Performance Measure

# Respond to Uncontrolled Rod Motion

*JPM Number:* *CR-1-03-23*

*Revision Number:* *11*

*Date:* *05/25/2023*

| | | | |
|---|---|---|---|
| Developed By: | Barry Mingus / *Barry Mingus /s/* | | *05/25/2023* |
| | Instructor: Print / Sign | | Date |
| Reviewed By: | Bill Hines / *Bill Hines /s/* | | *05/25/2023* |
| | SME or Instructor: Print / Sign | | Date |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | | *5/31/2023* |
| | Operations Representative: Print / Sign | | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | | *7/31/23* |
| | Training Department: Print / Sign | | Date |

**JOB PERFORMANCE MEASURE VALIDATION CHECKLIST**

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

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

| | | | |
|---|---|---|---|
| Drawing : | BHC-1RD | Revision: | 0 |
| Procedure: | 1BOA ROD-1 | Revision: | 105 |
| Procedure: | BOP RD-100 | Revision: | 6 |
| Procedure: | | Revision: | |

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

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

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

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

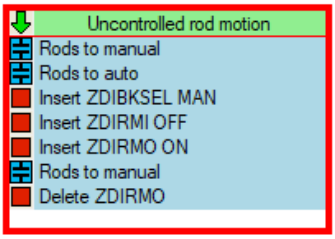
SRRS: 3D.100; There are no retention requirements for this section

**Revision Record (Summary)**

| Revision # | Summary |
|---|---|
| 11 | Update to include a short manual rod move followed by uncontrolled rod motion. Rod switch to manual to manual will stop rod motion. |
| 10 | Update JPM to current format. Revise JPM for different path to success. Rod motion stop upon cycling in-out switch. Rods are placed back in manual. |
| 9 | Update JPM to current format. Revised critical steps for JPM to be reduced to the 2 critical steps indication in the JPM. |
| 8 | Update JPM to include actions from BHC 1-RD Rev 0 UNCONTROLLED ROD MOTION and revision to 1BOA ROD-1 UNCONTROLLED ROD MOTION UNIT 1 Rev 105.<br>Update JPM format to comply with current form revision.<br>This JPM was previously designated as N12 in the exam bank. JPM number format revised to CR-1-03-0 in order to better track JPMs as opposed to changing letter designations based on where placed sequentially on ES-301 forms. |

**SIMULATOR SETUP INSTRUCTIONS**

1. Reset to IC-72 (88% power), or equivalent
2. Initiate Smart Scenario:
   - Open SMART SCENARIO (Extreme Ace icon)
   - Open file Scenario 2023 NRC CR-a.ssf
   - Click on the MODE button (near top of screen) and pick EXECUTE
   - Click on the PLAY button (bottom left of screen)
   - Verify setup conditions for CR-a automatically load
3. Verify the following are included in the Smart Scenario:




4. Ensure Rods are in Auto with CBD 1t 194 ½ steps.
5. Ensure a copy of BHC 1-RD Uncontrolled Rod Motion is available for use by the candidate.
6. Uncontrolled Rod Motion will automatically initiate when the Rod Selector switch is returned to auto.
7. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are the Unit NSO

- Unit 1 is at 88% power, steady state
- All controls are in automatic
- Control Rod Bank Delta is at 194 ½ steps

## INITIATING CUE

Unit supervisor as directed you to pull rods, in manual, one half step to match Group A and B position counters for Control Bank Delta, and then return Rod Control to Automatic.

The reactivity change for this action has been evaluated by Nuclear Engineering to be negligible. The US has filled out the Boration/Dilution Log and signed for the half step of rod motion.

