printed Name) Candidate (Signature) **Date:** Today

Security Barrier:

Barrier Type Applicable: [X] Yes [ ] No Per BAP 1100-3A3
Compensatory Action Required: [X] Yes [ ] No

	Initiation	Performance
Security has been contacted and is providing compensatory actions per the Security Plan.		

Reviewer: Candidate (Printed Name) Candidate (Signature) **Date:** Today

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

ATTACHMENT 1
PLANT BARRIER IMPAIRMENT PERMIT
PBI No. 19-859
Page 2 of 4

Ventilation Barrier:
Barrier Type Applicable: [X] Yes [ ] No Per BAP 1100-3A3
Compensatory Action Required: [ ] Yes [X] No
Mode Restrictions: [ ] Yes _____ [X] No (Applicable to all Modes)

	Initiation	Performance
None		

Is 90-day time clock applicable? [ ] Yes [X] No
Is a 50.59 review required? [ ] Yes # _____ [X] No

Reviewer: Candidate (Printed Name) _____ Candidate (Signature) _____ **Date:** Today

Flood Barrier:
Barrier Type Applicable: [ ] Yes [X] No Per BAP 1100-3A3
Compensatory Action Required: [ ] Yes [X] No
Mode Restrictions: [ ] Yes _____ [X] No (Applicable to all Modes)

	Initiation	Performance

Is 90-day time clock applicable? [ ] Yes [X] No
Is a 50.59 review required? [ ] Yes # _____ [X] No

Reviewer: Candidate _____ Candidate _____ **Date:** Today

HELB Barrier:
Barrier Type Applicable: [X] Yes [ ] No Per BAP 1100-3A3
Compensatory Action Required: [X] Yes [ ] No
Mode Restrictions: [ ] Yes _____ [X] No (Applicable to all Modes)

	Initiation	Performance
Temporary HELB Barrier required		

Is 90-day time clock applicable? [X] Yes [ ] No
Is a 50.59 review required? [ ] Yes # _____ [X] No

Reviewer: Candidate (Printed Name) _____ Candidate (Signature) _____ **Date:** Today

ATTACHMENT 1
PLANT BARRIER IMPAIRMENT PERMIT
PBI No. 19-859
Page 3 of 4

Missile Barrier:

Barrier Type Applicable: ☐ Yes ☒ No Per BAP 1100-3A3
Compensatory Action Required: ☐ Yes ☒ No
Mode Restrictions: ☐ Yes _____ ☒ No (Applicable to all Modes)

	Initiation	Performance

Is 90-day time clock applicable? ☐ Yes ☒ No
Is a 50.59 review required? ☐ Yes # _____ ☒ No

Reviewer: Candidate (Printed Name) Candidate (Signature) Date: Today

Occupational Rad Protection:

Barrier Type Applicable: ☐ Yes ☒ No Per BAP 1100-3A3
Compensatory Action Required: ☐ Yes ☒ No
Mode Restrictions: ☐ Yes _____ ☒ No (Applicable to all Modes)

	Initiation	Performance

Is 90-day time clock applicable? ☐ Yes ☒ No
Is a 50.59 review required? ☐ Yes # _____ ☒ No

Reviewer: Candidate (Printed Name) Candidate (Signature) Date: Today

Post-LOCA Radiation EQ:

Barrier Type Applicable: ☐ Yes ☒ No Per BAP 1100-3A3
Compensatory Action Required: ☐ Yes ☒ No
Mode Restrictions: ☐ Yes _____ ☒ No (Applicable to all Modes)

	Initiation	Performance

Is 90-day time clock applicable? ☐ Yes ☒ No
Is a 50.59 review required? ☐ Yes # _____ ☒ No

Reviewer: Candidate (Printed Name) Candidate (Signature) Date: Today

ATTACHMENT 1
PLANT BARRIER IMPAIRMENT PERMIT
PBI No. 19-859
Page 4 of 4

III. APPROVAL OF PLANT BARRIER IMPAIRMENT

Operations Management (or designee):
The required reviews are complete, review of compensatory actions, impact on operability, actions statements identified and PBI PERMIT Tags prepared.
SRO Signature Candidate Date Today

IV. PERMISSION TO IMPAIR BARRIER

Est. Barrier Degradation Period 1 Day

Is 90-day time clock applicable? (X) Yes Expiration: Date Today's Date + 90 days Time JPM Start Time Hrs.

( ) No

Work Group Supervisor or Designee-compensatory actions initiated

Signature Candidate Date Today

Operations Management- Ensure compensatory actions are in place and Action Statements entered. Verify current plant configuration still allows for degradation of barrier. Verify that no new PBI permits (that impact this PBI) have become active since approval of this PBI or contact the appropriate reviewers, and issue the PBI Tags.

SRO Signature _____ Date ___/__/__ Time____Hrs.

V. PERMISSION TO REMOVE COMPENSATORY ACTIONS

Description of barrier restoration:

_____
_____

Work Group Supervisor or designee-Barrier restored._____ __/__/__

Description of test:

_____
_____

Work Group Supervisor or designee -Verify Testing Complete _____ ___/___/__

SRO Signature -Authorize removal of compensatory Actions. _____
Date___/__/__Time____Hrs.

