Exelon Nuclear

Job Performance Measure

Calculate a Reactivity Change

JPM Number: RA 1a

Revision Number: 01

Date: 10/17/2011

Developed By:	Bill Hochstetter Instructor	10/17/2011 Date
Validated By:	Brain Lewin SME or Instructor	11/6/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/6/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

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

_____ 4. Initial setup conditions are identified.

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

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

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

_____ 8. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure OP-AP-300-1004 Rev: 2
Procedure _____ Rev: _____
Procedure _____ Rev: _____

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

_____ 10. Verify performance time is accurate

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

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

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

Revision Record (Summary)

Revision 01 Initial revision of JPM

Comment	Resolution
Revised JPM for 2012 NRC Exam	

INITIAL CONDITIONS:

1. Unit 1 is at 95% power, 6200 EFPH, 892 ppm boron, with CB D at 215 steps.
2. Tave is 1 degree less than Tref.

INITIATING CUES:

1. The QNE has advised Control Bank D should be withdrawn to 221 steps to control PDMA02 on the desired target.
2. The US has directed you to calculate a reactivity change, utilizing OP-AP-300-1004, that will allow rod withdrawal and match Tave to Tref keeping turbine load constant.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* **Denotes critical steps <u>2 & 3</u>**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

TASK STANDARDS:

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

MATERIALS:

- Blank copy of OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements
- Unit 1 Rema Thumbrules at 6211 EFPH

RECORD START TIME:_____

EVALUATOR NOTE: These steps may be performed in any order.					
STEP	**ELEMENT**	**STANDARD**	**SAT**	**UNSAT**	**CMT#**
CUE	**Provide copy of OP-AP-300-1004 and a copy of the Unit 1 Rema thumbrules**				
1	Refer to • OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements • Unit 1 Rema Thumbrules	In accordance with the provided: • OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements • Unit 1 Rema Thumbrules	___	___	___

***2**	Compute Attachment 1 of OP-AP-300-1004	• Station: **Byron** Unit: **1**
		• **Date and time**
		• Desired change
		  • **Withdraw Rods 6 steps for PDMA02 control**
		  • **Raise RCS temp. 1 degree**
		• Reason for change (per QNE recommendation)
		  • **PDMA02 control**
		  • **Temperature control**
		• What is the method & am't for the reactivity change?
		  • **6 steps withdrawal of CB D**
		  • **224 gallons dilution per 1 degree F change**
		• Inputs
		  • **Rema thumbrules**
			___	___	___

CUE	**The correctly calculated numbers are listed below.**				

***3**	Evaluate calculation	• Calculation of change (Uses numbers as calculated above)
		  • **6 steps of Control Bank D at 100% power: Tave-Tref = 1/2° rise in temperature**
		  • **-1° + 0.5° (mismatch after rod movement) = -0.5°**
		  • **224 gallons PW/1° x .5° = 112 gallons dilution**			

CUE	**This JPM is complete.**				

RECORD STOP TIME:_____

JPM SUMMARY

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

JPM Title: Evaluate a Reactivity Change

JPM Number: RA-1a Revision Number: 00

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

K/A Number and Importance: GEN 2.1.37 Imp Factor 4.3/4.6

Suggested Testing Environment: Classroom

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

Reference(s):

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

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

Critical Steps: 2 and 3

EVALUATION SUMMARY:

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1 Unit 1 is at 95% power, 6200 EFPH, 892 ppm boron, with CB D at 215 steps.

2 Tave is 1 degree less than Tref.

INITIATING CUES:

1. The QNE has advised Control Bank D should be withdrawn to 221 steps to control PDMA02 on the desired target.

2 The US has directed you to calculate a reactivity change, utilizing OP-AP-300-1004, that will allow rod withdrawal and match Tave to Tref keeping turbine load constant.

Exelon Nuclear

Job Performance Measure

Perform Offsite AC Power Availability Surveillance (ACB 2424 OOS)

JPM Number: RA-1.b

Revision Number: 11

Date: 10/21/2011

Revised By:	Bill Hochstetter Instructor	10/21/2011 Date
Validated By:	Brain Lewin SME or Instructor	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure 1BOSR 8.1.1-1 Rev: 009
   Procedure _____ Rev: _____
   Procedure _____ Rev: _____
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

_____
SME / Instructor Date

_____
SME / Instructor Date

_____ _____
SME / Instructor Date

Revision Record (Summary)

Revision 11

Revised to current format

SIMULATOR SETUP INSTRUCTIONS

1) Reset to IC-21

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

2) When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
3) This completes the setup for this JPM

INITIAL CONDITIONS

1. You are an extra NSO.
2. Unit 1 is in Mode 1, steady state power.

INITIATING CUE

1. The 1A DG has been declared inoperable and the US has directed you to perform 1BOSR 8.1.1-1, Normal and Reserve Offsite AC Power Availability Weekly Surveillance.
2. The SM has signed and dated the 1BOSR 8.1.1-1 data package cover sheet.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE **Provide examinee with a copy of 1BOSR 8.1.1-1 to complete**				
1. Circle status of offsite power sources. **Note: The bus alive light alone is NOT adequate verification of bus status.**	At 0PM03J, OBSERVE bus alive lights, line amps, and MWs for all 345 KV lines: ◦ Line 0621 ◦ Line 0627 ◦ Line 0624 ◦ Line 0622 ◦ CIRCLE 'energized' for all 345 KV lines	_____	_____	_____
2. Indicate status of disconnects, breakers and SAT links ***Cue: All line, MPT and SAT disconnects indicate closed*** ***Cue: MPT ground disconnect indicates open*** ***Cue: Both units SAT x-tie links are REMOVED*** ***Cue: Both units SAT disconnect links are INSTALLED***	INDICATE: • Open disconnects, breakers and removed SAT links using " O " • Closed disconnects, breakers and installed SAT links using " X "	_____	_____	_____
3. Trace path along dashed lines from any energized offsite power source to the unit ONE SAT banks	TRACE path correctly on data sheet: • Line energized, breakers and disconnects closed	_____	_____	_____
4. Trace second path from second independent power source to unit TWO SAT bank.	TRACE SECOND path correctly on data sheet: • Line energized, breakers and disconnects closed	_____	_____	_____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5. Verify independent paths exist from offsite power thru switchyard to both units SAT banks	Verify independent paths • L0621 and L0622 NOT BOTH used • Two paths DO NOT overlap • ENTER 'Yes' for step 5 of data sheet	____	____	____
*6. Check normal and reserve 345 KV buses energized	At 0PM03J, VERIFY bus alive light and voltmeter indications for: • 345 KV bus 6 • 345 KV bus 13 ENTER 'Yes' for steps 6a and 6b on data sheet	____	____	____
*7. Check normal and reserve power SATs available ***Cue: SATs 242-1 and 242-2 ENERGIZED***	At 1/2PM01J, VERIFY 'X' and 'Y' winding MW and amps indication for: • SATs 142-1 and 142-2 • SATs 242-1 and 242-2 ENTER 'Yes' for steps 7a and 7b on data sheet	____	____	____
*8. Check ESF buses 141 and 142 energized	At 1PM01J, CHECK bus alive lights, SAT feeder breaker to bus position and bus voltmeter indication for: • Bus 141 • Bus 142 ENTER 'Yes' for steps 8a and 8b on data sheet	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*9. CHECK ESF buses 241 and 242 energized ***Cue: BUS 241 BUS ALIVE light is LIT and voltage is normal*** ***Cue: BUS 242 BUS ALIVE light is LIT and voltage is normal***	At 2PM01J, CHECK bus alive lights, SAT feeder breaker to bus position and bus voltmeter indication for: • Bus 241 • Bus 242 ENTER 'Yes' for steps 9a and 9b on data sheet	____	____	____
NOTE **Alternate path initiated in the following step.**				
*10. Check SAT Feed breakers are closed and connected ***Cue: ACB 2412 'GREEN' light LIT*** ***Cue: ACB 2422 'GREEN' light LIT***	At 1/2PM01J, VERIFY position and control power available: • ACB 1412 • ACB 2412 • ACB 1422 • ACB 2422 ENTER 'Yes' for steps 10a through 10d on data sheet	____	____	____
*11. Check SAT Reserve Feed breakers are closed and connected ***Cue: ACB 2414 'GREEN' light LIT*** ***Cue: ACB 2424 control switch is in PTL and OOS***	At 1/2PM01J, VERIFY position and control power available: • ACB 1414 • ACB 1424 • ACB 2414 • ACB 2424 ENTER 'No' for step 11d and 'Yes' for steps 11a through 11c on data sheet	____	____	____
*12. Determine acceptance criteria are NOT met	• DETERMINE acceptance criteria are NOT MET	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
13. Notify US that acceptance criteria are not met ***Cue: US has verified 1BOL 8.1 has been implemented.***	• Notify US verbally or by checking NO and writing in Remarks on cover sheet.	____	____	____
Cue: This JPM is completed.				

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Perform Offsite AC Power Availability Surveillance (ACB 2424 OOS)

JPM Number: RA 1 (N-75a) Revision Number: 11

Task Number and Title: 4C.AP-06 Perform the Offsite AC Power Availability Surveillance.

K/A Number and Importance: 2.1.31 4.6

Suggested Testing Environment: Simulator

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

Reference(s):

1BOSR 8.1.1-1, Rev 9, Normal and Reserve Offsite AC Power Availability Weekly Surveillance

CRITICAL STEPS (*) 5, 6, 7, 8, 9, 10, 11 & 12

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are an extra NSO.
2. Unit 1 is in Mode 1, steady state power.

INITIATING CUE

1. The 1A DG has been declared inoperable and the US has directed you to perform 1BOSR 8.1.1-1, Normal and Reserve Offsite AC Power Availability Weekly Surveillance.
2. The SM has signed and dated the 1BOSR 8.1.1-1 data package cover sheet.

Exelon Nuclear

Job Performance Measure

Identify Leak Isolation Points from Mechanical Drawings

JPM Number: RA-2

Revision Number: 0

Date: 10/20/2011

Revised By:	Bill Hochstetter Instructor	10/20/2011 Date
Validated By:	Scott Miller SME or Instructor	11/05/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/05/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure 0BOA SEC-4 Rev: 105
   Procedure P & ID M-55 sht.1B Rev: D
   Procedure BOP IA-8 Rev: 52
   Procedure BOP IA-9 Rev: 4
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

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

Revision Record (Summary)

Revision 0

- Modified from Braidwood. Rev. 0 at Byron

INITIAL CONDITIONS

1. You are an extra NSO.
2. Both units are at 100% steady state power.
3. The Turbine Building EO has just reported the Instrument Air Dryer Pre-filter, 1IA02FA, housing appears ruptured and there is a large air leak at the Unit 1 Air Dryer. The crew is entering 0BOA SEC-4, LOSS OF INSTRUMENT AIR, UNIT 0.

INITIATING CUE

1. The Shift Manager has directed you to recommend isolation points for the leak as close as possible to the source and report back to him with your recommendation.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

*- Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE Once the examinee demonstrates the ability to locate the required mechanical print, provide a copy of print M-55 sheet 1B				
1. Locate correct P& ID a. Use computer such as Passport or EDMS b. Use P&ID book **Note: When examinee determines M-55 sheet 1B is required, then provide copy of M-55 sheet 1B.**	• LOCATE M-55 sheet 1B	____	____	____
*2 Determine that 1IA003A is an acceptable isolation point	• Refers to M-55 sheet 1B • Determines that 1IA003A is an acceptable isolation point ○ Recommends that 1B IA Pre-filter should be placed in service prior to removal of 1A IA pre-filter.	____	____	____
*3. Determine that 1IA004A is an acceptable isolation point	• Refers to M-55 sheet 1B • Determines that 1IA004A is an acceptable isolation point Recommends that 1B IA Pre-filter should be placed in service prior to removal of 1A IA pre-filter.	____	____	____
4. Shift Manager notified ***Cue: The shift manager has been notified***	◦ NOTIFY SM of Isolation points	____	____	____

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Identify leak isolation points using Mechanical Drawings

JPM Number: RA 2 Revision Number: 0

Task Number and Title: T.OA39-3 Given a set of plant conditions determine the required actions per 0/1 BOA Sec-4, Loss of Instrument Air

K/A Number and Importance: 2.2.41 3.5

Suggested Testing Environment: Simulator or Classroom

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

Reference(s): P & ID M-55 sht.1B Rev: D

CRITICAL STEPS (*) 2 & 3

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**: _____

INITIAL CONDITIONS

1. You are an extra NSO.
2. Both units are at 100% steady state power.
3. The Turbine Building EO has just reported the Instrument Air Dryer Pre-filter, 1IA02FA, housing appears ruptured and there is a large air leak at the Unit 1 Air Dryer. The crew is entering 0BOA SEC-4, LOSS OF INSTRUMENT AIR, UNIT 0.

INITIATING CUE

1. The Shift Manager has directed you to recommend isolation points for the leak as close as possible to the source and report back to him with your recommendation.

Exelon Nuclear

Job Performance Measure

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

JPM Number: RA-3

Revision Number: 4

Date: 9/23/2009

Revised By:	Lynn Sanders *	9/23/09
	Instructor	Date
Validated By:	Lynn Sanders *	9/24/09
	SME or Instructor	Date
Reviewed By:	W. Kouba *	9/28/09
	Operations Representative	Date
Approved By:	Robert Meyer *	10/2/09
	Training Department	Date

* Signature on File

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure BCP 400-TCNMT/Routine Rev: 20
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Lynn Sanders (Signature on file)	9/24/09
SME / Instructor	Date
Brian Clark (Signature on file)	9/24/09
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision 4

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Changed Non Licensed Operator to Equipment Operator

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

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

3. Verify that the RM-11 values for the appropriate channels agree with the surveillance paperwork and Supervisory key for the RM-11 available.

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

5. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. A Unit 1 Containment release is pending.
3. 1PR11J is inoperable.