Bounding Criteria: Candidate will receive an unsat on this JPM if:

1. Annunciator 1-10-D5, Control Bank D Rod Stop C-11 is lit

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **1, 2, & 6**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

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

**Task Standard:** Candidate moves rods out per cue sheet, then returns rod control to auto. Rods will step out uncontrolled at 8 steps per minute. Task is successfully completed when Candidate takes control switch to manual prior to receiving C-11 Rod Stop.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| **NOTE:** | Candidate may use BOP RD-100 to manipulate the rod selector switch during normal operations but this is not required. Provide the candidate a copy of BOP RD-100 when requested. This may be done at any time. | | | | |
| ***1.** | Place Rods Control in manual | • Place Rods Control in manual | ☐ | ☐ | ___ |
| **Note:** | Rods may drift more than the intended motion. This is not failure criteria. If this happens and the candidate reports it to the US, cue the candidate: "Place the rods back in auto, and we will have the QNE evaluate". | | | | |
| ***2.** | Pull Rods one half step | • Momentarily place Rod Motion Control switch in 'OUT' and release | ☐ | ☐ | ___ |
| **Note:** | Rods will begin to move when candidate places the Rod Bank Select switch in Auto. | | | | |
| 3 | Return rod control to auto | • Place Rods control in auto | ☐ | ☐ | ___ |
| **NOTE:** | It is permissible, acting as the unit supervisor, to direct the candidate to return rod control back to automatic once the student has report completing the initial alignment, if required. | | | | |
| **NOTE:** | **-- -- Alternate path begins here -- --** | | | | |
| 4. | Refer to BHC 1-RD, UNCONTROLLED ROD MOTION | ○ Announce failure to SRO<br>• Locate and take actions per BHC 1-RD | ☐ | ☐ | ___ |
| 5. | Check Turbine Power STABLE | ○ CHECK turbine power STABLE | ☐ | ☐ | ___ |
| ***CUE:*** | ***Turbine Power is stable.*** | | | | |
| **NOTE:** | Rod motion will stop after the following action is correctly taken. | | | | |
| ***6.** | Check Rod Control in Manual | • Place Rod control to Manual | ☐ | ☐ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| **NOTE:** | The operator is required to evaluate each step of the BCH. The only remaining required action is 'Go To BOA ROD-1'. | | | | |
| 7. | IF rods still moving, THEN: CYCLE Rod Control IN-OUT switch in both directions. | • Observe Rods are no longer moving – no action required | ☐ | ☐ | ___ |
| 8. | If rods still moving THEN: PLACE Rod Bank Selector switch to S/D Bank D | • Observe Rods are no longer moving – no action required | ☐ | ☐ | ___ |
| 9. | IF rods still moving or ratcheting at top of core, THEN MANUALLY TRIP Unit 1 Rx. GO TO 1BEP-0. | • Observe Rods are no longer moving – no action required | ☐ | ☐ | ___ |
| 9. | GO to 1BOA ROD-1 as required | • GO to 1BOA ROD-1 | ☐ | ☐ | ___ |
| **CUE:** | **This JPM is complete.** | | | | |

JPM Stop Time: _____

**JPM SUMMARY**

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

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

JPM Title: Respond to Uncontrolled Rod Motion

JPM Number: CR-1-03-23 Revision Number: 11

Task Number and Title: 4D.OA-01B RESPOND TO UNCONTROLLED ROD MOTION

Task Standard: Candidate moves rods out per cue sheet, then returns rod control to auto. Rods will step out uncontrolled at 8 steps per minute. Task is successfully completed when Candidate takes control switch to manual prior to receiving C-11 Rod Stop.

K/A Number and Importance: 001AA1.01 Ability to operate and/or monitor the following as they apply to Continuous Rod Withdrawal: Bank select switch Importance 3.7

Suggested Testing Environment: Simulator

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

Reference(s):

| | | | |
|---|---|---|---|
| Procedure: | BHC-1RD | Revision: | 0 |
| Procedure: | 1BOA ROD-1 | Revision: | 105 |
| Procedure: | BOP RD-100 | Revision: | 6 |
| Procedure: | | Revision: | |

**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

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

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

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

## INITIAL CONDITIONS

You are the Unit NSO

- Unit 1 is at 88% power steady state
- All controls are in automatic
- Control Rod Bank Delta is at 194 ½ steps

## INITIATING CUE

Unit supervisor as directed you to pull rods, in manual, one half step to match Group A and B position counters for Control Bank Delta, and then return Rod Control to Automatic.

The reactivity change for this action has been evaluated by Nuclear Engineering to be negligible. The US has filled out the Boration/Dilution Log and signed for the half step of rod motion.