Retain completed PBI permit for 6 years. (SRRS # 3A.136)

INITIAL CONDITIONS

You are the WEC Supervisor.

- You have just received a call that door 0DSD351 (Door Fire / Security TB1 to ESF-11 RM A252) will not latch.
- IR# 01234567 has been submitted.
- WO# 11121314 has been generated.
- MMD estimates 24 hours to complete repairs.

INITIATING CUE

The Shift Manager has directed you to determine if a Plant Barrier Impairment (PBI) is required, and if so, complete the PBI.

Job Performance Measure

Accessing Containment at Power

JPM Number: SA-3-02-0

Revision Number: 07

Date: 08 / 20 / 2019

Developed By:	*Benjamin Reyes /s/* Instructor	10/10/2019 Date
Validated By:	*Timothy McDougal /s/* SME or Instructor	10/10/2019 Date
Reviewed By:	*Mace Davis /s/* Operations Representative	10/10/2019 Date
Approved By:	*J.E. Smith /s/* Training Department	10/11/2019 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

TLM	1.	Task description and number, JPM description and number are identified.
TLM	2.	Knowledge and Abilities (K/A) references are included.
TLM	3.	Performance location specified. (in-plant, control room, simulator, or other)
TLM	4.	Initial setup conditions are identified.
TLM	5.	Initiating cue (and terminating cue if required) are properly identified.
TLM	6.	Task standards identified and verified by SME review.
TLM	7.	Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
N/A	8.	If an alternate path is used, the task standard contains criteria for successful completion.
TLM	9.	Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure BAP 1450-1 Rev: 44 Procedure BAP 1450-T2 Rev: 38 Procedure 1BOL PC-1 Rev: 06
TLM	10.	Verify cues both verbal and visual are free of conflict.
TLM	11.	Verify performance time is accurate
N/A	12.	If the JPM cannot be performed as written with proper responses, then revise the JPM.
TLM	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, Initial Revision of JPM

04-- Changed to current format

05- - Updated to current procedure revision
- Changed RWP # to match current RW
- Added step for SRO to determine which entry condition to enter in 1BOL PC-1
- Validated on 3/3/13 by Bill Hochstetter and Rob Lawlor
- Made time critical for unidentified RCS leakage. Note: LCO is 4 hours made JPM at 50% of that time

06- Applied new template TQ-AA-150-J020
Updated referenced procedures to current revisions
Corrected Task Number
Removed time critical element based on feedback

07- 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.

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:

   - BAP 1450-1
   - BAP 1450-T2
   - 1BOL PC-1

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

   - BAP 1450-1
   - BAP 1450-T2 Reference
   - 1BOL PC-1

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 WEC Supervisor.

- Unit 1 has just failed 1BOSR 4.13.1-1, Reactor Coolant System Water Inventory Balance 72 Hour Surveillance, due to unidentified leakage of 2.2 gpm.
- Reactor power is 100% steady state.
- Two EO's (Collin Pope, Daniel Welch) and one RP Technician (Mark Mueller) will be entering Unit 1 Containment to search for an RCS leak outside the missile barrier.
- Collin Pope, ext 2473, is originating the Containment Entry Checklist, BAP 1450-T2.
- The access control guard will be Tim Stevens, a security guard.
- They expect to spend up to 2 hours searching for the leak.
- RP directs entry through the emergency hatch.

INITIATING CUE

Complete the required form for the containment entry for the WEC Supervisor responsibilities.

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

Information For Evaluator's Use:

Task Performance Standard: Candidate will complete the WEC Supervisor section of BAP 1450-T2 and correctly identify the Condition and Required Actions per 1BOL PC-1.

UNSAT requires written comments on respective step.

* Denotes critical steps. **2, 4, 6, and 8**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	The order of the steps is slightly different in the procedure and checklist.				
NOTE:	The examinee may elect to notify Radiation Protection of the intent to enter containment first in order to expedite the verification of sampling requirements.				
1	REFER to BAP 1450-1, Access to Containment, and BAP 1450-T2, Containment Entry Checklist	LOCATE and OPEN: o BAP 1450-1 o BAP 1450-T2	___	___	___
NOTE:	Provide the examinee with a copies of BAP 1450-1 and 1450-T2				
***2**	Ensure MCR Turbine and Rx Panel placards are in place	• Contacts MCR to PLACE "Do Not Change Power" placards • Turbine panel • Reactor panel	___	___	___
CUE	The "Do Not Change Power" placards are in place.				
3	Ensure NSO is notified of Access Control Guard's name	o NSO is notified of name of Access Control Guard o Tim Stevens	___	___	___
CUE	NSO acknowledges security guard's name.				
***4**	MIDs are tagged out	• VERIFY the MIDs are De-energized in accordance with OP-AA-109-101 • MIDs shall be in storage or at the bottom of the reactor vessel • Checklist marked "YES"	___	___	___
CUE	The MIDs are parked at the bottom the vessel and are Tagged Out				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
5	For emergency hatch entry, initiate 1BOL PC-1	• Determines 1BOL PC-1 initiation is required	___	___	___
CUE	When applicant identifies that 1BOL PC-1, LCOAR CONTAINMENT AIRLOCK DOOR SEALS, initiation is required or asks for a copy of 1BOL PC-1. Provide a blank a copy of 1BOL PC-1				
NOTE:	A key has been provided for 1BOL PC-1.				
CUE	(If asked, which C.2 condition to apply), reply as follows: C.2.1				
***6**	Determines BOL entry condition	• Candidate reviews 1BOL PC-1 • Condition C: Containment entry made through Emergency Hatch Airlock. • Immediately Document Containment Entry on Attachment A, Containment Entry Log AND • Perform 1BOSR 6.2.1-2, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Emergency Personnel Airlock Door Gasket Interspaces within 7 days (OR 30 Days AND containment entry is more frequent than once every 7 days)	___	___	___
CUE	(WHEN candidate determines, which BOL entry condition and actions would be entered for this LCO) Return to BAP 1450-1 completion.				
NOTE:	(from cue sheet) There will be no entry inside missile barrier.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7	Turn on lights inside missile barrier if entering inside the missile barrier	o Determines No Entry Inside the Missile Barrier (No Lights required)	___	___	___
***8**	Sign WEC Supervisor Approval	• Examinee signs WEC approval	___	___	___
CUE	The 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: Assessing Containment At Power
JPM Number: SA-3-02-0 Revision Number: 07
Task Number and Title: 8E.AM-128 AUTHORIZE Containment Entry
K/A Number and Importance: G 2.3.13: 3.8
Suggested Testing Environment: Classroom
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s): Procedure BAP 1450-1 Rev: 44
Procedure BAP 1450-T2 Rev: 38
Procedure 1BOL PC-1 Rev: 06