INITIATING CUE

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

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE If this JPM is performed on the simulator, only the underlined cue needs to be provided to the examinee. To initiate this JPM, hand the partially completed BCP 400-TCNMT/ROUTINE to the examinee.				
1. Refer to the partially completed BCP 400-TCNMT/ROUTINE ***Cue: (if asked) Section 2 has been verified along with the RETDAS Gaseous Release Rate printouts.***	° REVIEW BCP 400-TCNMT/ROUTINE for completeness up to Section 3	____	____	____
2. Complete daily channel checks ***Cue: The daily channel check of 1RE-PR001 was previously performed and was satisfactory***	° VERIFY/COMPLETE the daily channel check on 1RE-PR001	____	____	____
3. Perform Source/Channel check ***Cue: The U2 Assist NSO has completed 1BOSR 11.b.6-1 and has been reviewed and was satisfactory***	° PERFORM the 1PR01J source/channel check	____	____	____
NOTE In the following JPM step, the examinee should N/A the step because 1PR11J is inoperable.				
4. Noble gas trend ***Cue: 1PR11J is inoperable***	° VERIFY noble gas trend	____	____	____
5. "As Found" setpoints of 1RE-PR001 ***Cue: The High alarm setpoint is 4.83 E-04*** ***Cue: The Alert alarm setpoint is 2.42 E-04***	At the RM-11, RECORD "As Found" setpoints of 1RE-PR001gas channel: ° High alarm setpoint ° Alert alarm setpoint	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*6. RM-11 supervisory mode ***Cue: RM-11 is in the supervisory mode of operation***	At the RM-11: • PLACE RM-11 in Supervisory Mode	____	____	____
*7. Select monitor ***Cue: 1PB101 has been selected***	At the RM-11, Grid 2: • SELECT 1PB101 and DEPRESS the SEL key	____	____	____
*8. Select high alarm setpoint channel ***Cue: The channel item key has been pressed*** ***Cue: "9" has been keyed in*** ***Cue: The select key has been pressed***	At the RM-11: • DEPRESS Channel Item key • KEY IN "9" • DEPRESS the SEL key	____	____	____
*9. High alarm setpoint ***Cue: The setpoint has been entered (6.25'E-04)*** ***Cue: Several seconds have passed and the new high alarm setpoint is displayed*** ***Cue: Your request for verification is acknowledged, please continue.***	At the RM-11: • ENTER high alarm setpoint on 1PB101 per Step 4.1.1.8 ° RECORD new value ° Request verification	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*10. Select alert alarm channel ***Cue: The channel item key has been pressed*** ***Cue: "10" has been keyed in*** ***Cue: The select key has been pressed*** ***Cue: The setpoint has been entered (6.25 E-04)*** ***Cue: Several seconds have passed and the new alert alarm setpoint is displayed*** ***Cue: Your request for verification is acknowledged, please continue.***	At the RM-11: • DEPRESS Channel Item key • KEY IN "10" • DEPRESS the SEL • ENTER alert alarm setpoint on 1PB101 per Step 4.1.1.8 ° RECORD new value o Request verification			
11. Place the RM-11 in Normal Mode ***Cue: RM-11 is in the normal mode of operation***	At the RM-11: ° PLACE the RM-11 in NORMAL MODE			
12. Aux building exhaust fan ***Cue: The 0B VA Fans are running*** ***Cue: <u>The US will continue at step 5.</u>*** ***<u>This JPM is completed</u>***	At 0PM02J: ° ENSURE the 0A <u>OR</u> 0B Aux Building Exhaust Fan is in operation			

RECORD STOP TIME: _____

JPM SUMMARY

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

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

JPM Number: RA/SA-3 Revision Number: 4

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

K/A Number and Importance: Generic 2.3.5 2.9/2.9

Suggested Testing Environment: Simulator

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

Reference(s):

BCP 400-TCNMT/ROUTINE, Gaseous Effluent Release Form Type: Routine Containment Release (Rev. 20)

CRITICAL STEPS (*) 6, 7, 8, 9 & 10

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. A Unit 1 Containment release is pending.
3. 1PR11J is inoperable.

INITIATING CUE

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

Exelon Nuclear

Job Performance Measure

Evaluate a Reactivity Change

JPM Number: SA 1a

Revision Number: 01

Date: 10/17/2011

Developed By:	Bill Hochstetter Instructor	10/17/2011 Date
Validated By:	Brian Lewin SME or Instructor	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

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

_____ 4. Initial setup conditions are identified.

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

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

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

_____ 8. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure OP-AP-300-1004 Rev: 2
Procedure _____ Rev: _____
Procedure _____ Rev: _____

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

_____ 10. Verify performance time is accurate

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

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

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

Revision Record (Summary)

Revision 01 Initial revision of JPM

Comment	Resolution
Revised JPM for 2012 NRC Exam	

INITIAL CONDITIONS:

1. Unit 1 is at 95% power, 6300 EFPH, 892 ppm boron, with CB D at 215 steps, steady state and equilibrium Xenon
2. Tave is 1 degree less than Tref.
3. The QNE has advised Control Bank D should be withdrawn to 221 steps to control PDMA02 on the desired target.
4. The NSO has calculated a reactivity change to match Tave with Tref.

INITIATING CUES:

1. Evaluate the reactivity change to match Tave to Tref by reviewing OP-AA-300-1004, Att. 1, Reactivity Change Determination Form.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* **Denotes critical steps 2 & 3**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

TASK STANDARDS:

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

MATERIALS:

- Completed OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements (Attachment 1 is attached)
- Unit 1 Rema Thumbrules at 6211 EFPH

RECORD START TIME:_____

EVALUATOR NOTE: These steps may be performed in any order.					
STEP	**ELEMENT**	**STANDARD**	**SAT**	**UNSAT**	**CMT#**
CUE	**Provide completed copy of OP-AP-300-1004 (att. 1) and a copy of the Unit 1 Rema thumbrules**				
1	Refer to • OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements • Unit 1 Rema Thumbrules	In accordance with the provided: • OP-AP-300-1004, Rev 2, Pwr Boration and Dilution Requirements • Unit 1 Rema Thumbrules			
***2**	Review Attachment 1 of OP-AP-300-1004 Determine wrong unit circled on form	Determine wrong unit circled on form.	___	___	___
CUE	**The SM has instructed you to correct the identified error and continue your review.**				
***3**	Evaluate calculation for dilution volume to be added while withdrawing CB D to 221 steps	Determine inaccurate calculation			
CUE	**Evaluator note:** **6 step withdrawal of CB D will raise temperature 0.5 degrees** **calculation is flawed because it omits above from calculation and dilutes a full 224 gallons of primary water, which is 1 degree, rather than taking into account the control rod withdrawal. Correct dilution volume is 112 gallons**				
CUE	**This JPM is complete**				

RECORD STOP TIME:_____

JPM SUMMARY

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

JPM Title: Evaluate a Reactivity Change

JPM Number: SA-1a Revision Number: 00

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

K/A Number and Importance: GEN 2.1.37 Imp Factor 4.3/4.6

Suggested Testing Environment: Classroom

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

Reference(s):

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

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. Unit 1 is at 95% power, 6300 EFPH, 892 ppm boron, with CB D at 215 steps, steady state and equilibrium Xenon
2. Tave is 1 degree less than Tref.
3. The QNE has advised Control Bank D should be withdrawn to 221 steps to control PDMA02 on the desired target.
4. The NSO has calculated a reactivity change to match Tave with Tref.

INITIATING CUES:

1. Evaluate the reactivity change to match Tave to Tref by reviewing OP-AA-300-1004, Att. 1, Reactivity Change Determination Form.

ATTACHMENT 1
REACTIVITY CHANGE DETERMINATION FORM

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

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

Withdraw Rods 6 steps for PDMA02 control
Raise RCS Ave. Temp by 1 degree

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

PDMA02 control and temperature control.

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

6 steps withdrawal of CB D and 224 gallons dilution per 1 degree Fahrenheit change.

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

Rema thumbrules for Unit 1 at 6211 EFPH

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

1.0° low x 224 gallons dilution per degree raised = 224 gallons dilution

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

Shift Manager Notified: Yes No

Exelon Nuclear

Job Performance Measure

Determine venting time for Reactor Vessel void

JPM Number: SA-1.b

Revision Number: 0

Date: 10/18/2011

Revised By:	Bill Hochstetter Instructor	10/18/2011 Date
Validated By:	Brian Lewin SME or Instructor	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: 1BFR I.3_____ Rev: 200
   Procedure _____ Rev: _____
   Procedure _____ Rev: _____
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

_____
SME / Instructor Date

_____
SME / Instructor Date

_____ _____
SME / Instructor Date

Revision Record (Summary)

Revision 11

Revised to current format

INITIAL CONDITIONS

1. You are an extra SRO.
2. Unit 1 is recovering from an event that caused a suspected hydrogen bubble to accumulate in the reactor vessel head.
3. The crew is performing 1BFR-I.3, RESPONSE TO VOIDS IN THE REACTOR VESSEL.
4. Attempts to condense the vessel head void have been unsuccessful and the TSC has directed the crew to perform a direct vessel vent.
5. Current plant conditions are as follows

   - Containment temperature (dry bulb) = 135 degreesF
   - Containment pressure = 2.1 psig
   - Containment hydrogen concentration = 1%
   - RCS pressure = 1500 psig

INITIATING CUE

1. The Shift Manager directs you to assist the Unit 1 SRO by calculating reactor vessel vent time per 1BFR-I.3, Attachment B.
2. Inform the SM when you have completed 1BFR-I.3, Attachment B

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE **Provide examinee with a copy of 1BFR-I.3**				
1. Refer to 1BFR-.3. **Note: Provide copy of 1BFR-I.3 and a calculator to examinee.**	Refer to 1BFR-I.3	____	____	____
*2. Calculate containment temperature in Rankine	Perform Attachment B, step 1: • Enter 135 in degrees F blank • Add 460 to 135 and enter 595 in degree R blank	____	____	____
*3. Calculate containment air volume based on current temperature and pressure.	Perform Attachment B, step 2 • Enter 595 in degree R blank • Enter 2.1 in CNMT press blank • Perform calculation and enter 2,646,050 (or approximate in cu. ft. blank	____	____	____
*4. Calculate maximum hydrogen volume that can be vented keeping cnmt concentration below 3%	Perform Attachment B, step 3 • Enter 1 in cnmt hydrogen conc. blank. • Enter 2,646,050 (or apprx.) in cu. ft. blank • Perform calculation and enter 52,921 (or approx.) in cu. ft. blank	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5. Determine hydrogen flow rate from RCS vent.	Perform Attachment B, step 4 • Plot RCS pressure on 1BFR-I.3-4 and determine flow rate will be about 4700 scfm (± 100 scfm) • Enter flow rate in step 4 SCFM blank	____	____	____
*6. Calculate maximum venting time.	Perform Attachment B, step 5 • Enter 52,921 (or approx.) in cu. ft. blank • Enter 4700 (4600-4800) in SCFM blank • Calculate minutes and enter 11.3 (range of 11.0 to 11.7) in minutes blank	____	____	____
7. Report to SM results of venting calculation	Notify SM that RCS venting can be performed for approx. 11.0 to 11.7 minutes:	____	____	____
Cue: This JPM is completed.				

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Determine Venting time for Reactor Vessel Void

JPM Number: SA-1.b Revision Number: 0

Task Number and Title: Diagnose and analyze voids in the reactor vessel (T.FR6-04)

K/A Number and Importance: 2.1.25 4.2

Suggested Testing Environment: Simulator or classroom

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

Reference(s):

1BFR-I.3, Response to voids in the reactor vessel

CRITICAL STEPS (*) 2, 3, 4, 5, & 6

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are an extra SRO.
2. Unit 1 is recovering from an event that caused a suspected hydrogen bubble to accumulate in the reactor vessel head.
3. The crew is performing 1BFR-I.3, RESPONSE TO VOIDS IN THE REACTOR VESSEL.
4. Attempts to condense the vessel head void have been unsuccessful and the TSC has directed the crew to perform a direct vessel vent.
5. Current plant conditions are as follows
   - Containment temperature (dry bulb) = 135 degreesF
   - Containment pressure = 2.1 psig
   - Containment hydrogen concentration = 1%
   - RCS pressure = 1500 psig

INITIATING CUE

1. The Shift Manager directs you to assist the Unit 1 SRO by calculating reactor vessel vent time per 1BFR-I.3, Attachment B.
2. Inform the SM when you have completed 1BFR-I.3, Attachment B

Exelon Nuclear

Job Performance Measure

Initiate a LCOAR

JPM Number: SA-2 (S009)

Revision Number: 0

Date: 10/19/2011

Revised By:	Bill Hochstetter Instructor	10/19/2011 Date
Validated By:	Brian Lewin SME or Instructor	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BAP 1400-6 Rev: 28
   Procedure 1BOL 7.4 Rev: 3
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

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

Revision Record (Summary)

Revision 0

- Modified S009 Rev. 6

INITIAL CONDITIONS

1. You are the Unit Supervisor.
2. The unit is at 90% steady state power, all conditions normal.

INITIATING CUE

1. The Shift Manager notifies you 5 minutes ago, the 1B SG Atmospheric PORV was taken out of service for 6 hours for actuator oil change.
2. The Shift Manager directs that it is NOT necessary to update the DEL per LCO 3.0.6 for this short duration LCO.
3. The Clearance Order number is 48763.
4. Under the above C/O the manual isolation valve, 1MS019B, is tagged closed.
5. The work is being performed by MMD under Work Order 185000.
6. 1BOL 6.3 has been entered for the Containment Isolation Valve and is being completed by the WEC.
7. Initiate the additional LCOAR paperwork as necessary

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

*- Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE Once the student demonstrates the ability to locate referenced procedure provide the student with a copy of the procedure. Step 1 of this JPM is optional				
1. Refer to BAP 1400-6, Technical Specification Limiting Conditions for Operation Action Requirements (LCOAR)	◦ LOCATE and OPEN BAP 1400-6	____	____	____
2. Refer to 1BOL 7.4, LCOAR Steam Generator Power Operated Relief valve(s) –Tech Spec LCO 3.7.4	◦ LOCATE and OPEN 1BOL 7.4	____	____	____
*3. Section A of 1 BOL 7.4 ***Cue: Notification occurred 5 minutes ago***	ENTER into Section A: • Time/Date ◦ By ◦ Title • Present mode • Initiating event • Condition	____	____	____
*4. Safety function determination ***Cue: There is no other inoperable or degraded support or supported equipment on the A train***	• PERFORM SFD • Indicate No in Section C	____	____	____
5. Update DEL: ***from turnover information***	• Check “N/A” box	____	____	____
6. Fill in Related WO: ***from turnover information***	• “185000” from initial conditions	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7. Fill in Related Clearance Orders ***from turnover information***	• "48763" from initial conditions	____	____	____
8. Was an IR written?	• Check "No" box and write "planned work" or similar	____	____	____
*9. LCOAR TABLE of 1 BOL 7.4	COMPLETE LCOAR Table: ◦ CIRCLE Condition A • ENTER notification Time/Date <u>AND</u> sign Condition A	____	____	____
10. Peer check prior to SM signing ***Cue: A second SRO has peer check the package and has signed and dated the margin of the cover sheet***	◦ BAP 1400-6 for Peer check ◦ Get an additional SRO to Peer check the BOL package	____	____	____
11. Signed by Shift Manager ***Cue: The shift manager has reviewed the LCOAR***	◦ NOTIFY SM	____	____	____