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

# Performance Measure

## Perform Transfer to Hot Leg Recirc (1SI8802B will not OPEN)

JPM Number: CR-2-01-23

Revision Number: Rev 02

Date: 06/22/2023

| | | | |
|---|---|---|---|
| Developed By: | Barry Mingus / *Barry Mingus /s/* | | 06/22/2023 |
| | Instructor: Print / Sign | | Date |
| Reviewed By: | Bill Hines / *Bill Hines /s/* | | 06/23/2023 |
| | SME or Instructor: Print / Sign | | Date |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | | 06/23/2023 |
| | Operations Representative: Print / Sign | | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | | 07/31/2023 |
| | Training Department: Print / Sign | | Date |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

1. Task description and number, JPM description and number are identified. BM
2. Knowledge and Abilities (K/A) references are included. BM
3. Performance location specified. (in-plant, control room, simulator, or other) BM
4. Initial setup conditions are identified. BM
5. Initiating cue (and terminating cue if required) are properly identified. BM
6. Task standards identified and verified by instructor or SME review. BM
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BM
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BM
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Drawing : 1BEP ES-1.4 Revision: 300
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
10. Verify cues both verbal and visual are free of conflict. BM
11. Verify performance time is accurate. BM
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

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

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

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

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

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 2 | Revised to current template and procedure revision. Modified alternate path to 1SI8802B fails to open vice 1SI8840 |
| 1 | Applied new template TQ-AA-150-J020<br>Revised K/A and importance to align with Safety Function 2 |
| 0 | Applied new template TQ-JA-150-02 Rev.1<br>Verified/ updated KAs and TPOs to current revision<br>Validated 03/03/13 by Bill Hochstetter and Rob Lawlor, revised to make alternate path<br>Created from JPM No. N-30. |
| | |

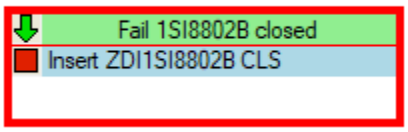
## SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC 80 (an IC with a 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. 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. Open Smart Scenario 2023 CR-b.ssf
4. Verify the following is included in the Smart Scenario:




5. Ensure a copy of 1BEP ES-1.4 is available for use by the candidate.
6. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are the Unit 1 NSO

- A large LOCA is in progress
- 1BEP-1 step 19 is in progress
- Conditions have been met to transfer to Hot Leg Recirculation