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

Evaluator's Name (Print): _____

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

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

Exelon Generation

BAP 1450-T2
Revision 38
Page 1 of 1
Level 1 – Continuous Use

CONTAINMENT ENTRY CHECKLIST

Unit to be Entered (X) X **Unit ONE** ___ **Unit TWO**

ORIGINATOR			
Name: Collin Pope	Ext: 2473	Date: Today	Estimated Duration: 2 hours
Reason for Entry: Search for a RCS leak outside the Missile Barrier			

ENTRY CONDITIONS

Radiation Protection

1. Rad / Non-Rad Air Samples Satisfactory
2. ALARA / RP/ Pre-job Brief Complete

Radiation Protection Approval: Oliver Kents 20 minutes ago / Today

RP Manager Approval (IMB Only) (Modes 1 & 2 Only): n/a _____ / _____

WEC Supervisor

1. Turbine / Reactor Placards in Place / NSO notified of Access Control Guard name.
2. MIDS: Tagged Out (In Storage or at Vessel Bottom) Yes ____ No* ____
   (*if NO, control in accordance with Sec: 4.3.3. of BAP 1450-1, RPM ____/____)
3. Entry Point:
   Equipment Hatch – Verify Door Seal Alarm Operable or Initiate 1/2BOL PC-1, Containment Airlock Door Seals.
   Emergency Hatch – Initiate 1/2BOL PC-1, Containment Airlock Door Seals.
4. Contact Operating to turn on inside missile barrier lights if entry inside missile barrier required.

WEC Supervisor Approval: _____ _____ / _____

Work Group Lead

1. Access Control Guard Assigned. _____
2. Security notified to support Cnmt entry as required. _____
3. BAP 1450-8 reviewed during pre-job brief.
4. Cnmt Evac monitor assigned. _____
5. Hatch Emergency Tool Kit Available.
6. Emergency toolkit tamper seal unbroken.
7. Each work group initiate _BOSR Z.5.b.1-1T2, Containment Loose Debris Log. N/A if not in MODE 1-4.
8. Communication for Cnmt Evac established. ____ YES ____ N/A
9. Successful test of Cnmt Evac Alarm. ____ SAT ____ UNSAT _____ N/A

Work Group Lead: _____ _____ / _____

CONTAINMENT EXIT / CHECKLIST CLOSEOUT

Work Group Lead

1. Containment Loose Debris Surveillance Complete. All material and equipment taken into containment has been removed or evaluation to remain in place has been approved by Engineering.
2. Attach completed _BOSR Z.5.b.1-1T2, Containment Loose Debris Log, to this form.
3. WEC Informed of Containment Entry Completion.
4. Contact Operating to turn off inside missile barrier lights if no other entries planned.

Work Group Lead: _____ _____ / _____

WEC Supervisor

1. Turbine / Reactor placards removed, if all personnel have exited containment.
2. Verify Blue Tamper Seal installed on Emergency Hatch ONLY if Emergency Hatch remained closed. (inner hatch door and outer security door)
3. Initiate 1/2BOSR 6.2.1-1/2, Airlock Door Gasket Interspace Test, as applicable.

WEC Supervisor: _____ _____ / _____

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

INITIAL CONDITIONS

You are the WEC Supervisor.

- Unit 1 has just failed 1BOSR 4.13.1-1, Reactor Coolant System Water Inventory Balance 72 Hour Surveillance, due to unidentified leakage of 2.2 gpm.
- Reactor power is 100% steady state.
- Two EO's (Collin Pope, Daniel Welch) and one RP Technician (Mark Mueller) will be entering Unit 1 Containment to search for an RCS leak outside the missile barrier.
- Collin Pope, ext 2473, is originating the Containment Entry Checklist, BAP 1450-T2.
- The access control guard will be Tim Stevens, a security guard.
- They expect to spend up to 2 hours searching for the leak.
- RP directs entry through the emergency hatch.