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Initiate a LCOAR. (SRO)

JPM Number: SA 2(S009) Revision Number: 0

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

K/A Number and Importance: 2.2.23 4.6

Suggested Testing Environment: Simulator

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

Reference(s):
BAP 1400-6, Technical Specification Limiting Conditions for Operation Action Requirements (LCOAR) (Rev 28)
1BOL 7.4, LCOAR SG PORV – Operating Tech Spec LCO 3.7.4 (Rev 3)

CRITICAL STEPS (*) 3, 4 & 9

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**: _____

INITIAL CONDITIONS

1. You are the Unit Supervisor.
2. The unit is at 90% steady state power, all conditions normal.

INITIATING CUE

1. The Shift Manager notifies you 5 minutes ago, the 1B SG Atmospheric PORV was taken out of service for 6 hours for actuator oil change.
2. The Shift Manager directs that it is NOT necessary to update the DEL per LCO 3.0.6 for this short duration LCO.
3. The Clearance Order number is 48763.
4. Under the above C/O the manual isolation valve, 1MS019B, is tagged closed.
5. The work is being performed by MMD under Work Order 185000.
6. 1BOL 6.3 has been entered for the Containment Isolation Valve and is being completed by the WEC.
7. Initiate the additional LCOAR paperwork as necessary

Exelon Nuclear

Job Performance Measure

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

JPM Number: SA-3

Revision Number: 4

Date: 9/23/2009

Revised By:	Lynn Sanders *	9/23/09
	Instructor	Date
Validated By:	Lynn Sanders *	9/24/09
	SME or Instructor	Date
Reviewed By:	W. Kouba *	9/28/09
	Operations Representative	Date
Approved By:	Robert Meyer *	10/2/09
	Training Department	Date

* Signature on File

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure BCP 400-TCNMT/Routine Rev: 20
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Lynn Sanders (Signature on file)	9/24/09
SME / Instructor	Date
Brian Clark (Signature on file)	9/24/09
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision 4

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Changed Non Licensed Operator to Equipment Operator

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

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

3. Verify that the RM-11 values for the appropriate channels agree with the surveillance paperwork and Supervisory key for the RM-11 available.

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

5. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. A Unit 1 Containment release is pending.
3. 1PR11J is inoperable.

INITIATING CUE

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

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE If this JPM is performed on the simulator, only the underlined cue needs to be provided to the examinee. To initiate this JPM, hand the partially completed BCP 400-TCNMT/ROUTINE to the examinee.				
1. Refer to the partially completed BCP 400-TCNMT/ROUTINE ***Cue: (if asked) Section 2 has been verified along with the RETDAS Gaseous Release Rate printouts.***	° REVIEW BCP 400-TCNMT/ROUTINE for completeness up to Section 3	____	____	____
2. Complete daily channel checks ***Cue: The daily channel check of 1RE-PR001 was previously performed and was satisfactory***	° VERIFY/COMPLETE the daily channel check on 1RE-PR001	____	____	____
3. Perform Source/Channel check ***Cue: The U2 Assist NSO has completed 1BOSR 11.b.6-1 and has been reviewed and was satisfactory***	° PERFORM the 1PR01J source/channel check	____	____	____
NOTE In the following JPM step, the examinee should N/A the step because 1PR11J is inoperable.				
4. Noble gas trend ***Cue: 1PR11J is inoperable***	° VERIFY noble gas trend	____	____	____
5. "As Found" setpoints of 1RE-PR001 ***Cue: The High alarm setpoint is 4.83 E-04*** ***Cue: The Alert alarm setpoint is 2.42 E-04***	At the RM-11, RECORD "As Found" setpoints of 1RE-PR001gas channel: ° High alarm setpoint ° Alert alarm setpoint	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*6. RM-11 supervisory mode ***Cue: RM-11 is in the supervisory mode of operation***	At the RM-11: • PLACE RM-11 in Supervisory Mode	____	____	____
*7. Select monitor ***Cue: 1PB101 has been selected***	At the RM-11, Grid 2: • SELECT 1PB101 and DEPRESS the SEL key	____	____	____
*8. Select high alarm setpoint channel ***Cue: The channel item key has been pressed*** ***Cue: "9" has been keyed in*** ***Cue: The select key has been pressed***	At the RM-11: • DEPRESS Channel Item key • KEY IN "9" • DEPRESS the SEL key	____	____	____
*9. High alarm setpoint ***Cue: The setpoint has been entered (6.25'E-04)*** ***Cue: Several seconds have passed and the new high alarm setpoint is displayed*** ***Cue: Your request for verification is acknowledged, please continue.***	At the RM-11: • ENTER high alarm setpoint on 1PB101 per Step 4.1.1.8 ° RECORD new value ° Request verification	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*10. Select alert alarm channel ***Cue: The channel item key has been pressed*** ***Cue: "10" has been keyed in*** ***Cue: The select key has been pressed*** ***Cue: The setpoint has been entered (6.25 E-04)*** ***Cue: Several seconds have passed and the new alert alarm setpoint is displayed*** ***Cue: Your request for verification is acknowledged, please continue.***	At the RM-11: • DEPRESS Channel Item key • KEY IN "10" • DEPRESS the SEL • ENTER alert alarm setpoint on 1PB101 per Step 4.1.1.8 ° RECORD new value o Request verification			
11. Place the RM-11 in Normal Mode ***Cue: RM-11 is in the normal mode of operation***	At the RM-11: ° PLACE the RM-11 in NORMAL MODE			
12. Aux building exhaust fan ***Cue: The 0B VA Fans are running*** ***Cue: <u>The US will continue at step 5.</u>*** ***<u>This JPM is completed</u>***	At 0PM02J: ° ENSURE the 0A <u>OR</u> 0B Aux Building Exhaust Fan is in operation			

RECORD STOP TIME: _____

JPM SUMMARY

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

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

JPM Number: RA/SA-3 Revision Number: 4

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

K/A Number and Importance: Generic 2.3.5 2.9/2.9

Suggested Testing Environment: Simulator

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

Reference(s):

BCP 400-TCNMT/ROUTINE, Gaseous Effluent Release Form Type: Routine Containment Release (Rev. 20)

CRITICAL STEPS (*) 6, 7, 8, 9 & 10

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. A Unit 1 Containment release is pending.
3. 1PR11J is inoperable.

INITIATING CUE

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

Exelon Nuclear

Job Performance Measure

Classify Event and Fill Out a NARS Form (LBLOCA)

JPM Number: SA-4

Revision Number: 5

Date: 10/28/2011

Revised By:	Bill Hochstetter Instructor	10/28/2011 Date
Reviewed By:	Brian Lewin Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure EP-MW-114-100 Rev: 11
   Procedure EP-MW-114-100-F-01 Rev: F
   Procedure EP-AA-1002 Rev: 28
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Lynn Sanders (Signature on file) 9/09/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision 4

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Changed Non Licensed Operator to Equipment Operator
- Validated 9/20/11 by Lynn Sanders and Mike McCue, only change was procedure rev that did not affect JPM.
- New event created for 2011 Requal, classified as modified for ILT exam since this specific item has not been tested previously in ILT.
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

2. None.
3. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
4. This completes the setup for this JPM

INITIAL CONDITIONS

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

INITIATING CUE

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

PLANT CONDITIONS

- Unit 1 and 2 were both at full power.
- A Unit 1 Reactor Trip and Safety Injection occurred based on the following conditions:
- A large break Loss of Primary Coolant
- Containment Spray pumps did not automatically start and could NOT be manually started.
- Containment pressure peaked at 29 psig.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE The completion of Step 2 fulfills the critical time portion of this JPM.				
1. Refer to Exelon Nuclear – Radiological Emergency Plan Annex for Byron Station. **Note: This step may be performed at any time**	o Refer to EAL Matrix, EP-AA-1002	____	____	____
*2. Classify the Event utilizing EAL Matrix. **Critical portion stop time _____**	• Classify event as SITE AREA EMERGENCY, from FS1 Loss OR Potential Loss of 2 Fission Product Barriers (RCS and CNMT).	____	____	____
Time from start to Classification = _____ minutes	**¢ < 15 minutes**	____	____	____
NOTE Provide the examinee with a copy of the NARS form.				
3. Obtain NARS form, EP-MW-114-100-F-01, Nuclear Accident Reporting System (NARS). **Note: Step 3 may be performed at any time**	° Obtain NARS form.	____	____	____
4. Refer to EP-MW-114-100, MWROG Offsite Notifications, to complete NARS form. **Note: Step 4 may be performed at any time**	° Locate and Open, EP-MW-114-100, MWROG Offsite Notifications, Section 4.2, to complete NARS form.	____	____	____
NOTE Provide the examinee with Wind Speed and Wind Direction cues after examinee has demonstrated the ability to obtain the information from the computer or from the main control board.				

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
*5. Fill out NARS form according to instructions, EP-MW-114-100, Section 4.2, Completing the NARS Form. ***Cue: <u>The wind direction on AM004 is 286°.</u>*** ***Cue: <u>The wind speed on AM001 is 3 mph.</u>***	• Fill out NARS form according to instructions, EP-MW-114-100, Section 4.2 Completing the NARS Form. • BLOCKS 2 thru 9 must be filled correctly to meet the critical portion of filling out the NARS form. (See attached KEY).	____	____	____
Time to complete NARS Form = _____ minutes	**¢ < 12 minutes**	____	____	____

RECORD STOP TIME: _____

Nuclear Accident Reporting System (NARS) Form

UTILITY MESSAGE NO. ___1___ **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
[X] SITE AREA EMERGENCY
[D] GENERAL EMERGENCY
[E] RECOVERY
[F] TERMINATED

4. ACCIDENT CLASSIFIED
TIME (3[A-E]): Now
DATE (3[A-E]): Today
EAL#: FS1

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

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

7. WIND DIR
286°
(DEGREES FROM)

8. WIND SPEED
[A] METERS/SEC.: _____
[X] MILES/HR.: ___3

9. RECOMMENDED ACTIONS

UTILITY RECOMMENDATION

[X NONE (UE, Alert and SAE Only)

---------- (GE Only) ----------

[B] SHELTER ILLINOIS SUB-AREAS: _____
AND ADVISE REMAINDER OF THE EPZ TO MONITOR LOCAL RADIO STATIONS

[C] SHELTER IOWA SUB-AREAS: _____
AND ADVISE REMAINDER OF THE EPZ TO MONITOR LOCAL RADIO STATIONS

[D] EVACUATE ILLINOIS SUB-AREAS: _____
AND ADVISE REMAINDER OF THE EPZ TO MONITOR LOCAL RADIO STATIONS

[E] EVACUATE IOWA SUB-AREAS: _____
AND ADVISE REMAINDER OF THE EPZ TO MONITOR LOCAL RADIO STATIONS

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: STA Approved By: SRO

11. TRANSMITTED BY: NAME PHONE NUMBER TIME/DATE

[A] EXELON: _____ _____ _____

[B] STATE: _____ _____ _____

[C] COUNTY: _____ _____ _____

12. RECEIVED BY: NAME ORGANIZATION TIME/DATE

_____ _____ _____

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

Nuclear Accident Reporting System (NARS) Form

Braidwood
(UE, Alert, SAE, escalated GE(s), Termination and Recovery)
NARS Code **20**

Initial		Final
☐	# Illinois EMA	☐
☐	Illinois REAC	☐

(Only **if** NARS #1 is a GE)
NARS Code **38**

Initial		Final
☐	# Illinois EMA	☐
☐	# Grundy Co. Sheriff	☐
☐	# Kankakee Co. Sheriff	☐
☐	# Will County Sheriff	☐
☐	Illinois REAC	☐
☐	Grundy Co. EMA	☐
☐	Kankakee Co. EOC	☐
☐	Will Co. EOC	☐

ROLL CALL
Initial Roll Call Complete:

(time / date)

Clinton
UE, Alert, SAE, escalated GE(s), Termination and Recovery)
NARS Code **98**

Initial		Final
☐	# Illinois EMA	☐
☐	Illinois REAC	☐

(Only **if** NARS #1 is a GE)
NARS Code **36**

Initial		Final
☐	# Illinois EMA	☐
☐	# DeWitt Co. Sheriff	☐
☐	Illinois REAC	☐
☐	DeWitt Co. EOC	☐

LaSalle
(UE, Alert, SAE, escalated GE(s), Termination and Recovery)
NARS Code **20**

Initial		Final
☐	# Illinois EMA	☐
☐	Illinois REAC	☐

(Only **if** NARS #1 is a GE)
NARS Code **25**

Initial		Final
☐	# Illinois EMA	☐
☐	# Grundy Co. Sheriff	☐
☐	# LaSalle Co. Sheriff	☐
☐	Illinois REAC	☐
☐	Grundy Co. EMA	☐
☐	LaSalle Co. ESDA	☐

Byron
(UE, Alert, SAE, escalated GE(s), Termination and Recovery)
NARS Code **20**

Initial		Final
☐	# Illinois EMA	☐
☐	Illinois REAC	☐

(Only **if** NARS #1 is a GE)
NARS Code **37**

Initial		Final
☐	#Illinois EMA	☐
☐	**Ogle Co. Sheriff	☐
☐	**Rochelle Police	☐
☐	Illinois REAC	☐
☐	Ogle Co. ESDA	☐
☐	Ogle Co. EOC	☐

Commercial numbers:

IEMA 217-782-7860
(QC only)
Iowa EMD 515-281-3231

Dresden
(UE, Alert, SAE, escalated GE(s), Termination and Recovery)
NARS Code **20**

Initial		Final
☐	# Illinois EMA	☐
☐	Illinois REAC	☐

(Only **if** NARS #1 is a GE)
NARS Code **22**

Initial		Final
☐	#Illinois EMA	☐
☐	#Grundy Co. Sheriff	☐
☐	#Kendall Co. Sheriff	☐
☐	#Will County Sheriff	☐
☐	Illinois REAC	☐
☐	Grundy Co. EMA	☐
☐	Kendall Co. EOC	☐
☐	Will Co. EOC	☐

Quad Cities
(UE, Alert, SAE, escalated GE(s), Termination and Recovery)
NARS Code **43**

Initial		Final
☐	# Illinois EMA	☐
☐	# Iowa EMD	☐
☐	Illinois REAC	☐
☐	Scott Co. Sheriff	☐
☐	Clinton Co. EOC	☐
☐	Scott Co. EOC	☐

(Only **if** NARS #1 is a GE)
NARS Code **23**

Initial		Final
☐	# Illinois EMA	☐
☐	# Iowa EMD	☐
☐	# Clinton Co. EOC	☐
☐	#Rock Island Co. Sheriff	☐
☐	# Whiteside Co. Sheriff	☐
☐	# Scott Co. Sheriff	☐
☐	# Scott Co. EOC	☐
☐	Whiteside Co. ESDA	☐
☐	Rock Island ESDA	☐
☐	Illinois REAC	☐

NOTES: # Indicates that this agency is required to be notified within 15 minutes.
** Only one needs to answer for notification.