## INITIATING CUE

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

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **2, 7-15**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Candidate will perform 1BEP ES-1.4 to re-align Unit 1 for Hot leg recirc. 1SI8802B will fail to open. JPM will end with SI pumps aligned to the A&D Hot legs and B&C cold legs.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| NOTE: | Step 1 may be performed at any time. | | | | |
| NOTE: | Once the examinee references the procedure the evaluator may hand the candidate a copy of 1BEP ES-1.4 | | | | |
| 1 | Refer to 1BEP ES-1.4, Transfer to Hot Leg Recirculation | • LOCATE and OPEN 1BEP ES-1.4 | ___ | ___ | ___ |
| *2 | Place control switches for SVAG VALVE 480V bus feeds at 1PM06J in - CLOSE | At 1PM06J:<br>• CLOSE 480V FEED TO BUS 131X1A/X2A (A-Train)<br>• CLOSE 480V FEED TO BUS 132X2A/X4A (B-Train) | ___ | ___ | ___ |
| 3 | Close RH to cold legs isol valves | At 1PM06J:<br>• CLOSE 1SI8809A<br>• CLOSE 1SI8809B | ___ | ___ | ___ |
| 4 | Check 1A RH pump RUNNING | At 1PM06J:<br>• Check 1A RH pump RUNNING | ___ | ___ | ___ |
| 5 | Open Train A RH HX discharge crosstie header valve | At 1PM06J:<br>• OPEN 1RH8716A | ___ | ___ | ___ |
| 6 | Open RH to hot legs isol valve | At 1PM06J:<br>• OPEN 1SI8840 | ___ | ___ | ___ |
| *7 | Stop SI pump 1A | At 1PM06J:<br>• STOP 1A SI PUMP 1A | ___ | ___ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| *8 | Close SI pump 1A to cold legs isol valve | At 1PM06J:<br>• CLOSE 1SI8821A | ___ | ___ | ___ |
| *9 | Open SI pump 1A to hot legs isol valve | At 1PM06J:<br>• OPEN 1SI8802A | ___ | ___ | ___ |
| *10 | Start SI pump 1A | At 1PM06J:<br>• START SI PUMP 1A | ___ | ___ | ___ |
| *11 | Stop SI pump 1B | At 1PM06J:<br>• STOP SI PUMP 1B | ___ | ___ | ___ |
| *12 | Close SI pump 1B to cold legs isol valve | At 1PM06J:<br>• CLOSE 1SI8821B | ___ | ___ | ___ |
| NOTE: | **Alternate Path starts here** | | | | |
| *13 | Open SI pump 1B to hot legs isol valve | At 1PM06J:<br>• Recognize that 1SI8802B will **NOT** OPEN | ___ | ___ | ___ |
| *14 | Open SI pump 1B to cold legs isol valve | At 1PM06J:<br>• OPEN 1SI8821B | | | |
| *15 | Start SI pump 1B | At 1PM06J:<br>• START 1B SI PUMP 1B | ___ | ___ | ___ |
| 16 | Check SI pumps to hot legs isol valves - OPEN | At 1PM06J:<br>○ Verify OPEN 1SI8802A<br>• Recognize 1SI8802B NOT OPEN | ___ | ___ | ___ |
| NOTE: If the candidate closes 1SI8835 at this point it will deadhead the 1B SI pump and result in a failure of the JPM. | | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| 17 | Place SVAG Valve Bus Feeds at 1PM06J in - TRIP | At 1PM06J: TRIP<br>• TRIP 480V FEED TO BUS 131X1A/X2A (A-Train)<br>• TRIP 480V FEED TO BUS 132X2A/X4A (B-Train) | ___ | ___ | ___ |
| CUE | This JPM is Complete | | | | |

## JPM SUMMARY

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

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

JPM Title: Perform Transfer to Hot Leg Recirc (1SI8802B will not OPEN)

JPM Number: CR-2-01-23 Revision Number: 02

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

Task Standard: Candidate will perform 1BEP ES-1.4 to re-align Unit 1 for Hot leg recirc. 1SI8802B will fail to open. JPM will end with SI pumps aligned to the A&D Hot legs and B&C cold legs.

K/A Number and Importance: 006A4.02 Ability to manually operate and/or monitor in the control room: ECCS valves (4.2)

Suggested Testing Environment: Simulator

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

Reference(s):

Procedure: 1BEP ES-1.4 Revision: 300
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____

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

**Testing Method:** ☐ Simulate ☒ Perform

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

**EVALUATION SUMMARY:**

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

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

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

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

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

## INITIAL CONDITIONS

You are the Unit 1 NSO

- A large LOCA is in progress
- 1BEP-1 step 19 is in progress
- Conditions have been met to transfer to Hot Leg Recirculation

## INITIATING CUE

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

# Performance Measure

## Increase SI Accumulator Pressure (1SI8875B fails to close)

JPM Number: CR-3-03-23

Revision Number: Rev 4

Date: 06/15/2021

| | | | |
|---|---|---|---|
| Developed By: | Benjamin Reyes / *Benjamin Reyes /s/* | 10/27/2020 |
| | Instructor: Print / Sign | Date |
| Reviewed By: | Barry Mingus / *Barry Mingus /s/* | 06/02/2021 |
| | SME or Instructor: Print / Sign | Date |
| Reviewed By: | Peter Leonhardt / *Peter Leonhardt /s/* | 08/04/2021 |
| | Operations Representative: Print / Sign | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | 08/04/2021 |
| | Training Department: Print / Sign | Date |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

1. Task description and number, JPM description and number are identified. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: BOP SI-8 Revision: 21
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