INITIATING CUE

Complete the required form for the containment entry for the WEC Supervisor responsibilities.

Level 1 – Continuous Use

CONTAINMENT ENTRY CHECKLIST

Unit to be Entered (X) _X_ **Unit ONE** ___ **Unit TWO**

ORIGINATOR			
Name: Collin Pope	Ext: 2473	Date: Today	Estimated Duration: 2 hours
Reason for Entry: Search for a RCS leak outside the Missile Barrier			

ENTRY CONDITIONS

Radiation Protection

1. Rad / Non-Rad Air Samples Satisfactory
2. ALARA / RP/ Pre-job Brief Complete

Radiation Protection Approval: Oliver Kents 20 minutes ago / Today

RP Manager Approval (IMB Only) (Modes 1 & 2 Only): N/A _____ / _____

WEC Supervisor

1. Turbine / Reactor Placards in Place / NSO notified of Access Control Guard name.
2. MIDS: Tagged Out (In Storage or at Vessel Bottom) Yes _X_ No* ___
   (*if NO, control in accordance with Sec: 4.3.3. of BAP 1450-1, RPM N/A)
3. Entry Point:
   Equipment Hatch – Verify Door Seal Alarm Operable or Initiate 1/2BOL PC-1, Containment Airlock Door Seals.
   Emergency Hatch – Initiate 1/2BOL PC-1, Containment Airlock Door Seals.
4. N/A Contact Operating to turn on inside missile barrier lights if entry inside missile barrier required.

WEC Supervisor Approval: Applicant's name/signature Now / Today

Work Group Lead

1. Access Control Guard Assigned. _____
2. Security notified to support Cnmt entry as required. _____
3. BAP 1450-8 reviewed during pre-job brief.
4. Cnmt Evac monitor assigned. _____
5. Hatch Emergency Tool Kit Available.
6. Emergency toolkit tamper seal unbroken.
7. Each work group initiate _BOSR Z.5.b.1-1T2, Containment Loose Debris Log. N/A if not in MODE 1-4.
8. Communication for Cnmt Evac established. ____ YES ____ N/A
9. Successful test of Cnmt Evac Alarm. ____ SAT ____ UNSAT _____ N/A

Work Group Lead: _____ _____ / _____

CONTAINMENT EXIT / CHECKLIST CLOSEOUT

Work Group Lead

1. Containment Loose Debris Surveillance Complete. All material and equipment taken into containment has been removed or evaluation to remain in place has been approved by Engineering.
2. Attach completed _BOSR Z.5.b.1-1T2, Containment Loose Debris Log, to this form.
3. WEC Informed of Containment Entry Completion.
4. Contact Operating to turn off inside missile barrier lights if no other entries planned.

Work Group Lead: _____ _____ / _____

WEC Supervisor

1. Turbine / Reactor placards removed, if all personnel have exited containment.
2. Verify Blue Tamper Seal installed on Emergency Hatch ONLY if Emergency Hatch remained closed. (inner hatch door and outer security door)
3. Initiate 1/2BOSR 6.2.1-1/2, Airlock Door Gasket Interspace Test, as applicable.

WEC Supervisor: _____ _____ / _____

FILE LOCATION: 2.05.0500

LCOAR
CONTAINMENT AIRLOCK DOOR SEALS

IMMEDIATE

A. NOTIFICATION

TIME/DATE: /	BY:	TITLE:
PRESENT MODE: *One*	APPLICABLE MODE(s): **1, 2, 3, 4**	
INITIATING EVENT(s): U1 Containment Entry for leak inspection		
	CONDITION(S) *C*	Pg(s) *5*
NAME OF SM NOTIFIED: TIME/DATE:	☒ PLANNED ☐ UNPLANNED	
WAS AN IR WRITTEN? ☒ YES ☐ NO If NO, Reason:	RELATED WO/WR(s): *XXXXXX-XX*	RELATED CLEARANCE ORDER(s): *U1 MIDS CO*
LCO 3.0.3: **N/A**	MODE Change Allowed Per LCO 3.0.4: **N/A**	
Separate Condition entry allowed: **YES**		

B. ACTIONS

1. COMPLETE, as required, the LCOAR Table per BAP 1400-6, checking all conditions to verify all applicable conditions are entered and followed.

LCOAR TABLE
CONTAINMENT AIRLOCK DOOR SEALS

TECH SPEC SR 3.0.3
LCO compliance with a missed Surveillance.