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

JPM SUMMARY

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

JPM Title: Classify Event and Fill Out a NARS Form (SGTR)

JPM Number: S016t Revision Number: 4

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

K/A Number and Importance: 2.4.41 4.6

Suggested Testing Environment: Simulator

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

Reference(s):

EP-MW-114-100 (Rev 11), Midwest Region Offsite Notifications

EP-MW-114-100-F-01 (Rev. F) Nuclear Accident Reporting System (NARS) Form

EP-AA-1002 (Rev 28) Exelon Nuclear Radiological Emergency Plan Annex for Byron Station

CRITICAL STEPS (*) 2 & 5

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

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

INITIATING CUE

1. Perform an Emergency Plan evaluation and fill out the NARS form for transmittal for the plant conditions provided

2. **This is a time critical JPM**.

PLANT CONDITIONS

- Unit 1 and 2 were both at full power.
- A Unit 1 Reactor Trip and Safety Injection occurred based on the following conditions:
- A large break Loss of Primary Coolant
- Containment Spray pumps did not automatically start and could NOT be manually started.
- Containment pressure peaked at 29 psig.

Exelon Nuclear

Job Performance Measure

Perform Moveable Control Assemblies Quarterly Surveillance

JPM Number: CR-A

Revision Number: 10

Date: 10/20/2011

Revised By:	Bill Hochstetter Instructor	10/20/11 Date
Reviewed By:	Rob Friskey Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure 1BOSR 1.4.2-1 Rev: 17
   Procedure Rev:
   Procedure_____ Rev:
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/20/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision 10

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor.
- Placed some examiner notes concerning alarms received during step performance
- Created from JPM No. N-41
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

2. None.
3. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
4. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the Unit 1 NSO.
2. Unit 1 is at 100% power, steady state, equilibrium Xenon, MOL

INITIATING CUE

1. You have been directed to perform 1BOSR 1.4.2-1, Moveable Control Assemblies Quarterly Surveillance.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1. Refer to 1BOSR 1.4.2-1, Moveable Control Assemblies Quarterly Surveillance Note: Step 1 may be performed at any time **Cue: <u>All prerequisites are met</u>**	o LOCATE and OPEN 1BOSR 1.4.2-1	____	____	____
NOTE Provide the examinee with a copy of the 1BOSR 1.4.2-1.				
2. Transfer rod control to manual ***Cue: The rod bank selector switch is in the MANUAL position*** ***Cue: T_{ave} and T_{ref} are matched***	At 1PM05J: o PLACE Rod Bank Selector switch to MANUAL ◦ MAINTAIN T_{ave} matched with T_{ref} using rod motion control	____	____	____
3. .Record initial shutdown bank step counter readings ***Cue: Step counters for shutdown banks A through E all indicate ___ (use current cycle) steps***	In column 2a: ◦ ENTER initial step counter readings for Shutdown Banks A, B, C, D, and E	____	____	____
*4. Shutdown bank E ***Cue: The rod bank selector switch is in the SBE position***	At 1PM05J: • SELECT SBE position on Rod Bank Selector switch	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE **Step 5 is *NOT* critical if the current normal rod position is 231 steps**				
*5. Insert Shutdown Bank E 1 step	At 1PM05J: • Using the rod motion control switch, INSERT Shutdown Bank E 1 step • Mark N/A if Group Step Counter is already at 231 steps			
*6. Withdraw shutdown bank E ***Cue: Shutdown bank E group step counter indicates 231 steps***	At 1PM05J: • Using the rod motion control switch, WITHDRAW Shutdown Bank E to 231 steps			
7. DRPI indication ***Cue: DRPI indicates that shutdown bank E is at 228 steps***	At 1PM05J: ◦ VERIFY DRPI indicates 228 steps withdrawn			
NOTE Annunciator 1-10-A7 ROD DEV POWER RNG TILT, will alarm during performance of step 8				
*8. Insert shutdown bank E ***Cue: Shutdown bank E group step counter indicates 216 steps***	At 1PM05J: • Using the rod motion control switch, INSERT Shutdown Bank E 10 to 15 steps			
9. .Record step counter readings ***Cue: Shutdown bank E step counter indicates 216 step***	In column 2g: ◦ RECORD shutdown bank E step counter reading			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
10. Shutdown bank E DRPI ***Cue: DRPI indicates that each rod in shutdown bank E is at 216 steps***	In column 2h: ◦ VERIFY each rod in shutdown bank E moved 10 – 15 steps using DRPI and INITIAL			
*11. Return rods to initial position ***Cue:Shutdown bank E step counter indicates (the same as JPM step 3 cue)***	At 1PM05J: • WITHDRAW shutdown bank E rods to 228 steps			
12. Final shutdown bank E position ***Cue:Repeat JPM step 11 cue***	In column 2j: ◦ RECORD final shutdown bank E position			
13. Final shutdown bank E DRPI ***Cue: DRPI indicates that each rod in shutdown bank E is at ___ steps***	In column 2k: ◦ VERIFY each rod in shutdown bank E is restored to original position and INITIAL			
NOTE The steps for Shutdown Banks A, B, C, and D need not be performed. The evaluator should direct the examinee to go to the next step that addresses control banks				
14. Record initial control rod bank step counter readings ***Cue: Step counters for control banks A through C all indicate ___ (use current cycle) steps*** ***Cue: Control bank D indicates 220 steps***	In column 3a: ◦ ENTER initial step counter readings for Control Banks A, B, C, and D			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*15. Control bank A ***Cue: The rod bank selector switch is in the CBA position***	At 1PM05J: • SELECT CBA position on Rod Bank Selector switch			
NOTE **Step 16 is *NOT* critical if the current normal rod position is 231 steps**				
*16. Insert Control Bank A 1 step	At 1PM05J: • Using the rod motion control switch, INSERT Control Bank A 1 step Mark N/A if Group Step Counter is already at 231 steps			
*17. Withdraw control bank A ***Cue: Both control bank A step counter groups indicate 231 steps***	At 1PM05J: • Using the rod motion control switch, WITHDRAW Control Bank A to 231 steps			
NOTE The following Annunciators will alarm during the performance of step 18 1-10-A6 ROD BANK LO-2 INSERTION LIMIT, 1-10-A7 ROD DEV POWER RNG TILT, and 1-10-B6 ROD BANK LO INSERTION LIMIT				
*18. Insert control bank A ***Cue: Control bank A group step counters indicate 216 steps***	At 1PM05J: • Using the rod motion control switch, INSERT Control Bank A 10 to 15 steps			
19. Record step counter readings ***Cue: Both control bank A group step counters indicate 216 steps***	In column 3f: ◦ RECORD control rod bank A step counter readings for both groups 1 and 2			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
20. Control bank A DRPI ***Cue: DRPI indicates that each rod in control bank A is at 216 steps***	In column 3g: ◦ VERIFY each rod in control bank A moved 10 – 15 steps using DRPI and INITIAL			
*21. Return rods to initial position ***Cue: Control bank A group step counters both indicate ___ steps***	At 1PM05J: • WITHDRAW control bank A to original position			
22. Final control rod bank A position ***Cue: Control bank A group step counters indicate ___***	In column 3i: ◦ RECORD final control bank A position			
23. Final control bank A DRPI ***Cue: DRPI indicates that each rod in control bank A is at ___ steps***	In column 3j: ◦ VERIFY each rod in control bank A is at its original position			

NOTE

The steps for control banks B, C, and D need not be performed. The evaluator should direct the examinee to go to the next step that addresses P/A converter and bank overlap alignment.

Cue: Step F.4 has been completed by two NLO's and all steps were acceptable.

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
24. Restore rod control to automatic ***Cue: C-5 is NOT LIT and <u>has been independently verified</u>*** ***Cue: T_{ave}/T_{ref} deviation is <1°F and <u>has been independently verified</u>*** ***Cue: The bank selector switch is in the AUTO position and <u>has been independently verified</u>***	At 1PM05J, VERIFY: o C-5 is NOT LIT o T_{ave}/T_{ref} deviation $\leq$ 1°F o PLACE bank selector switch in AUTO			
Cue: (if required) <u>This JPM is completed</u>				

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Moveable Control Assemblies Quarterly Surveillance

JPM Number: CR-A Revision Number: 10

Task Number and Title: 4C.RD-01 PERFORM Control Rod Exercises

K/A Number and Importance: 014A4.02 3.4/3.2

Suggested Testing Environment: Simulator

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

Reference(s):

1BOSR 1.4.2-1 - Moveable Control Assemblies Quarterly Surveillance

CRITICAL STEPS (*) 4, 5, 6, 8, 11, 15, 16, 17, 18 & 21

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 23 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

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Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 NSO.
2. Unit 1 is at 100% power, steady state, equilibrium Xenon, MOL

INITIATING CUE

1. You have been directed to perform 1BOSR 1.4.2-1, Moveable Control Assemblies Quarterly Surveillance.

Exelon Nuclear

Job Performance Measure

Raise Accumulator Level With SI Pump

JPM Number: CR-b

Revision Number: 0

Date: 10/21/2011

Revised By:	Bill Hochstetter Instructor	10/20/11 Date
Reviewed By:	Rob Friskey Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BOP SI-22 Rev: 10
   Procedure _____ Rev:
9. Procedure _____ Rev:
10. Verify cues both verbal and visual are free of conflict.
11. Verify performance time is accurate
12. If the JPM cannot be performed as written with proper responses, then revise the JPM.
13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/21/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision 0

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor,. Created from JPM No. N-73
- Created rev. 0 as alternate path
- Changed NLO to EO
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

2. Set “C” accumulator level to 30% by:

   set SIMACC(3)= 58065

   set SIMN2ACC93)= 1290

3. Insert Malfunction SI01A to trip 1A SI pump
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
5. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the Unit 1 NSO.
2. Unit 1 is at full power, steady state, equilibrium Xenon, MOL
3. All plant systems and controls are normal

INITIATING CUE

1. The chemistry department left accumulator _C sample valve open after sampling, resulting in a low level of 30%.
2. The sample valve has been closed, and the lineup returned to normal.
3. The accumulator has been declared inoperable due to the low level and the LCOAR (_BOL 5.1) has been entered.
4. U-1 RWST boron concentration is 2350 ppm.
5. The US has directed you to return the accumulator level to the normal band using the _A SI pump.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1. Refer to BOP SI-22, Raising SI Accumulator Level in Mode 1, 2 or 3 **Note: Step 1 may be performed at any time.** ***Cue: (if asked) _C SI Accumulator Pressure is 625 psig.***	o LOCATE and OPEN BOP SI-22	____	____	____
2. VERIFY the following NOT discharging to applicable RWST **Cue: The Field Supervisor reports the purification pumps are not discharging to the RWST** **Cue: The Field Supervisor reports the RWST heating pump is not discharging to the RWST** **Cue: The Field Supervisor reports that A and B RCDT pumps are not discharging to the RWST** **Cue: The Field Supervisor reports that the SFP demineralizer is not discharging to the RWST** **Cue: _CS01PA/B 'GREEN' lights are LIT** ***Cue: Makeup from BA blender not aligned to RWST:***	Verify nothing discharging to RWST: ◦ 0FC03PA/B, 0A/B refueling water purification pumps ◦ _SI03P, RWST heating pump (May mark N/A per NOTE) ◦ _RE01PA/B, RCDT pump _A/B ◦ _FC01D, spent fuel pit demineralizer effluents ◦ _CS01PA/B, CS pump _A/B ◦ ◦ RWST makeup from BA blender	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
3. Align mini-flow path for _A SI pump ***Cue: _CV8804A GREEN light LIT*** ***Cue: _SI8804B GREEN light LIT*** **Cue:_SI8814, Grp 1, 6.4 light NOT LIT** **OR** **Grp 4, 2.2 light NOT LIT** ***Cue: _SI8813 SVAG valve NOT LIT*** ***OR*** ***Grp 1, 7.3, light NOT LIT*** ***OR*** ***Grp 4, 2.3 light NOT LITCue:***	VERIFY/CLOSE: ◦ _CV8804A ◦ _SI8804B VERIFY/OPEN: ◦ _SI8814 ◦ _SI8813			
*4. Align SI pump to accumulator ***Cue: _SI8806 Grp 1, 5.3 light NOT LIT*** ***OR*** ***SVAG valve light NOT LIT*** **Cue: _SI8923A RED light LIT** **Cue: _SI8888 RED light LIT** **Cue: _SI8871 RED light LIT**	At 1PM06J VERIFY/OPEN: ◦ _SI8806 ◦ _SI8923A • _SI8888 • _SI8871			
5. Verify SI to radwaste isolated ***Cue: _SI8964 'GREEN' light LIT***	At 1PM11J: ◦ VERIFY/CLOSE _SI8964			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6. Verify SI pump isolated to hot legs ***Cue: 1SI8802A Placard installed (SVAG TSLB NOT lit)*** ***Cue: 1SI8802B Placard installed (SVAG TSLB NOT lit)***	At 1PM06J: VERIFY CLOSED and DEENERGIZED: ◦ _SI8802A ◦ _SI8802B			
NOTE The procedure branches at this point dependent on the SI pump to be used. The intent of this JPM is to use the 1A SI pump, therefore the examinee should proceed to step F.7.b **Cue: (if asked): <u>The SM directs that step F.7.a be omitted.</u>**				
NOTE The Examinee may elect to have an EO do a pre-start check of the 1A SI pump prior to starting. **Cue: (if asked): <u>The 1A SI pump is ready for a start and I am clear of the pump</u>**				
NOTE **Alternate path initiated in the following step. 1A SI Pump will trip right after a start attempt is made.**				
7. Start the _A SI pump ***Cue: The green light and amber disagreement are both lit.***	At 1PM06J : • Take _A SI pump C/S to start			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*8. Response to pump trip ***Cue: SM directs the _C accumulator be filled by the 1B SI pump and will complete the necessary LCOAR and related paperwork***	At 1PM06J: • Take _A SI pump C/S to stop or PTL • Inform US or SM			
9. Go to step 8 of the procedure ***Cue: _SI8821A Green light is LIT*** ***Cue: _SI8821B Green light is LIT***	References step 8 of procedure Raising SI Accumulator level with the _B SI pump ◦ Verify RCS pressure > 1700 psig ◦ At 1PM06J Verify/Open ◦ _SI8821A ◦ _SI8821B ◦			
*10. Start the _B SI pump ***Cue: The _B SI pump RED light is LIT*** ***Cue: _B SI pump discharge pressure = 1200 psig***	At _PM06J: • START the _B SI pump o • Verify the _B SI pump discharge pressure is < 1700 psig			