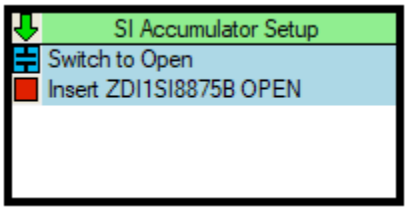
| | | |
|---|---|---|
| Bill Hines / William Hines /s/ | | 6/23/23 |
| SME / Instructor (Print/Sign) | | Date |
| _____ / _____ | | _____ |
| SME / Instructor (Print/Sign) | | Date |
| _____ / _____ | | _____ |
| SME / Instructor (Print/Sign) | | Date |

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 4 | Update JPM to comply with procedure change to identify a dedicated NSO and Compensatory Actions instead of LCO entry for operation of 1SI8875B.<br>Update JPM format to comply with current template TQ-AA-150-J020 Rev 1.<br>This JPM was previously designated as N3a in the exam bank. JPM number format revised to CR-3-03-0 in order to better track JPMs as opposed to changing letter designations based on where placed sequentially on ES-301 forms. |
| 3 | Applied new template TQ-JA-150-02 Rev.1<br>Verified/ updated KAs and TPOs to current revision<br>Changed Non Licensed Operator to Equipment Operator |
| | |

## SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-71, Full Power Operations
2. Initiate Smart Scenario:
   - Open SMART SCENARIO (Extreme Ace icon)
   - Open file Scenario 2021 Cert JPMs Group2.ssf
   - Click on the MODE button (near top of screen) and pick EXECUTE
   - Click on the PLAY button (bottom left of screen)
3. Verify the following are included in the Smart Scenario:




4. Ensure 1B SI Accumulator is at 600# and the low pressure alarm is in.
5. Ensure a copy of BOP SI-8 Increasing SI Accumulator Pressure is available for use by the candidate.
6. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are the Unit 1 NSO Assist

- The unit is in Mode 1 steady state power
- An improper valve lineup resulted in reducing the 1B SI Accumulator pressure to 600 psig
- The improper valve lineup has been corrected
- 1BOL 5.1, Accumulators, has been initiated

## INITIATING CUE

- Annunciator 1-5-B2, ACCUM 1B PRESS HIGH LOW, is LIT.
- The Unit Supervisor directs you to restore the 1B SI Accumulator pressure to above Technical Specification limits per BOP SI-8, INCREASING SI ACCUMULATOR PRESSURE.
- The nitrogen tube trailer is aligned per BOP NT-9, NITROGEN TUBE TRAILER CONNECTION/DISCONNECTION