N/A

CONDITION	REQUIRED ACTION	COMPLETION TIME
Z. Discovery of a surveillance not performed within its specified frequency. _____/_____ TIME DATE _____ SRO	Z.1.1 PERFORM the surveillance within EITHER 24 hrs OR the surveillance frequency, whichever is greater. AND Z.1.2 ----------NOTE---------- Only applicable for surveillance to be delayed > 24 hours. ---------- VERIFY COMPLETE a risk evaluation which indicates a risk impact that is manageable. OR Z.2 DECLARE the applicable function inoperable, complete Section A of this and/or any applicable BOL, and enter the appropriate conditions. (Note 1)	SR number: _____ CIRCLE completion time limit: 24 hours / _____ Max Allowance / SR Frequency _____/_____ _____ TIME DATE SRO 24 hours Max Allowance _____/_____ _____ TIME DATE SRO _____/_____ _____ TIME DATE SRO

Notes:

1. This time and date should also be entered in Section A (NOTIFICATION).

LCOAR TABLE
CONTAINMENT AIRLOCK DOOR SEALS

TECH SPEC		
Pg	COND	Any Of The Following CONDITIONS: CIRCLE applicable CONDITION(S)
3	A.	Alarm 1-1-B2, Cnmt Hatch Door Seal Trouble, is lit and alarm is inoperable as indicated by one of the following conditions. 1. Airlock doors are closed and leak detection system parameters indicate out of spec: Low Pressure < 3.1 PSIG High Pressure > 4.6 PSIG High Flow > 1.0 SCFH 2. Airlock doors are closed and leak detection system parameters are normal. (eg. annunciator failure)
4	B.	Cnmt Entry made through Personnel Airlock with door seal trouble alarm inoperable.
5	C.	Containment entry made through Emergency Airlock.
5	D.	Required Action not met for Condition B.2 or C.2.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Alarm 1-1-B2, Cnmt Hatch Door Seal Trouble, alarm is lit, and alarm is inoperable. _____/_____ TIME DATE _____ SRO	A.1 Notify WEC that 1BOL PC-1, Attachment A, Unit One Containment Entry Log, will be required for entries using the personnel airlock until alarm is returned to operable. AND A.2 Perform 1BOSR 6.2.1-1, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Equipment Hatch Airlock Door Gasket Interspaces, to verify integrity of door seals.	**Immediately** _____/_____ _____ TIME DATE SRO **24 Hours** _____/_____ _____ TIME DATE SRO

LCOAR TABLE
CONTAINMENT AIRLOCK DOOR SEALS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Containment entry made through Personnel Airlock with door seal trouble alarm inoperable. _____/_____ TIME DATE _____ SRO	B.1 Document Cnmt Entry on Attachment A, Containment Entry Log. (Note 1) AND	**Immediately** _____/_____ _____ TIME DATE SRO
	B.2.1 Perform 1BOSR 6.2.1-1, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Equipment Hatch Airlock Door Gasket Interspaces. OR	7 days _____/_____ _____ TIME DATE SRO
	B.2.2 Perform 1BOSR 6.2.1-1, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Equipment Hatch Airlock Door Gasket Interspaces.	30 Days AND containment entry is more frequent than once every 7 days. (Note 2) _____/_____ _____ TIME DATE SRO

Notes:

1. Multiple Containment entries may be documented on Attachment A. LLRT must be performed within applicable time limit of the initial entry.

2. Track entry into Containment occurs every rolling 7 days or surveillance must be performed prior to exceeding 7 days. For periods of multiple containment entries where the airlock doors are routinely used for access more frequently than once every 7 days (e.g., shift or daily inspection tours of the containment), door seals may be tested once per 30 days during this time period. (Ref. NEI-94-01)

LCOAR TABLE
CONTAINMENT AIRLOCK DOOR SEALS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Containment entry made through Emergency Hatch Airlock. _____/_____ TIME DATE _____ SRO	C.1 Document Containment Entry on Attachment A, Containment Entry Log. (Note 1) AND	**Immediately** ____/_____ TIME DATE SRO
	C.2.1 Perform 1BOSR 6.2.1-2, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Emergency Personnel Airlock Door Gasket Interspaces. OR	7 days _____/_____ _____ TIME DATE SRO
	C.2.2 Perform 1BOSR 6.2.1-2, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Emergency Personnel Airlock Door Gasket Interspaces.	30 Days AND containment entry is more frequent than once every 7 days. (Note 2) _____/_____ _____ TIME DATE SRO
D. Required Action and associated completion time of Condition B.2 or C.2 not met.	D.1 Enter 1BOL 6.2, Containment Airlocks.	**Immediately** _____/_____ _____ TIME DATE SRO

Notes:

1. Multiple Containment entries may be documented on Attachment A. LLRT must be performed within applicable time limit of the initial entry.

2. Track entry into Containment occurs every rolling 7 days or surveillance must be performed prior to exceeding 7 days. For periods of multiple containment entries where the airlock doors are routinely used for access more frequently than once every 7 days (e.g., shift or daily inspection tours of the containment), door seals may be tested once per 30 days during this time period. (Ref. NEI-94-01)

C. RESTORATION

1. An SRO shall determine the applicable surveillances and/or other actions required to demonstrate LCO restoration and LIST and/or MARK those that apply:

   a. For the Initiating Event(s) in Section A (NOTIFICATION) of this LCOAR

   - ☐ 1BOSR 6.2.1-1
   - ☐ 1BOSR 6.2.1-2
   - ☐ 1BOSR 6.2.1-5
   - ☐ _____
   - ☐ _____
   - ☐ _____
   - ☐ _____
   - ☐ _____

   TIME/DATE when these requirements are met _____ / _____ SRO

   b. For the Initiating Event(s) in Section A (NOTIFICATION) of a related 1BOL 0.0. List the component, etc. from line B.2 of the related 1BOL 0.0.

   - ☐ _____ FOR _____
   - ☐ _____ FOR _____
   - ☐ _____ FOR _____

   If more than 1 associated 1BOL 0.0 exists, use comments section to identify when the requirements are met for each.