NOTE

Examinee may elect to have An EO do a pre-start check of _B SI pump prior to starting

CUE*: *The EO will perform the applicable portions of BOP SI-1T1

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ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE When the examinee fills the accumulator 1% to 2% above the low level alarm setpoint (alarm clears) provide the following cue: **Cue: The desired accumulator level has been achieved.**				
*11. Fill _C Accumulator **Cue: Unit _ Unit Supervisor acknowledges entry into _BOL 5.1** **Cue: _SI8878C RED light is LIT** ***Cue: Accumulator _C low level annunciator RESET*** **Note: Cue examinee with 5% level increases every 5 seconds**	At _PM06J: ◦ Enter _BOL 5.1 • OPEN _SI8878C			
*12. Stop filling accumulator ***Cue: _SI8878C GREEN light is LIT*** ***Cue: Unit _ Unit Supervisor acknowledges exit _BOL 5.1***	At _PM06J: • CLOSE _SI8878C when accumulator level is between 31% and <63% ◦ Exit _BOL 5.1			
13. Stop the _B SI pump ***Cue: _B SI pump GREEN light is LIT***	At _PM06J: ◦ STOP the _B SI pump			
14. Isolate accumulator fill ***Cue: _SI8871 GREEN light is LIT***	At _PM06J: ◦ CLOSE _SI8871			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
15. Vent SI train to SI accumulators ***Cue: _SI 8964 RED light is LIT*** **Cue: SI pump discharge pressure slightly above bottom of scale** **Cue: _SI 8964 GREEN light is LIT**	At _PM011J: ◦ At _PM11J, OPEN _SI8964 ◦ At _PM06J, MONITOR SI pump discharge pressure ◦ At PM11J, CLOSE _SI8964			
16. Isolate SI pump from accumulator ***Cue: _SI8888 GREEN light is LIT***	At _PM06J: ◦ CLOSE _SI8888			
17. Notify chemistry to initiate _BCSR 5.1.5 ***Cue: Chemistry has been notified to initiate BCSR 5.1.5*** ***Cue: This JPM is completed***	o NOTIFY chemistry to initiate _BCSR 5.1.5 per Tech Spec 3.5.1			

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Raise Accumulator Level With SI Pump

JPM Number: CR-b Revision Number: 00

Task Number and Title: 4C.SI-02 FILL the SI System Accumulators

K/A Number and Importance: 006A1.13 3.5/3.7

Suggested Testing Environment: Simulator

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

Reference(s):

BOP SI-22, Raising SI Accumulator Level in Modes 1,2 or 3 (Rev. 10)

CRITICAL STEPS (*) 4, 8, 10, 11, & 12

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 23 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

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Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 NSO.
2. Unit 1 is at full power, steady state, equilibrium Xenon, MOL
3. All plant systems and controls are normal

INITIATING CUE

1. The chemistry department left accumulator _C sample valve open after sampling, resulting in a low level of 30%.
2. The sample valve has been closed, and the lineup returned to normal.
3. The accumulator has been declared inoperable due to the low level and the LCOAR (_BOL 5.1) has been entered.
4. U-1 RWST boron concentration is 2350 ppm.
5. The US has directed you to return the accumulator level to the normal band using the _A SI pump.

Exelon Nuclear

Job Performance Measure

Perform Transfer to Hot Leg Recirc

JPM Number: CR-c

Revision Number: 00

Date: 10/24/2011

Revised By:	Bill Hochstetter Instructor	10/24/11 Date
Reviewed By:	Brian Lewin Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Training Department	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure 1BEP ES-1.4 Rev: 200
   Procedure Rev:
   Procedure_____ Rev:
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/20/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision 0

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor, revised to make alternate path
- Created from JPM No. N-30.
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-180 (LOCA and currently on Cold Leg Recirc)

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

2. Turn annuncators to OFF.
3. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
4. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the Unit 1 NSO.
2. A large LOCA is in progress.
3. 1BEP-1 step 19 has been completed.
4. 5 hours 50 minutes has elapsed since SI was actuated.

INITIATING CUE

1. The Unit Supervisor has directed you to proceed with 1BEP ES-1.4, Transfer to Hot Leg Recirculation.

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

Information For Evaluator’s Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1. Refer to 1BEP ES-1.4, Transfer to Hot Leg Recirculation **Note: This step may be performed at any time**.	o LOCATE and OPEN 1BEP ES-1.4	____	____	____
2. Place SVAG Valve Bus Feeds to Close. **Cue: The 480V Feed to 131X1A/X2A ‘RED’ lights are LIT** ***Cue: The 480V Feed to 132X2A/X4A ‘RED’ lights are LIT***	At 1PM06J, CLOSE: • 480V Feed to Bus 131X1A/X2A • 480V Feed to Bus 132X2A/X4A	____	____	____
*3. Close RH to cold legs isol valves. ***Cue: 1SI8809A ‘RED’ light is LIT*** ***Cue: 1SI8809B ‘RED’ light is LIT:***	At 1PM06J, CLOSE: • 1SI8809A • 1SI8809B	____	____	____
NOTE **Alternate Path JPM starts here**				
*4. Check 1A RH pump running. ***Cue:RHR pump 1A ‘GREEN’ light is LIT***	At 1PM06J: • CHECK RHR pump 1A NOT RUNNING	____	____	____
*5 OPEN Train B RH HX discharge crosstie header valve ***Cue:1RH8716B ‘GREEN’ light is LIT***	At 1PM06J: • OPEN 1RH8716B	____	____	____
*6. Open RH to hot legs isol valve. ***Cue:1SI8840 ‘RED’ light is LIT***	At 1PM06J: • OPEN 1SI8840	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7. Stop SI pump 1A. ***Cue: The 1A SI pump ‘GREEN’ light is LIT***	At 1PM06J: STOP 1A SI pump			
*8. Close SI pump 1A to cold legs isol valve. ***Cue:1SI8821A ‘RED’ light is LIT***	At 1PM06J: • CLOSE 1SI8821A			
*9. Open SI pump 1A to hot legs isol valve. ***Cue:1SI8802A ‘RED’ light is LIT***	At 1PM06J: • OPEN 1SI8802A			
*10. Start the 1A SI pump. ***Cue:The 1A SI pump ‘RED’ light is LIT***	At 1PM06J: • START 1A SI pump			
11. Stop SI pump 1B. ***Cue:The 1B SI pump ‘GREEN’ light is LIT***	At 1PM06J: o STOP 1B SI pump			
*12. Close SI pump 1B to cold legs isol valve. ***Cue: 1SI8821B ‘RED’ light is LIT***	At 1PM06J: • CLOSE 1SI8821B			
*13. Open SI pump 1B to hot legs isol valve. ***Cue: 1SI8802B ‘RED’ light is LIT***	At 1PM06J: • OPEN 1SI8802B			
*14. Start the 1B SI pump. ***Cue: The 1B SI pump ‘RED’ light is LIT***	At 1PM06J: • START 1B SI pump			
15. Check SI pumps to hot legs isol valves open ***Cue: 1SI8802A ‘RED’ light is LIT*** ***Cue: 1SI8802B ‘RED’ light is LIT***	At 1PM06J, Verify OPEN o 1SI8802A o 1SI8802B			

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
16. Close SI pumps to cold leg isol valve ***Cue: 1SI8835 RED light is LIT***	At 1PM06J: o CLOSE 1SI8835			
17. Place SVAG Valve Bus Feeds to TRIP. **Cue: The 480V Feed to 131X1A/X2A ‘GREEN’ lights are LIT** ***Cue: The 480V Feed to 132X2A/X4A ‘GREEN’ lights are LIT*** ***Cue:***	At 1PM06J, TRIP o 480V Feed to Bus 131X1A/X2A o 480V Feed to Bus 132X2A/X4A			
Cue: <u>This JPM is completed</u>				

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Align ECCS to Hot Leg Recirc

JPM Number: CR-c Revision Number: 0

Task Number and Title: 4D.EP-15 TRANSFER ECCS to Hot Leg Recirculation

K/A Number and Importance: 011EA1.11 4.2/4.2

Suggested Testing Environment: Simulator

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

Reference(s):

1BEP ES1.4, Transfer to Hot Leg Recirculation (Rev. 200)

CRITICAL STEPS (*) 3, 4, 5, 6, 8, 9, 10, 12, 13, & 14

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 23 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

_____

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_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 NSO.

2. A large LOCA is in progress.

3. 1BEP-1 step 19 has been completed.

4. 5 hours 50 minutes has elapsed since SI was actuated.

INITIATING CUE

2. The Unit Supervisor has directed you to proceed with 1BEP ES-1.4, Transfer to Hot Leg Recirculation.

Exelon Nuclear

Job Performance Measure

Respond To 1A SX Pump Trip (Standby Pump Does Not Start)

JPM Number: CR-d

Revision Number: 0

Date: 10/20/2011

Developed By:	Bill Hochstetter Instructor	10/20/2011 Date
Validated By:	Mark Ristau SME or Instructor	11/06/2011 Date
Approved By:	Rob Lawlor * Training Department	11/06/2011 Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision: Procedure BAR 1-2-A1 Rev 4
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Lynn Sanders (Signature on File)	9/24/09
SME / Instructor	Date
Brian Clark (Signature on File)	9/24/09
SME / Instructor	Date

Revision Record (Summary)

Revision 00

1. New JPM
2. Operator Actions PRA Establish SX Crosstie across units.
3. The examinee will only direct the performance of 2 critical steps. The high PRA value of establish SX Crosstie across units justifies counting these steps as critical steps.
4. Validated 11/06/11 by Rob Lawlor and Bill Hochstetter.

SIMULATOR SETUP INSTRUCTIONS

NOTE:

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

1. Reset to IC-13
2. Verify 1A SX is running
3. Insert malfunction **SW01B** to trip the 1B SX pump
4. Insert malfunction PN1427 to off
5. Place the simulator in **RUN**.
6. On the Examiner's cue insert malfunction **SW01A (15 sec delay)** to trip the 1A SX pump
7. When Unit 2 NSO is requested to open 2SX005 modify remote function **SW07** to **100**

INITIAL CONDITIONS

You are the Unit1 NSO.

INITIATING CUE

Respond to alarms on 1PM06J.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

Note
If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee.

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE The examinee may refer to BAR 1-2-A1 at any time. If this JPM is performed on the simulator, only the underlined cue need to be provided to the examinee.				
1. Refer to BAR 1-2-A1	o Locate and Open BAR 1-2-A1	____	____	____
NOTE The next step begins the alternate path steps.				
2. Start 1B SX Pump ***Cue: 1B SX pump C/S is After trip*** ***Cue: The 1B SX Oil Pressure Light Is Lit*** ***Cue: The 1B SX pump does not start.***	At 1PM06J: • Start 1B SX pump	____	____	____
NOTE If this is being performed on the simulator, the Simulator Operator will act as the U2 NSO and will perform steps 3 and 5 when requested.				
*3. Determines SX Pump unavailable and DIRECTS U2 NSO to START the standby SX Pump on Unit 2 ***Cue: Unit 2 NSO reports the Unit 2 Standby SX pump is running***	• DIRECTS U2 NSO to START the standby SX Pump on Unit 2	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE Steps 4 and 5 may be performed in any order.				
*4. Open 1SX005. ***Cue: 1SX005 red light is LIT*** ***Cue: 1SX005 green light is NOT LIT***	At 1PM06J: • Open 1SX005:	____	____	____
*5. DIRECTS U2 NSO to OPEN 2SX005 Note***:** *wait a few seconds then provide the cue below* ***Cue: 2SX005 indicates open***	• DIRECTS U2 NSO to OPEN 2SX005	____	____	____
6. DETERMINE cause of trip. ***Cue: EO reports phase C overcurrent target is up on the 1A SX pump breaker.***	o Dispatch an EO to check the 1A SX pump (BUS 141 Cub 2)	____	____	____
7. REFER to 1BOA PRI-7 ***Cue: The Unit Supervisor will refer to 1BOA PRI-7***	o Direct Unit Supervisor to refer to 1BOA PRI-7.	____	____	____
8. REFER to Technical Specification 3.7.8. ***Cue: The Unit Supervisor will refer to Technical Specification 3.7.8.***	o Direct Unit Supervisor to refer to Technical Specification 3.7.8.	____	____	____
9. INITIATE corrective action. ***Cue: The Unit Supervisor will INITIATE corrective action.***	o Direct Unit Supervisor to INITIATE corrective action	____	____	____
Cue: This JPM is complete		____	____	____

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Respond To 1A SX Pump Trip (Standby Pump Does Not Start)

JPM Number: N130a: Revision Number: 0

Task Number and Title: R-OA-108 Respond to Essential Service Water Malfunction.

K/A Number and Importance: 076 A2.01 (3.5/3.7)

Suggested Testing Environment: Simulator

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

Reference(s): BAR 1-2-A1 Rev 4

CRITICAL STEPS (*) 3, 4 & 5

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 5 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

_____

_____

_____

_____

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_____

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

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

INITIAL CONDITIONS

You are the Unit1 NSO.

INITIATING CUE

Respond to alarms on 1PM06J.