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

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **4, 6 & 8**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Candidate raises pressure of 1B SI Accumulator to above the Tech Spec minimum of 602 psig. This JPM includes an alternate action, due to the 1B SI Accumulator vent valve not closing, to take steps to stop the pressure rise in the accumulator by closing 1SI8880 prior to reaching the relief setpoint of 700 psig.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| ***CUE*** | ***All prerequisites have been met.*** | | | | |
| ***CUE*** | ***(If asked) There are no personnel in CNMT.*** | | | | |
| ***CUE*** | ***For Step 1, Shift Manager's Permission has been obtained.*** | | | | |
| 1 | Refer to BOP SI-8, Increasing SI Accumulator Pressure | • LOCATE and OPEN BOP SI-8 | ___ | ___ | ___ |
| 2 | Align nitrogen tube trailer | DIRECT EO to OPEN:<br>• Nitrogen Tube Trailer Manifold Discharge Valve<br>• 0NT078 | ___ | ___ | ___ |
| ***CUE*** | ***EO reports the Nitrogen Tube Trailer Manifold Discharge Valve is OPEN.*** | | | | |
| ***CUE*** | ***EO reports 0NT078 is OPEN.*** | | | | |
| NOTE: The following steps are located at 1PM06J. | | | | | |
| 3 | VERIFY/CLOSE 1SI943, Accumulator vent control valve | ○ VERIFY/CLOSE 1SI943 | ___ | ___ | ___ |
| *4 | OPEN 1SI8880, Nitrogen supply isolation valve | • OPEN 1SI8880 | ___ | ___ | ___ |
| 5 | Assign a dedicated NSO to keep 1SI8875B operable by assigning Compensatory Measures | ○ Assign dedicated NSO<br>• Log the dedicated NSO and compensatory measures | ___ | ___ | ___ |
| ***CUE*** | ***The Unit NSO will make a log entry of dedicated NSO and Compensatory Measures.*** | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| *6 | OPEN 1SI8875B, 1B Accumulator Vent valve | Start raising accumulator pressure:<br>• OPEN 1SI8875B | ___ | ___ | ___ |
| NOTE: Candidate may monitor pressure rise with either the Process computer or control board pressure indications. | | | | | |
| 7 | Monitor pressure increase | • Monitor pressure using<br>○ 1PI-962 & 963<br>○ Process computer | ___ | ___ | ___ |
| **NOTE: Alternate Path JPM starts here.**<br>SI pressure will rise quickly. If the candidate is slow to respond to failure of the 1SI8875B, it is likely that SI Accumulator pressure will rise above the high setpoint of 647 psig. This will cause an annunciator alarm to indicate the condition. Exceeding the alarm setpoint is NOT failure criteria in itself. As long as the candidate takes action to limit further rise of the pressure in the accumulator, the JPM may continue. | | | | | |
| *8 | CLOSE 1SI8875B, 1B Accumulator Vent valve when accumulator pressure is between 602 and 647 psig. | Stop raising accumulator pressure<br>○ Attempt to CLOSE 1SI8875B when accumulator pressure is between 602 and 647 psig<br>• Close 1SI8880 to stop pressure increase<br>○ Inform US of 1SI8875B failure to close | ___ | ___ | ___ |
| ***CUE*** | ***This JPM is Complete.*** | | | | |

## JPM SUMMARY

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

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

JPM Title: Increase SI Accumulator Pressure (1SI8875B fails to close)

JPM Number: CR-3-03-23 Revision Number: 04

Task Number and Title: 4C.SI-04 ADJUST SI accumulator pressure

Task Standard: Candidate raises pressure of 1B SI Accumulator to above the Tech Spec minimum of 602 psig. This includes an alternate action, due to the 1B SI Accumulator vent valve not closing, to take steps to stop the pressure rise in the accumulator by closing 1SI8880 prior to reaching the relief setpoint of 700 psig.

K/A Number and Importance:

006 A4.02: Ability to manually operate and/or monitor in the control room: ECCS valves Importance 4.2

Suggested Testing Environment: Simulator

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

Reference(s):

Procedure: BOP SI-8 Revision: 21
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____

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

**Testing Method:** ☐ Simulate ☒ Perform

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

**EVALUATION SUMMARY:**

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

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

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

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

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

## INITIAL CONDITIONS

You are the Unit 1 NSO assist

- The unit is in Mode 1 steady state power
- An improper valve lineup resulted in reducing the 1B SI Accumulator pressure to 600 psig
- The improper valve lineup has been corrected
- 1BOL 5.1, Accumulators, has been initiated

## INITIATING CUE

- Annunciator 1-5-B2, ACCUM 1B PRESS HIGH LOW, is LIT.
- The Unit Supervisor directs you to restore the 1B SI Accumulator pressure to above Technical Specification limits per BOP SI-8, INCREASING SI ACCUMULATOR PRESSURE.
- The nitrogen tube trailer is aligned per BOP NT-9, NITROGEN TUBE TRAILER CONNECTION/DISCONNECTION.

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

# Performance Measure

## Respond to a CD/CB Pp trip

JPM Number: CR-4S-06-23

Revision Number: 4

Date: 7/18/2022

| | | | |
|---|---|---|---|
| Developed By: | Benjamin Reyes / *Benjamin Reyes /s/* | | 7/21/2022 |
| | Instructor: Print / Sign | | Date |
| Reviewed By: | Barry Mingus / *Barry Mingus /s/* | | 8/11/2022 |
| | SME or Instructor: Print / Sign | | Date |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | | 09/13/2022 |
| | Operations Representative: Print / Sign | | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | | 09/13/2022 |
| | Training Department: Print / Sign | | Date |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