   TIME/DATE when these requirements are met _____ / _____ SRO

2. Comments: _____

3. Once all of the above requirements have been satisfactorily completed (with SM concurrence if appropriate), RECORD the Time and Date the LCO is met. TERMINATE the Action Requirements excluding any SPECIAL REPORT or SPECIAL ACTIONS and RETURN the affected Equipment/Unit to desired status.

   SRO (NOT Duty S.M.): _____ TIME/DATE: _____ / _____

   Remarks and/or additional requirements: _____

   DUTY SHIFT MANAGER: _____ TIME/DATE: _____ / _____

ATTACHMENT A

UNIT ONE CONTAINMENT ENTRY LOG

NOTE

The containment entry log sheet is only required if the Cnmt Hatch Door Seal Trouble Alarm is not operable or if access to Containment is gained through the Containment Emergency Hatch. 1BOSR 6.2.1-1, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Equipment Hatch Airlock Door Gasket Interspaces, or 1BOSR 6.2.1-2, Unit 1 Primary Containment Type B Local Leakage Rate Tests of the Emergency Personnel Airlock Door Gasket Interspaces, are required within 7/30 days as applicable after the first containment entry on this log sheet. Exit LCOAR following successful completion of LLRT.

By: *Applicant's name* *Date and time from Condition C*
Name / Date / Time

ENTRY	TIME/DATE	EQUIP AIRLOCK	EMERG AIRLOCK	REASON FOR ENTRY
1	*Expected time and date or Condtion C time and date*	*N/A*	*X*	*Unit 1 Rcs leakage inspection (or equivalent)*
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

KEY

Job Performance Measure

Perform Follow-up PARS for a General Emergency

JPM Number: SA-4-02-1

Revision Number: 00

Date: 08 / 19 / 2019

Developed By:	*Benjamin Reyes /s/* Instructor	10/17/2019 Date
Validated By:	*Mark Kultgen /s/* SME or Instructor	10/17/2019 Date
Reviewed By:	*Mace Davis /s/* Operations Representative	10/17/2019 Date
Approved By:	*J.E. Smith /s/* Training Department	10/17/2019 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

*MGK*___ 1. Task description and number, JPM description and number are identified.

*MGK*___ 2. Knowledge and Abilities (K/A) references are included.

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

*MGK*___ 4. Initial setup conditions are identified.

*MGK*___ 5. Initiating cue (and terminating cue if required) are properly identified.

*MGK*___ 6. Task standards identified and verified by SME review.

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

N/A___ 8. If an alternate path is used, the task standard contains criteria for successful completion.

*MGK*___ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure EP-MW-114-100-F01 Rev: 01
Procedure EP-AA-111 Rev: 22
Procedure EP-AA-111-F-03 Rev: 01
Procedure EP-AA-1002 Addendum 3 Rev: 02
Procedure EP-AA-1002 Rev: 35
Procedure EP-MW-114-100 Rev: 18

*MGK*___ 10. Verify cues both verbal and visual are free of conflict.

*MGK*___ 11. Verify performance time is accurate

N/A___ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

*MGK*___ 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, JPM creation for NRC Exam 19-2 SRO only.

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. All initial notifications have been completed.

- 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

INITIATING CUE

As Shift Emergency Director, perform any required actions due to the changes in meteorological data.

- 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:

Task Performance Standard: Applicant determines the correct Protective Action Recommendations, PARs, in accordance with Byron Station EP procedures and completes EP-MW-114-100-F-01, Nuclear Accident Reporting System (NARS) Form per EP-MW-114-100.

UNSAT requires written comments on respective step.

* Denotes critical steps: **3, 13 – 15 & 17**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Complete NARS Form EP-MW-114-100-F-01 for Utility Message #2 filling in the current date and the current time (JPM Start) minus thirty minutes in Block 4, Accident Classified. Provide the completed NARS Form to the applicant. Provide the applicant with the completed Nuclear Accident Reporting System NARS Forms, EP-MW-114-100-F-01, for Utility Messages #2 along with the meteorological PPCS printout with the new data.				
CUE	Provide the applicant EP-MW-114-100, EP-MW-114-100-F-01, EP-AA-111, and EP-AA-111-F-03.				
1	Refer to Station Emergency Procedures.	• Locate and Open the following: o EP-MW-114-100 o EP-MW-114-100-F-01 o EP-AA-111 o EP-AA-111-F-03	___	___	___
2	Evaluate meteorological data.	• Compare the following: • Provided meteorological PPCS printout. • Provided NARS Form EP-MW-114-100-F-01 for Utility Message #2	___	___	___
NOTE:	Due to the wind direction shift, a change in PAR recommendations is required. While identifying the affected Sub Areas in attachment B, Sub Areas 17, 19, and 23 must be identified. The applicant may also identify Sub Areas 20 and 25 at this time. Sub Areas 20 and 25 are not required to be identified at this time, however, they are required in performance step 15 as they are carried over from the previous PARS Recommendation				
***3**	Evaluate and determine a PAR change is required.	• Evaluate for PAR recommendation. o Refer to EP-AA-11-F-03, Byron PAR Flowchart	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
		o Determine; Classification is a General Emergency: **Yes** o Determine; Is this the initial PAR: **No** o Determine; Hostile Action Events or Rapidly Progressing Severe Accident in progress: **No** o Go to: Page 2 for all other General Emergency Declarations. o Determine; Changes in wind direction affecting new downwind areas per Table B: **Yes** o Determine; Do conditions exist which would require the classification of a General Emergency per the EALs? **Yes** o Determine; Is this PAR being made from the Control Room? **Yes** • Determine; Evacuate areas per Table B: • Wind Direction from 125^{o} to 237 ^{o} • Sub Areas 17, 19, 23 • Recommended PARS change determined to be required time = <15 minutes.			