Exelon Nuclear

Job Performance Measure

MANUALLY INITIATE CONTAINMENT SPRAY (BEP-0)

JPM Number: CR-e

Revision Number: 4

Date: 11/06/2011

Developed By:	**Brian Clark *(Signature on file)***	**10/04/07**
	Instructor	**Date**
Validated By:	**Bill Hochstetter *(Signature on file)***	**11/06/11**
	SME or Instructor	**Date**
Approved By:	**Rob Lawlor *(Signature on file)***	**11/06/11**
	Operations Representative	**Date**
:		

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 and 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:

_BEP-0, Reactor Trip or Safety Injection.
Procedure Rev. 202 Verified Date: 10/28/2011

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

Revision Record (Summary)

1. **Revision 3** Changed task conditions from "CNMT press is 25#" to "Containment pressure peaked at 25#". RCPs will be tripped in setup and action has been deleted as a critical task. The two actions of manually opening of _CS019A and placing _A CS pump to Test are each designated as critical tasks.

2. **Revision 4** Changed attachment B to attachment C based on rev. to _BEP-0

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 179

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

2. Turn annunciators OFF

3. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs using the JPM Validation Checklist.

4. This completes the setup for this JPM.

INITIAL CONDITIONS

1. You are a unit NSO.
2. A LOCA has just occurred and _BEP-0 is in progress.
3. The ECCS is in the injection mode with dropping RCS pressure.
4. Containment pressure peaked at 25 psig.

INITIATING CUE

The Unit Supervisor has directed you to perform step 14 of _BEP-0, Reactor Trip or Safety Injection.

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

Information For Evaluator's Use:

CRITICAL ELEMENTS(*): **9 & 10**

APPROXIMATE COMPLETION TIME: **26 minutes**

UNSAT requires written comments on respective step.

* * Denotes critical steps.
* • Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

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.

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
RECORD START TIME _____					
		NOTE If this JPM is given on the simulator, only the cues underlined are required to be given to the examinee.			
1.	Enter BEP-0 at step 14	° LOCATE and OPEN _BEP-0 to step 14	o	o	
2.	Check containment pressure ***Cue: Containment pressure is 25 psig on all channels***	At _PM06J: ° CHECK Containment pressure	o	o	
3.	Group 6 containment spray monitor lights ***Cue: Group 6 CS Monitor lights are NOT LIT***	At _PM06J: ° CHECK Group 6 CS Monitor lights LIT	o	o	
4.	_BEP-0, Step 14.b RNO ***Cue: CS has been MANUALLY ACTUATED***	At _PM05J **or** _PM06J: ° MANUALLY ACTUATE Containment Spray and Phase B Isolation	o	o	
		Cue: Group 6 CS Monitor lights are NOT LIT ° CHECK Group 6 CS Monitor lights LIT			
5.	BEP-0, Attachment C	° GO TO BEP-0, Attachment C	o	o	
6.	_BEP-0, Attachment C, CS RWST Suction valves ***Cue: _CS001A 'GREEN' light is LIT*** ***Cue: _CS001B 'GREEN' light is LIT***	At _PM06J, CHECK OPEN: ° _CS001A ° _CS001B	o	o	

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7.	_BEP-0, Attachment C, CS Pump Header isol valves ***Cue: _CS007A 'RED' light is LIT*** ***Cue: _CS007B 'RED' light is LIT***	At _PM06J, CHECK OPEN: ° _CS007A ° _CS007B	o	o	
8.	_BEP-0, Attachment C, CS eductor spray additive valves ***Cue: _CS019A 'GREEN' light is LIT*** ***Cue: _CS019B 'RED' light is LIT***	At _PM06J, CHECK OPEN: ° _CS019A ° _CS019B	o	o	

NOTE
Alternate path begins with step 9 and ends with step 10

*9.	_BEP-0, Attachment C, Step 1.c RNO ***Cue: The _A CS pump test switch is in TEST***	At _PM06J; • PLACE _A CS pump test switch in TEST	o	o	
*10	_BEP-0, Attachment C, Step 1.c RNO (continued) ***Cue: _CS019A 'RED' light is LIT***	At _PM06J; • MANUALLY OPEN _CS19A	o	o	
11.	_BEP-0, Attachment C, Step 1.c RNO (continued) ***Cue: The _A CS pump test switch is in NORMAL*** ***Cue: (If asked) The _A CS pump 'RED' light is LIT***	At _PM06J; ° PLACE _A CS pump test switch in NORMAL	o	o	
12.	_BEP-0, Attachment C, CS Eductor Inlet FCV's ***Cue: _CS010A 'GREEN' light is LIT*** ***Cue: _CS010B 'GREEN' light is LIT***	At _PM06J, CHECK OPEN: ° _CS010A ° _CS010B	o	o	

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
13.	_BEP-0, Attachment C, CS Pumps ***Cue: _A CS pump 'RED' light is LIT*** ***Cue: _B CS pump 'RED' light is NOT LIT***	At _PM06J: ° Check at least one CS pump RUNNING	o	o	
14.	_BEP-0, Attachment C, Step 3	° RETURN TO BEP-0, Step 14.c	o	o	
15.	Group 6 Phase B isolation monitor lights ***Cue: Group 6 Phase B Isolation monitor lights are LIT***	At _PM06J: ° CHECK Group 6 Phase B Isolation monitor lights LIT	o	o	
16.	Stop All Reactor Coolant Pumps ***Cue: All RCP 'RED' lights are LIT***	At _PM05J: o Check all RCPs STOPPED	o	o	
15.	Check CS eductor suction flow > 15 gpm ***Cue: Flow on _FI-CS013 indicates 130 gpm***	At _PM06J: ° CHECK CS eductor suction flow on _FI-CS013	o	o	
16.	Check CS eductor additive flow > 5 gpm ***Cue: Flow on _FI-CS015 indicates 55 gpm*** ***Cue: <u>This JPM is completed</u>***	At _PM06J: ° CHECK CS eductor additive flow on _FI-CS015	o	o	

RECORD STOP TIME_____

Operator's Name: _____
Job Title: ☐ RO ☐ SRO ☐ SRO Cert

JPM Title: Manually Initiate Containment Spray (_BEP-0)
JPM Number: N-46a Revision Number: 4
Task Number and Title: 4D.CS-01 Manually Initiate Containment Spray (BEP-0)

K/A Number and Importance: 026A4.01 (4.5 / 4.3)

Task Standard: Manually Initiate Containment Spray _BEP-0 Step 14

Suggested Testing Environment: Simulator

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

Testing Method: ☐ Simulate ☒ Perform Alternate Path**:** ☒ Yes ☐ No SRO Only**:** ☐ Yes ☒ No

Time Critical: ☐ Yes ☒ No

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

References: _BEP-0, Step 14

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

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

Comments: _____

Evaluator's Name: _____ (Print)

Evaluator's Signature: _____ Date: _____

INITIAL CONDITIONS

TASK CONDITIONS:

1. You are the Unit NSO.
2. A LOCA has just occurred and _BEP-0 is in progress.
3. The ECCS is in the injection mode with decreasing RCS pressure.
4. Containment pressure peaked at 25 psig.

INITIATING CUES:

The US has directed you to initiate Containment Spray per _BEP-0, Step 14.

Exelon Nuclear

Job Performance Measure

Unload D/G that is paralleled to the SAT

JPM Number: CR-f

Revision Number: 15

Date: 10/29/2011

Revised By:	Bill Hochstetter Instructor	10/29/2011 Date
Reviewed By:	Mark Ristau Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BOP DG-12 Rev: 20
   Procedure BOP DG-11T1, Diesel Generator Start/Stop Log Rev: 2
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/29/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision 15

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor, change was procedure rev that added 1 step to the JPM.
- Created from JPM No. N-6 rev.14
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

2. Start, parallel, and load DG to 5500 KW using procedure then snap for succeeding uses.
3. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
4. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the extra NSO.

2. The Unit is in mode 1, with a normal "at power" electrical lineup.

3. Diesel Generator 1A has been running paralleled to the grid for 4 hours at 5500 KW

INITIATING CUE

1. The Unit Supervisor has just directed you to shutdown the 1A Diesel Generator per BOP DG-12 from the Control Room.

2. Electric Operations has been notified and expects the DG load to be reduced and then removed from parallel operation.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1. Refer to BOP DG-12, Diesel Generator Shutdown Note: Step 1 may be performed at any time **Cue: <u>All prerequisites are met</u>**	o LOCATE and OPEN BOP DG-12	____	____	____
NOTE Cue the candidate at each plateau that the time frame has been met.				
*2. Reduce load on the 1A DG to less than 250 KW using DG 1A Gov Adj control. ***Note:** The examinee may adjust VAR loading as necessary while unloading the machine*	At 1PM01J: • LOWER the DG Gov Adj control to REDUCE load to < 250 KW per the schedule in the note ◦ 4100 KW for 2 minutes ◦ 2750 KW for 2 minutes ◦ 1400 KW for 15 minutes ◦ < 250 KW	____	____	____
3. Adjust reactive load to zero KVARS using Diesel Gen 1A Volt Adj. Control. ***Cue: KVARs is reduced to zero***	At 1PM01J: ◦ ADJUST DG KVARS to ZERO using the 1A DG VOLT ADJ	____	____	____
*4. Open ACB _413 DG 1A Feed to 4KV Bus 141. ***Cue: ACB 1413 'GREEN' light is LIT***	At 1PM01J: Open DG output breaker • OPEN ACB 1413	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE The following annunciator will alarm after DG output breaker is opened: **1-21-D9, DG _A RUNNING UNLOADED** The diesel will continue running for 5 minutes after step 10 execution of this JPM				
		____	____	____
NOTE: The completion of BOP DG-11T1 is NOT required for this JPM.				
5. Record the time ACB 1413 was opened on BOP DG-11T1 ***Cue: <u>Use current time</u>*** ***Cue: <u>The Unit NSO will complete BOP DG-11T1</u>***	◦ RECORD the time ACB 1413 was opened on BOP DG-11T1	____	____	____
6. VERIFY/PLACE DG 1A ACB 1413 auto re-close circuit arm selector switch in the NORM position. ***Cue: The auto re-close circuit arm selector switch is in the 'NORMAL' position***	At 1PM01J: DG ACB 1413 auto re-close circuit arm selector switch ◦ VERIFY/PLACE the Auto Re-close Circuit Arm Selector Switch to the NORM position	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
7. VERIFY/PLACE the Start Mode Selector Switch at 1PL07J in FAST. ***Cue: The NLO reports the start mode selector switch is in FAST***	Locally Start mode selector switch: ◦ DIRECT NLO to VERIFY/PLACE the Start Mode Selector switch in FAST at 1PL07J			
8. VERIFY DG air receiver pressures are ≥ 175 psig prior to stopping DG to ensure operability. ***Cue: The NLO reports the air receiver pressures are > 175 psig.***	Locally: Starting Air receiver pressures ◦ DIRECT NLO to VERIFY DG starting air receiver pressures ≥ 175 psig			
9. VERIFY control mode selector switch ***Cue: The NLO reports the control mode selector switch is in REMOTE*** **Note: The operator may check the 'LOCAL' white light NOT LIT**	Locally: Control mode selector switch ◦ DIRECT the NLO to VERIFY the Control Mode Selector Switch is in REMOTE			
*10. PLACE the DG 1A Start Switch in STOP position. ***Cue: The DG start switch is in the A/T position*** ***Cue: The 'GREEN' light is LIT***	At 1PM01J: Stop the 1A DG • PLACE the 1A DG Start Switch to STOP ◦ CHECK STOP light LIT			

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
11. Verify DG standby configuration ***Cue**: **The five minute cooldown is complete*** ***Cue: The NLO reports that the DG pre-lube pump is RUNNING*** ***Cue: The NLO reports that the DG has STOPPED*** ***Cue: The Unit NSO will complete BOP DG-11T1*** ***Cue: This JPM is complete***	◦ WAIT for 5 minute auto cooldown cycle to complete DIRECT NLO to: ◦ VERIFY/START the DG pre-lube pump at ~ 280 rpm ◦ REPORT when the DG has STOPPED			

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Unload and Shutdown a Diesel Generator

JPM Number: CR-f Revision Number: 15

Task Number and Title: 4C.DG-04,05 UNLOAD a DG & SHUTDOWN a DG

K/A Number and Importance: 064A4.06 3.1/3.9

Suggested Testing Environment: Simulator

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

Reference(s):

1. BOP DG-11T1, Diesel Generator Start/Stop Log (Rev 2)
2. BOP DG-12, Diesel Generator Shutdown (Rev. 20)

CRITICAL STEPS (*) 2, 4, & 10

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

Testing Method: ☐ Simulate ☐ Perform

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

EVALUATION SUMMARY:

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

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the extra NSO.

2. The unit is in mode 1, with a normal "at power" electrical lineup.

3. Diesel Generator _A has been running paralleled to the grid for 4 hours at 5500 KW.

INITIATING CUE

1. The Unit Supervisor has just directed you to shutdown the _A Diesel Generator, per BOP DG-12 from the Control Room.

2. Electric Operations has been notified and expects the DG load to be reduced and then removed from parallel operation.

Exelon Nuclear

Job Performance Measure

Align Ventilation Systems for Emergency Operations (Failure of Fuel Handling Building Fans to Start)

JPM Number: CR-g

Revision Number: 6

Date: 10/29/2011

Revised By:	Bill Hochstetter Instructor	10/29/2011 Date
Reviewed By:	Mark Ristau Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BOP VA-6 Rev: 4
   Procedure 2BEP-0 Rev: 202
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/29/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision X

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor, only change was procedure rev that did not affect JPM.
- Created from JPM No. N-99b
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-22

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

2. Verify:
    - 0VA085Y closed
    - 0VA084Y open
    - 0VA086Y open
3. VC M/U Filter Unit on running VC Train
4. Place VC Recirc Charcoal Adsorber Selector Switches on **BOTH** trains of VC to ABSORB, allow dampers to realign, then place both switches back to AUTO
5. Start 0B and 0F VA Inaccessible Plenum Charcoal Booster Fans
6. Close FHB Pre-Filter Isolation Dampers:
    a. 0VA058Y/0VA059Y
    b. 0VA053Y/0VA054Y
7. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
8. Obtain Unit-2 E-0 Attachment. B binder with steps for the examinee
9. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.

2. Unit 2 has experienced a LOCA.

3. 2BEP-0 is in progress in response to the event.