1. Task description and number, JPM description and number are identified. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   - Procedure: 1BOA SEC-1 Revision: 114
   - Procedure: BAR 1-17-A9 Revision: 003
   - Procedure: BHC 1-17-A9 Revision: 002
   - Procedure: _____ Revision: _____
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

| SME / Instructor (Print/Sign) | | Date |
|---|---|---|
| Bill Hines | William Hines /s/ | 6/23/23 |
| | | |
| | | |

## Revision Record (Summary)

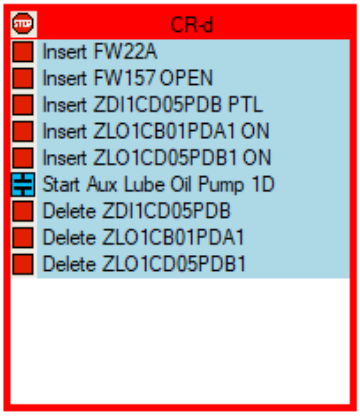
| Revision # | Summary |
|---|---|
| 4 | Applied new template TQ-AA-150-J020 Rev 1<br>Verified/updated KAs and procedure revisions; changed KA to align with procedure availability for the task<br>Modified task conditions to align with procedure changes.<br>Added Task Standard.<br>Modified to remove Alternate Path |
| 3 | Revised JPM to comply with template per TQ-AA-150-J020<br>Revised for changes to Alternate Path.<br>Revised for Smart Scenario usage |
| 2 | Revised for including BHC procedure and formatting to current JPM template.<br>Making JPM alternate path. |

**SIMULATOR SETUP INSTRUCTIONS:**

1. Reset the simulator to IC 76.

| | |
|---|---|
| NOTE: | It is acceptable 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 1A, 1B, and 1C CD/CB Pumps are running.
3. Ensure 1D CD/CB Pump is NOT running.
4. Ensure Smart Scenario 2023 NRC **CR-d** is running and available for Release.




5. When Evaluator signals, right click on title bar of box titled **CR-d 1A CD/CB Pump** and select **Release.**
6. 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.
7. This completes the setup for this JPM.

## INITIAL CONDITIONS

- You are the Unit-1 Assist NSO.
- The unit is in Mode 1 steady state, full power.

## INITIATING CUE

Respond to plant conditions.

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. **3, 4, & 5**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

---

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

**Task Standard:**

Respond to the trip of a CD/CB pump and the standby pump fails to start by taking actions per BHC 1-17-A9, CD/CB PUMP TRIP. The task is complete with 3 CD/CB Pumps running and the recirc valve is closed on the tripped pump. The applicant will fail this JPM if any action taken by the applicant ultimately results in a manual or automatic reactor trip on low SG water level.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| **NOTE**: JPM step 1 may be triggered by the booth operator at any time after the examine acknowledges they are ready for the JPM to begin. | | | | | |
| 1 | Respond to 1A CD/CB pump trip | • Identify trip of 1A CD/CB Pump and failure of standby (1D) CD/CB pump to start | ☐ | ☐ | ___ |
| 2 | Refer to BHC 1-17-A9 | • Locate BHC 1-17-A9 on 1PM03J<br>○ Announce 'performing hard card actions' | ☐ | ☐ | ___ |
| NOTE: Actions are performed from the Hard Card to be place-kept afterwards. US will monitor progress using their own hard card. | | | | | |
| ***3** | Aux Oil pump running | • **START** aux oil pump for the standby (1D) CD/CB pump. | ☐ | ☐ | ___ |
| ***4** | Standby pump started | • **VERIFY/START** the standby (1D) CD/CB pump. | ☐ | ☐ | ___ |
| ***5** | Close the recirc on the tripped pump | • **CLOSE** 1CB113A 1A CB Pump Discharge to Condenser Recirc valve | ☐ | ☐ | ___ |
| 6 | Go to 1BOA SEC1 | • Report to US actions taken per the hard card<br>• Recommend entry into 1BOA SEC-1 | ☐ | ☐ | ___ |
| **CUE:** | **This JPM is complete.** | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|

JPM Stop Time: _____

## JPM SUMMARY

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

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

JPM Title: Respond to CD/CB Pump trip

JPM Number: CR-4S-06-23 Revision Number: 4

Task Number and Title: R-OA-30, Respond to a secondary pump trip

Task Standard: Respond to the trip of a CD/CB pump and the standby pump fails to start by taking actions per BHC 1-17-A9, CD/CB PUMP TRIP. The task is complete with 3 CD/CB Pumps running and the recirc valve is closed on the tripped pump. The applicant will fail this JPM if any action taken by the applicant ultimately results in a manual or automatic reactor trip on low SG water level.