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE:	Record time that a change to recommended PARS is determined to be required. _____:_____:_____ Change to recommended PARS is determined to be required – JPM Start time = _____:_____:_____ (<15 minutes)				
CUE	When the applicant determines that a change to recommended PARS is required; provide the applicant with a blank Nuclear Accident Reporting System NARS Forms, EP-MW-114-100-F-01.				
4	Obtain NARS form.	o 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.				
5	Refer to EP-MW-114-100, MWROG Offsite Notifications, to complete NARS form.	o Locate and Open, EP-MW-114-100, MWROG Offsite Notifications, Section 4.2, to complete NARS form.	___	___	___
NOTE:	Key for completed NARS Form, EP-MW-114-100-F-01, attached as pages 14 and 15 of this document.				
6	Complete NARS Form, Message No.	• UTILITY MESSAGE NO. • Enter: **3** o STATE MESSAGE NO. o Enter: **N/A**	___	___	___
7	Complete NARS Form, block 1.	• 1. STATUS: • Mark: **[B] DRILL/EXERCISE**	___	___	___
8	Complete NARS Form, block 2.	• 2. STATION: • Mark: **[B] BYRON**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
9	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.				
10	Complete NARS Form, block 4.	• 4. ACCIDENT CLASSIFIED: • TIME: • Enter: **"30 minutes prior to the JPM start time"** • DATE: • Enter: **"today's date"** • EAL#: • Enter: **FG1** o ACCIDENT TERMINATED: o TIME: o Enter: **N/A** o DATE: o Enter: **N/A**	___	___	___
11	Complete NARS Form, block 5.	• 5. RELEASE STATUS: • Mark: **[B] OCCURRING**	___	___	___
12	Complete NARS Form, block 6.	• 6. TYPE OF RELEASE: • Mark: **[B] GASEOUS**	___	___	___
***13**	Complete NARS Form, block 7.	• 7. WIND DIR: • Enter: **193**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***14**	Complete NARS Form, block 8.	• 8. WIND SPEED: • Mark: **[B] MILES/HR:** • Enter: **8.6**	___	___	___
***15**	Complete NARS Form, block 9.	• 9. RECOMMENDED ACTIONS: • UTILITY RECOMMENDATION: • Mark: **[D] EVACUATE Illinois Sub-areas: 17, 19, 20, 23, and 25** (as determined from EP-AA-111-F-03 Table B and as carried over from previous PARS Recommendation).	___	___	___
16	Complete NARS Form, block 10.	• 10. ADDITIONAL INFORMATION: • Enter: **None**	___	___	___
***17**	Complete NARS Form, approval block.	o Verified With: o Enter: **N/A** • Approved By: • Enter: **"applicant's signature"** • NARs Form completed = ≤ 12 minutes.	___	___	___
NOTE:	Record time NARS Form completed: _____:_____:_____ NARS Form completed - Change to recommended PARS is determined to be required time = _____:_____:_____ (≤12 minutes to allow for Initial Roll Call completion of NARS Form transmittal.)				
CUE	This JPM is complete.				

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

JPM Stop Time: _____

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-4-02-1 Revision Number: 00
Task Number and Title: 8F.ZP-012 RESPOND to Station Emergency as Station Director
K/A Number and Importance: G 2.4.44 4.4
Suggested Testing Environment: Classroom
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☒ Yes ☐ No
14. Reference(s):

Procedure EP-MW-114-100-F01	Rev: 01
Procedure EP-AA-111	Rev: 22
Procedure EP-AA-111-F-03	Rev: 01
Procedure EP-AA-1002 Addendum 3	Rev: 02
Procedure EP-AA-1002	Rev: 35
Procedure EP-MW-114-100	Rev: 18

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 10 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

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

Exelon Generation

EP-MW-114-100-F-01
Revision J
Page 1 of 2

NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM

OR ELECTRONIC FACSIMILE
NO REVISION BARS WERE USED FOR THIS REVISION

UTILITY MESSAGE NO. 3 STATE MESSAGE NO. N/A

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

2. **STATION**
   - [A] BRAIDWOOD [C] CLINTON [E] LASALLE [G] ZION
   - [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]): "Time Classified"
   DATE (3[A-E]): Today
   EAL#: FG1

   ACCIDENT TERMINATED
   TIME (3[F]): N/A
   DATE (3[F]): N/A

5. **RELEASE STATUS**
   - [A] NONE
   - [X] OCCURRING
   - [C] TERMINATED

6. **TYPE OF RELEASE**
   - [A] NOT APPLICABLE
   - [X] GASEOUS
   - [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, 20, 23, 25