INITIATING CUE

You are directed to verify Fuel Handling Building ventilation is aligned for emergency operation per step 6 of 2BEP-0 Attachment B.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1. Refer to 2BEP-0, Reactor Trip or Safety Injection, Attachment B step 6 **Note: JPM step 1 may be performed at any time**	o LOCATE and OPEN 2BEP-0 to Attachment B step 6 o	____	____	____
NOTE **ALTERNATE PATH STARTS HERE** **JPM steps 2 through 10 verify the fuel handling building ventilation is aligned for emergency operation. The fuel handling building fans fail to start initially**				
2. Verify FH building ventilation aligned ***Cue: The 0VA04CA and/or 0VA04CB 'GREEN' light(s) are LIT***	At 1PM02J, VERIFY • 0VA04CA NOT running AND • 0VA04CB NOT running	____	____	____
3. Refer to BOP VA-6, Fuel Handling Building Charcoal Booster Fan Operation **Note: JPM step 10 may be performed at any time** ***Cue: (if asked) The system is lined up IAW BOP VA-E3***	o LOCATE and OPEN BOP VA-6 ◦	____	____	____
NOTE **In the following JPM steps, provide cues to the examinee based on which train is started**				

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4. Place one FHB Exhaust Plenum on line ***Cue: 0VA0__Y and 0VA0__Y open lights are LIT***	**At 0PM02J**, **VERIFY/OPEN:** • 0VA058Y and 0VA059Y (A Train) OR • 0VA053Y and 0VA054Y (B Train)			
5. Ensure the other train's FHB Filter Flow Control damper is CLOSED. ***Cue: 0VA0__Y closed light is LIT***	At 1PM02J, VERIFY/CLOSE for fan NOT being started: o 0VA062Y (for 'A' fan) OR o 0VA057Y (for 'B' fan)			
6. Verify the fan transfer switch is in remote. **Note: The student may use the Stop light (green) on the associated control switch to verify the fan is in REMOTE** ***Cue: <u>The EO reports that the fan transfer switch is in the REMOTE position at 0VA01JA</u>***	◦ VERIFY fan transfer switch is in REMOTE			
*7. Start one train of Fuel Handling Building Charcoal Booster fan. Cue: 0VA04C_ 'RED' light is LIT	At 0PM02J, START: • 0VA04CA OR • 0VA04CB			
8. Ensure FHB Filter Train Flow Control damper opens. ***Cue: 0VA0__Y 'RED' light is LIT***	At 0PM02J, VERIFY/OPEN: o 0VA057Y (for 'A' fan) OR o 0VA062Y (for 'B' fan) ◦			

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
10. Ensure FHB Charcoal Adsorber Inlet Isol opens. ***Cue: 0VA0__Y 'RED' light is LIT***	At 0PM02J, VERIFY/OPEN: o 0VA060Y (for 'A' fan) OR o 0VA055Y (for 'B' fan)	____	____	____
10 Ensure FHB Charcoal Adsorber Bypass Isol damper closes. ***Cue: 0VA0__Y 'RED' light is LIT***	At 0PM02J, VERIFY/CLOSE: o 0VA051Y (for 'A' fan) OR o 0VA435Y (for 'B' fan)	____	____	____
Cue: (if required) <u>This JPM is completed</u>		____	____	____

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Align Ventilation Systems for Emergency Operation (Failure of FHB)

JPM Number: CR-g Revision Number: 6

Task Number and Title: 4D.EP-19 RESPOND to Safety Injection Signal

K/A Number and Importance: 072A3.01 2.9/3.1

Suggested Testing Environment: Simulator

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

Reference(s): BOP VA-6 Rev: 4

2BEP-0 Rev: 202

CRITICAL STEPS (*) 4 and 7

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 12 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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_____

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_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.

2. Unit 2 has experienced a LOCA.

3. 2BEP-0 is in progress in response to the event.

INITIATING CUE

You are directed to verify Fuel Handling Building ventilation is aligned for emergency operation per step 6 of 2BEP-0 Attachment B.

Exelon Nuclear

Job Performance Measure

Establish and Secure Normal and RH Letdown flow

JPM Number: CR-h

Revision Number: 09

Date: 10/29/2011

Revised By:	Bill Hochstetter Instructor	10/29/2011 Date
Reviewed By:	Mark Ristau Operations Representative	11/06/2011 Date
Approved By:	Rob Lawlor Facility Representative	11/06/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BOP CV-17 Rev: 25
   Procedure Rev:
   Procedure Rev:
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/29/11
SME / Instructor Date

x x
SME / Instructor Date

Revision Record (Summary)

Revision 9

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor, only change was procedure rev that did not affect JPM.
- Created from JPM No. N-64 R8
-

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-25

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

2. Modify Remote Function **RH02 to 100,** to open 1RH8734B when called as EO by examinee.
3. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist
4. This completes the setup for this JPM

INITIAL CONDITIONS

1. You are the unit NSO.
2. The plant is in MODE 4 with RHR in shutdown cooling.
3. Normal letdown is in service.
4. Train B RHR is operating with train A in stand-by.

INITIATING CUE

The US directs you to establish 55 gpm letdown from RH and secure normal letdown per BOP CV-17.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee				
1. Refer to BOP CV-17, step F.1 **Note: May be performed at any time** ***Cue: Prerequisites are met***	o LOCATE and OPEN BOP CV-17	____	____	____
2. Verify/Open _CV460 **Cue: _CV460 'GREEN' light is LIT**	At 1PM05J: o VERIFY/OPEN _CV460	____	____	____
3. Verify/Open _CV459 **Cue: _CV459 'GREEN' light is LIT.**	At _PM05J: ◦ VERIFY/OPEN _CV459	____	____	____
4. Verify/Open _CV8389A/B **Cue: _CV8389A/B open lights are LIT**	At _PM05J: o VERIFY/OPEN _CV8389A/B	____	____	____
5. Verify/Open _CV8160 **Cue: _CV8160 open light is LIT**	At _PM05J: o VERIFY/OPEN _CV8160	____	____	____
6. Verify/Open _CV8149A/B/C **Cue:_CV8149 and B open lights are LIT**	At _PM05J: ◦ VERIFY/OPEN _CV8149A/B/C	____	____	____
7. Verify RH letdown control valve position ***Cue:_CV128 DEMAND = 0%***	At _PM05J: ◦ VERIFY/REDUCE _CV128 demand to 0%	____	____	____
*8. Align RH letdown flowpath ***Cue: Operator reports _RH8734B is OPEN***	• DISPATCH operator to locally open _RH8734B	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*9. Place _CC130 to Manual at 40% ***Cue: _CC130 MANUAL light is LIT and demand is at 40%***	At _PM05J: • PLACE _CC130A/B in MANUAL and ADJUST demand to 40%			
*10. Place _CV131 to Manual at 40% **Cue: _CV131 MANUAL light is LIT and demand is at 40%**	At _PM05J: • PLACE _CV131 in MANUAL and ADJUST demand to 40%			
11. Place the _CV129 to VCT **Cue:_CV129 is in VCT position**	At _PM05J: o PLACE _CV129 to the VCT position			
12. Adjust _LK-112 **Cue: Degassing is not required** **Cue: _LK-112 pot is at 7.3** **Cue: _LK-112 AUTO light is LIT**	At _PM05J: o ADJUST _LK-112 pot setting to 7.3 AND o PLACE _LK-112 in AUTO			
13. Place _CV112A in Auto **Cue: _CV112A is in AUTO**	At _PM05J: o PLACE _CV-112A in AUTO			
*14. Establish RH Letdown Flow **Cue: _CV-128 is THROTTLED OPEN**	At _PM05J: • OPEN/THROTTLE _CV-128			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*15. Adjust RH Letdown Flow **Cue:_FT-131 = 55 gpm**	At _PM05J: • ADJUST _CV131 in manual to obtain desired flow			
16. Place _CV131 in Auto, if required **Cue: _CV131 is in AUTO**	At _PM05J: o PLACE _CV131 in AUTO, IF required			
17. Adjust letdown temperature **NOTE: Degassing is not in progress** ***Cue: _TI-130 = 110°F***	At _PM05J: o ADJUST _CC130A/B to obtain ~ 110°F			
18. Establish auto temperature control **Cue:_CC130 AUTO light is LIT**	At _PM05J: o PLACE _CC130 in AUTO			
19. Verify letdown radiation monitor in service **Cue: An extra NSO has placed _RE-PR006 in service**	At the RM-11: o VERIFY/PLACE _RE-PR006 in service per BOP AR/PR-1			
*20. Isolate normal letdown flowpath **Cue: _CV8152 'RED' light is LIT**	At _PM05J: • CLOSE _CV8152			

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
21. Align _CV129 for RCS cleanup ***Cue: Place _CV129 is in DEMIN position to allow continued cleanup.*** ***Cue: _CV129 is in DEMIN position***	At _PM05J: o PLACE _CV129 in the proper position for RCS cleanup	____	____	____
Cue: (if required) This JPM is completed		____	____	____

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Establish and Secure Normal and RH Letdown

JPM Number: CR-h Revision Number: 09

Task Number and Title: 4C.CV-16 ESTABLISHING and SECURING Normal and RH Letdown flow.

K/A Number and Importance: 005 2.1.23 4.3/4.4

Suggested Testing Environment: Simulator

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

Reference(s):

1BOP CV-17 Rev. 25

CRITICAL STEPS (*) 8, 9, 10, 14, 15, & 20

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

Testing Method: ☐ Simulate ☐ Perform

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

EVALUATION SUMMARY:

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

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

Comments: _____

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_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are the unit NSO.
2. The plant is in MODE 4 with RHR in shutdown cooling.
3. Normal letdown is in service.
4. Train B RHR is operating with train A in stand-by.

INITIATING CUE

The US directs you to establish 55 gpm letdown from RH and secure normal letdown per BOP CV-17.

Exelon Nuclear

Job Performance Measure

Operate the Fire Detection/Alarm Equipment (without control power)

JPM Number: IP-i

Revision Number: 07

Date: 10/30/2011

Revised By:	Bill Hochstetter Instructor	10/30/2011 Date
Reviewed By:	Brian Lewin Operations Representative	11/6/2011 Date
Approved By:	/s/ Rob Lawlor Facility Representative	11/6/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BOP FP-22 Rev: 6
   Procedure BOP FP-22A20 Rev: 0
   Procedure BOP FP-22A25 Rev: 0
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 10/30/11
SME / Instructor Date

Revision Record (Summary)

Revision 7

- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor, only change was procedure rev that did not affect JPM.
- Created from JPM No. N-49a R6
-

INITIAL CONDITIONS

1. You are an Equipment Operator.

2. A fire exists in the _B Diesel Generator room as determined by an alarm at _PM09J and local report.

3. Automatic actuation of CO_2 to the _B Diesel Generator room has failed.

INITIATING CUE

The Fire Chief directs you to manually initiate CO_2 to the _B Diesel Generator room using BOP FP-22.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT		STANDARD	SAT	UNSAT	Comment Number
1.	Refer to BOP FP-22, Manual Operation of the Carbon Dioxide and Halon Fire Suppression Systems	◦ LOCATE and OPEN BOP FP-22	___	___	___
CUE	All prerequisites have been met				
NOTE:	Provide the examinee with a copy of BOP FP-22.				
2.	Refer to Section G to determine attachment	DETERMINE attachment: ◦ FP-22A20 for DG 1B ◦ FP-22A25 for DG 2B	___	___	___
CUE	(if requested) The detection zone in alarm is _D-71 Note: (If requested), local panel has control power indication				
NOTE:	Provide the examinee with a copy of FP-22A20 for DG 1B OR FP-22A25 for DG 2B as appropriate.				
3.	Request MCR to contact Security	REQUEST Center Desk to: ◦ Call Security to ensure room clear of personnel	___	___	___
CUE	Security has verified the room is clear of personnel				
NOTE:	This is a prerequisite, and was met in JPM step 1.				
4.	Request a page announcement.	REQUEST Center Desk to: ◦ Page plant for pending initiation	___	___	___
CUE	Page announcement has been made				
5.	Verify open CO2 block valve.	◦ VERIFY/OPEN _CO5022B	___	___	___
CUE	_CO5022B is 'PARALLEL' to the piping (OPEN)				

ELEMENT		STANDARD	SAT	UNSAT	Comment Number
6.	Verify Abort Switch not in Abort.	VERIFY _HS-CO004 NOT in ABORT	___	___	___
CUE	HS-CO004 is NOT in ABORT				
7.	Pull down the CO2 push button station cover.	PULL DOWN cover for: o _HS-CO002 OR o _HS-CO003	___	___	___
CUE	HS-CO002 button cover is DOWN OR				
CUE	HS-CO003 button cover is DOWN				
CUE	(if asked) The red light associated with the button is off				
NOTE:	Alternate path initiated in the following step.				
8.	Locally actuate system	DEPRESS CO_2 button: o _HS-CO002 OR o _HS-CO003	___	___	___
CUE	HS-CO002 button is DEPRESSED **OR**				
CUE	_HS-CO003 button is DEPRESSED				
9.	Verify system actuates locally.	At _CO03J: ° Verify CO_2 System Actuated light LIT	___	___	___
CUE	The CO_2 System Actuated light is NOT LIT on _CO03J				
NOTE:	If the examinee elects to try the other push button – repeat this cue.				

ELEMENT		STANDARD	SAT	UNSAT	Comment Number
10.	Verify alarm received on _PM09J.	VERIFY: ◦ Suppression alarm on _PM09J	___	___	___
CUE	The Unit NSO reports that the suppression alarm was NOT received on _PM09J				
NOTE:	If the examinee elects to try the other push button – repeat this cue.				
11.	Determine manual initiation without control power is required	◦ PROCEED to step B.1	___	___	___
*12.	Open the Master EMPC.	VERIFY/OPEN: • 0CO09J	___	___	___
CUE	0CO09J actuator lever is in the OPEN position				
13.	Verify open CO2 block valve.	VERIFY/OPEN: ◦ _CO5022B	___	___	___
CUE	_CO5022B is 'PARALLEL' to the piping (OPEN)				
NOTE:	_C05022B was previously verified open (JPM step 5)				
*14.	Break glass on _CO03JB	• BREAK glass cover on _CO03JB	___	___	___
CUE	The glass cover has been broken on _CO03JB				
*15.	Actuate using EMPC actuator lever	• PLACE actuator lever for _CO03JB in OPEN • NOTE time	___	___	___
CUE	_CO03JB actuator lever is in the OPEN position				
CUE	Use current time				

ELEMENT		STANDARD	SAT	UNSAT	Comment Number
16.	Verify alarm received on _PM09J.	VERIFY: ° Suppression alarm on _PM09J (_S-37)	___	___	___
CUE	The Unit NSO reports that the suppression alarm _S-37 was received on _PM09J				
*17.	Terminate CO_2	WHEN 1 minute for 1B DG OR 1 minute and 40 seconds for 2B DG has passed, THEN: • PLACE _CO03JB actuator lever in CLOSE	___	___	___
CUE	(If the 1B DG, then) 1minute has passed				
CUE	(If the 2B DG, then) 1minute and 40 seconds has passed				
CUE	The _CO03JB actuator lever is in the CLOSED position				
NOTE:					
*18.	Close CO2 block valve.	CLOSE: ° _CO5022B	___	___	___
CUE	_CO5022B is 'PERPENDICULAR' to the piping (CLOSE)				
CUE	This JPM is completed				
			___	___	___

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Operate the Fire Detection/Alarm Equipment (without control power)

JPM Number: IP-i Revision Number: 07

Task Number and Title: 4C.FP-02 OPERATE the Fire Detection/Alarm equipment.

K/A Number and Importance: 086A2.04 3.3/3.9

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

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

Reference(s):

BOP FP-22, Manual Operation of the CO2 and Halon Fire Suppression Systems (Rev 6)

BOP FP-22A20, Manual Initiation of CO2 to 1B Diesel Generator Room (Rev. 0)

BOP FP-22A25, Manual Initiation of CO2 to 2B Diesel Generator Room (Rev. 0)

CRITICAL STEPS (*) 12, 14, 15, 17, & 18

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

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

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are an Equipment Operator.

2. A fire exists in the _B Diesel Generator room as determined by an alarm at _PM09J and local report.

3. Automatic actuation of CO_2 to the _B Diesel Generator room has failed.

INITIATING CUE

The Fire Chief directs you to manually initiate CO_2 to the _B Diesel Generator room using BOP FP-22.

Exelon Nuclear

Job Performance Measure

Perform a Local Emergency Start of the 1B AF pp using BOA ELECT-5, Attachment D.

JPM Number: IP-j

Revision Number: 08

Date: 11/02/2011

Revised By:	Bill Hochstetter Instructor	11/02/2011 Date
Reviewed By:	Brian Lewin Operations Representative	11/6/2011 Date
Approved By:	/s/ Rob Lawlor Facility Representative	11/6/2011 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 8 and 12 below.

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure 1BOA ELEC-5 att. D Rev: 101
   Procedure_____ Rev:
   Procedure_____ Rev:
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Bill Hochstetter (Signature on file) 11/02/2011
SME / Instructor Date

Revision Record (Summary)

Revision 8

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Validated 11/06/11 by Bill Hochstetter and Rob Lawlor, only change was procedure rev that did not affect JPM.
- Created from JPM No. N-56 Rev. 7
- Specified to use on Unit 1 only.

INITIAL CONDITIONS

1. You are a Non-Licensed Operator.

2. The unit has just tripped in conjunction with an electrical fire in the unit's Remote Shutdown Panel.

3. The 1A AF pump is OOS for maintenance and the 1B AF pump did not automatically start, and will not manually start with the MCR switch.

INITIATING CUE

The Shift Manager has just directed you to initiate a local emergency start of the 1B AF pump using BOA ELEC-5, Attachment D

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. Locate the 1B AF pump. **Note: Provide the Candidate with a copy of 1 or 2BOA ELEC-5, Attachment D.**	On 383' Aux Bldg: o LOCATE _B AF pump.	____	____	____
NOTE Double Hearing Protection will be required prior to room entry. Ensure double hearing protection is available. JPM steps 2 and 3 may be performed in any order				
2. Verify/Start associated Aux Lube Oil Pump. ***Cue: Aux Lube Oil Pump CS is in the 'START' position.***	Inside pp room 383 L15 (U-1) Inside pp room 383 L18 (U-2) o VERIFY/START _B Aux Lube Oil Pump	____	____	____
3. Verify/Start Gearbox Lube Oil Pump. ***Cue: Gearbox Lube Oil Pump CS is in the 'START' position.***	Inside pp room 383 L16 (U-1) Inside pp room 383 L19 (U-2) o VERIFY/START _B Gearbox Lube Oil Pump	____	____	____
*4. Place ENGINE START Switch to MAN. ***Cue: ENGINE START Switch is in MAN.***	At _AF01J: • PLACE Engine Start Switch to MAN	____	____	____
5. Verify Diesel Air Box Trip reset. ***Cue: Air Box Trip Annunciator is NOT LIT.***	At _AF01J o CHECK Diesel Air Box Trip reset	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
6. Momentarily depress the RESET button. ***Cue: Reset pushbutton depressed and released***	At _AF01J: o DEPRESS and RELEASE the Reset button			
*7. Start the _B AF Pump. ***Cue: The ENGINE RUNNING light is LIT.*** Note: engine should start within 60 seconds	At _AF01J: • DEPRESS the Start button. o VERIFY the Engine Running Light is lit			
8. Monitor _B AF pump operation. ***Cue: AF-7T1 will be completed by another NLO who will monitor the pump.***	o PERFORM BOP AF-7T1			
Cue: (if required) <u>This JPM is completed</u>				

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Local Emergency start of the _B AF pump

JPM Number: IP-j Revision Number: 08

Task Number and Title: 4D.OA-35 Establish Emergency Control of Safe Shutdown Equipment

K/A Number and Importance: 061.2.1.30 4.4/4.0

Suggested Testing Environment: In-Plant

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

Reference(s):

1BOA ELECT-5 att. D Rev: 101

CRITICAL STEPS (*) 4 & 7

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

Testing Method: ☐ Simulate ☐ Perform

Estimated Time to Complete: 12 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**: _____

TASK CONDITIONS:

2. You are a Non-Licensed Operator.

2. The unit has just tripped in conjunction with an electrical fire in the unit's Remote Shutdown Panel.

3. The 1A AF pump is OOS for maintenance and the 1B AF pump did not automatically start, and will not manually start with the MCR switch.

INITIATING CUES:

The Shift Manager has just directed you to initiate a local emergency start of the 1B AF pump using BOA ELEC-5, Attachment D.

Exelon Nuclear

Job Performance Measure

Instrument Bus Inverter Startup

JPM Number: IP-k

Revision Number: 11

Date: 9/17/2009

Revised By:	Bill Hochstetter *	11/01/2011
	Instructor	Date
Validated By:	Brian Lewin *	11/06/2011
	SME or Instructor	Date
Approved By:	Rob Lawlor *	11/06/2011
	Training Department	Date

* Signature on File

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

See File Copy

1. Task description and number, JPM description and number are identified.
2. Knowledge and Abilities (K/A) references are included.
3. Performance location specified. (in-plant, control room, simulator, or other)
4. Initial setup conditions are identified.
5. Initiating cue (and terminating cue if required) are properly identified.
6. Task standards identified and verified by SME review.
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
8. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure BOP IP-1 Rev: 14
   Procedure _____ Rev: _____
   Procedure _____ Rev: _____
9. Verify cues both verbal and visual are free of conflict.
10. Verify performance time is accurate
11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
12. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

Brian Clark (Signature on file)	9/18/09
SME / Instructor	Date
Lynn Sanders (Signature on file)	9/18/09
SME / Instructor	Date
_____	_____
SME / Instructor	Date

Revision Record (Summary)

Revision 11

- Applied new template TQ-JA-150-02 Rev.1
- Verified/ updated KAs and TPOs to current revision
- Changed Non Licensed Operator to Equipment Operator
- Added statement concerning critical step
- Added photos of panels

INITIAL CONDITIONS

1. You are an Equipment Operator.
2. The unit is at 65% power.
3. The unit has experienced a loss of Instrument Bus _11 due to failure of Instrument Inverter _11.
4. All maintenance is completed on Instrument Inverter _11 and the Clearance Order Tags have been removed.
5. Instrument Bus _11 is currently energized from the constant voltage transformer (_IP01E).

INITIATING CUE

1. The Unit Supervisor directs you to startup Instrument _11 Inverter _IP05E and to transfer Instrument Bus _11 power to the inverter per BOP IP-1.
2. An Equipment Operator is standing by at MCC _31X2.
3. All prerequisites associated with any critical step are met.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. Refer to BOP IP-1 ***Cue: (If requested) No instrument channels are in a tripped condition and the control room has reviewed _BOA Elec-2.*** ***Cue: Prerequisites are met***	° LOCATE and OPEN BOP IP-1	____	____	____
2. VERIFY On Inverter Fan _IP09E. ***Cue: Inverter fan switch is in ON or the 'ORANGE' light is lit***	At _IP09E: ° VERIFY/PLACE Inverter Fan _IP09E ON	____	____	____
*3. VERIFY/CLOSE Inverter AC feed breaker at MCC _31X2 Cub. C2. ***Cue: EO reports that feed breaker _31X2 cub C2 is CLOSED***	Close Inverter AC feed breaker. • DIRECT EO to CLOSE AC feed breaker at _31X2 cub C2	____	____	____
*4. VERIFY/CLOSE Inverter DC feed breaker, at 125 VDC Distribution Panel _11 BF1, CKT 1. **Note: Located 451' elevation MEER.** ***Cue: DC feed breaker at 125 VDC panel _11 BF1, Ckt #1 is to the 'RIGHT' (CLOSED)***	Close Inverter DC feed breaker. ° LOCATE 125 VDC Distribution Panel _11 BF1 • CLOSE 125 VDC Distribution Panel _11 BF1 Breaker, ckt 1	____	____	____
*5. CLOSE Battery input breaker 2CB **Note: Located 451' elevation MEER** ***Cue: Battery input breaker 2CB is in the 'UP' position (ON)***	At Inverter _IP05E: ° LOCATE Instrument Inverter _11 (_IP05E) • CLOSE "Battery Input Bkr 2CB" on the inverter	____	____	____
NOTE The pre-charge pushbutton should not be released until DC Input Breaker, 3CB, is closed				

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*6. DEPRESS and HOLD pre-charge button 1PB for at least 15 seconds ***Cue: The Pre-charge 1PB button has been DEPRESSED and HELD for at least 15 seconds*** ***If asked: Output volts indicate > 110 on volt meter.***	At _IP05E: • DEPRESS and HOLD "Pre-charge 1PB" button for at least 15 seconds			
*7. CLOSE DC input breaker 3CB ***Cue: DC Input Breaker 3CB is in the 'UP' position (ON)***	At _IP05E: • CLOSE "DC Input Breaker 3CB" on the inverter			
8. Release pre-charge button 1PB ***Cue: The Pre-charge 1PB button has been RELEASED***	At _IP05E: ° RELEASE "Pre-charge 1PB" button			
9. VERIFY AC output voltage greater than 110 V ***Cue: AC voltmeter indicates 119V (or as indicated)***	At _IP05E, on 2VM: ° VERIFY output voltage greater than 110V			
*10. CLOSE AC output breaker 4CB ***Cue: AC Output Breaker 4CB is in the 'UP' position (ON)***	At _IP05E: • CLOSE "AC Output Brkr 4CB" on the inverter			
11. Establish communications with Unit NSO ***Cue: The Unit NSO has been contacted and directs you to proceed*** **NOTE: The AEER is a 'No Radio Zone'**	° Establish communications with Unit NSO			
12. PLACE Rod Control in MANUAL at discretion of US. ***Cue: Rod Control is in MANUAL***	° Request NSO/ US to place Rod Control in MANUAL if desired.			

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE The examinee may verify that the CAUTION prior to step F.1.m is met, if the MCR is contacted give the following cue: ***Cue: 1) The SR and IR trips are blocked*** ***and/or*** ***2) No instrument channels are in a tripped condition*** *If asked about the "critical" step give the following cue:* ***Cue: All prerequisite requirements associated with the critical step have been met.*** *(This includes an SRO present, and US permission)* ***Note:*** ***The examiner may way to use the attached picture of the Instrument bus and have the examinee explain the operation, rather than opening the panel.***				
13. PLACE Reserve AC feed breaker to OFF ***Cue: RESERVE AC feed breaker is to the 'LEFT' (OFF position)***	At 120 VAC Instr Panel _11: ° PLACE the RESERVE AC feed breaker to OFF	____	____	____
14. PLACE NORMAL/RESERVE feed breaker interlock bar in a position to allow operation of the NORMAL AC Feed Breaker ***Cue: Interlock bar is in a postion to allow NORMAL AC feed breaker is operation***	At 120 VAC Instr Panel _11: ° PLACE the NORMAL/RESERVE feed brkr interlock bar in position to allow for operation of NORMAL AC feed breaker	____	____	____
*15. Place Normal AC feed breaker to ON ***Cue: The normal AC feed breaker is to the 'LEFT' (ON position)***	At 120 VAC Instr Panel _11: • PLACE the NORMAL AC feed breaker to the ON position	____	____	____
16. VERIFYN41 energized at _PM02J ***Cue: The Unit NSO confirms that N41 is ENERGIZED***	° CONTACT Unit NSO to verify N41 is energized	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
17. RESET N41 Positive Rate Trip as required. ***Cue: The Unit NSO confirms that N41 Positive Rate Trip is RESET***	° CONTACT Unit NSO to verify N41 positive rate trip is reset.			
18. CLOSE Rectifier AC input breaker 1CB ***Cue: The rectifier AC input breaker 1CB is in the 'UP' position (ON)***	At _IP05E: ° CLOSE "Rectifier AC INPUT Brkr 1CB"			
19. PLACE Rod Control in AUTO at discretion of US. ***Cue: Rod Control is in AUTO***	° Request NSO/ US to place Rod Control in AUTO if desired.			
20. PLACE Instrument Bus _11 transformer Input breaker in OFF position. **Note: Located 451' elevation MEER** ***Cue: Transformer input breaker at _IP01E is in the 'DOWN' position (OFF)*** ***Cue: This JPM is complete***	° LOCATE Inverter Transformer _IP01E ° PLACE the Instrument Bus _11 Transformer Input breaker at _IP01E to OFF			

RECORD STOP TIME: _____

JPM SUMMARY

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

JPM Title: Instrument Bus Inverter Startup

JPM Number: IP-k Revision Number: 11

Task Number and Title: 4D.OA-22 RESPOND to a Loss of Vital AC Electrical Instrument Bus.

K/A Number and Importance: 057 AA1.01 3.7/3.7

Suggested Testing Environment: In-Plant

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

Reference(s):
BOP IP-1, Instrument Bus Inverter Startup (Rev. 14)

CRITICAL STEPS (*) 3, 4, 5, 6, 7 10, & 15

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

Testing Method: ☐ Simulate ☐ Perform

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

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

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

1. You are an Equipment Operator.
2. The unit is at 65% power.
3. The unit has experienced a loss of Instrument Bus _11 due to failure of Instrument Inverter _11.
4. All maintenance is completed on Instrument Inverter _11 and the Clearance Order Tags have been removed.
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INITIATING CUE

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