[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: Applicant's signature

11. **TRANSMITTED BY:**

		PHONE NUMBER	TIME/DATE
[A] EXELON:			
[B] STATE:			
[C] COUNTY:			

12. **RECEIVED BY:**

NAME	ORGANIZATION	TIME/DATE

EP-MW-114-100-F-01
Revision J
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NUCLEAR ACCIDENT REPORTING SYSTEM (NARS) FORM

OR ELECTRONIC FACSIMILE
NO REVISION BARS WERE USED FOR THIS REVISION

Braidwood
BW 38

Initial / Final

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

Time initial roll complete:_____

Clinton
CL 36

Initial / Final

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

Time initial roll complete:_____

LaSalle
LS 25

Initial / Final

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

Time initial roll complete:_____

Byron
BY 37

Initial / Final

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

Time initial roll complete:_____

Dresden
DR 22

Initial / Final

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

Time initial roll complete:_____

Quad Cities
QC 23

Initial / 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 ☐
☐ Illinois REAC ☐

Time initial roll complete:_____

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)

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. All initial notifications have been completed.

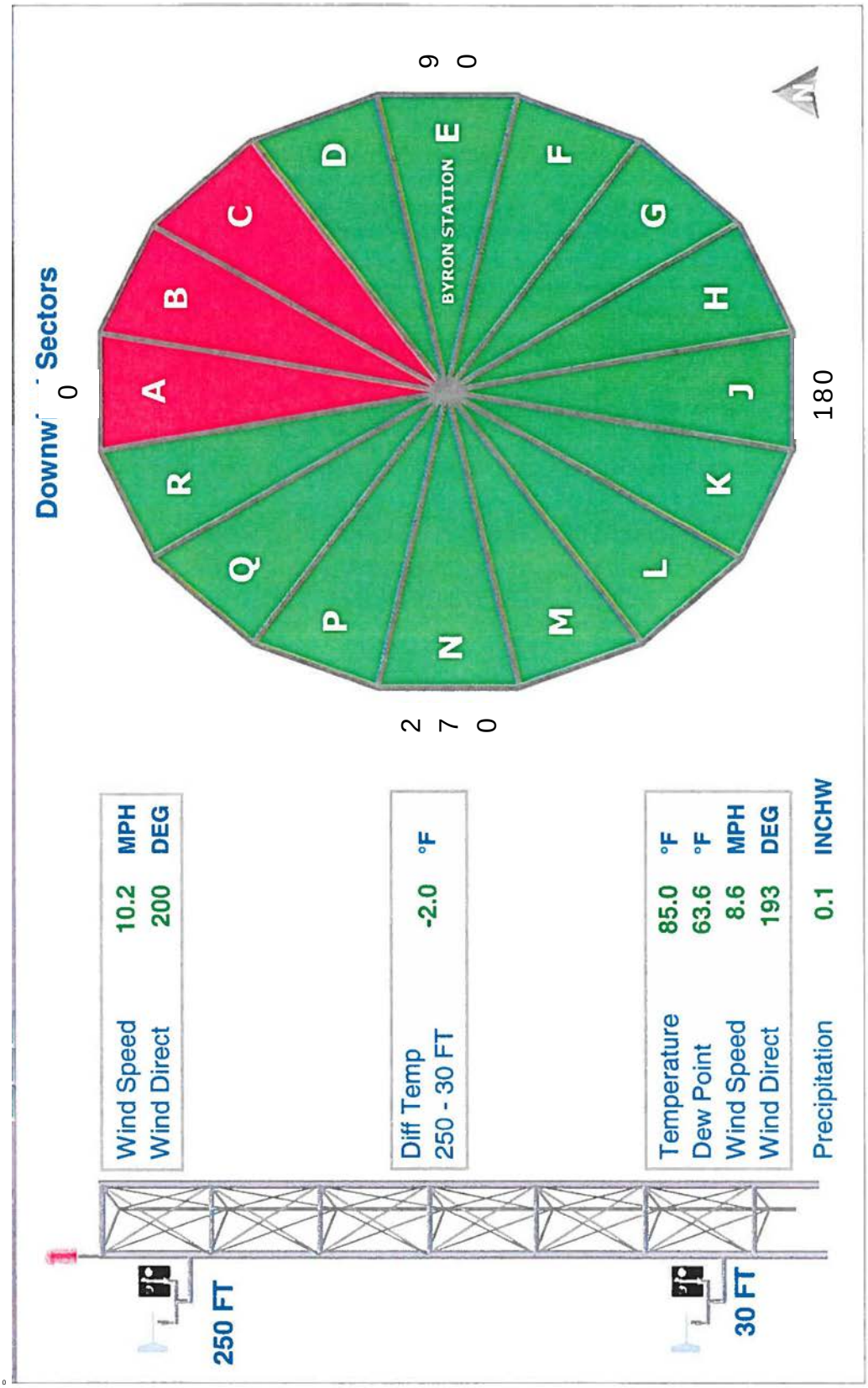
- The meteorological data has just changed since the initial EAL declaration
- The TSC has NOT been activated
- A Rapidly Progressing Severe Accident is NOT in progress

INITIATING CUE

As Shift Emergency Director, perform any required actions due to the changes in meteorological data.

- Note: The STA is unavailable to perform a Peer Check.

This is a Time Critical JPM.



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