K/A Number and Importance: 056A2.04 Ability to (a) predict the impacts of the following on the Condensate System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations: Loss of condensate pumps (Importance: 4.0/3.7)

Suggested Testing Environment: Simulator

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

Reference(s):

| | | | |
|---|---|---|---|
| Procedure: | 1BOA SEC-1 | Revision: | 114 |
| Procedure: | BAR 1-17-A9 | Revision: | 003 |
| Procedure: | BHC 1-17-A9 | Revision: | 002 |

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

**Testing Method:** ☐ Simulate ☒ Perform

**Estimated Time to Complete:** 8 minutes **Actual Time Used:** _____ minutes

**EVALUATION SUMMARY:**

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

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

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

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

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

## INITIAL CONDITIONS

- You are the Unit-1 Assist NSO
- The unit is in Mode 1 steady state, full power.

## INITIATING CUE

Respond to plant conditions.

# Performance Measure

## Start RCFC's in Low Speed (SX Valves Not Open)

JPM Number: CR-5-01-23

Revision Number: Rev 1

Date: 06/25/2023

| | | | |
|---|---|---|---|
| Developed By: | Barry Mingus / *Barry Mingus /s/* | 06/23/2023 | |
| | Instructor: Print / Sign | Date | |
| Reviewed By: | Bill Hines / *Bill Hines /s/* | 06/23/2023 | |
| | SME or Instructor: Print / Sign | Date | |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | 06/23/2023 | |
| | Operations Representative: Print / Sign | Date | |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | 07/31/2023 | |
| | Training Department: Print / Sign | Date | |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

1. Task description and number, JPM description and number are identified. BM
2. Knowledge and Abilities (K/A) references are included. BM
3. Performance location specified. (in-plant, control room, simulator, or other) BM
4. Initial setup conditions are identified. BM
5. Initiating cue (and terminating cue if required) are properly identified. BM
6. Task standards identified and verified by instructor or SME review. BM
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BM
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BM
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: 1BEP-0 Att B Revision: 306
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
10. Verify cues both verbal and visual are free of conflict. BM
11. Verify performance time is accurate. BM
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

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

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

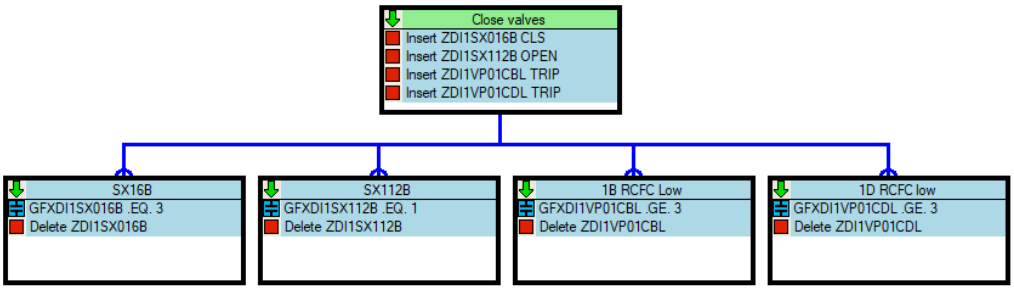
_____ / _____ _____
SME / Instructor (Print/Sign) Date

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 1 | – Revised for current JPM template and procedure rev |
| 0 | – New JPM |
| | |

## SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-78,or equivalent
2. Initiate Smart Scenario:
   - Open SMART SCENARIO (Extreme Ace icon)
   - Open file Scenario CR-e.ssf
   - Click on the MODE button (near top of screen) and pick EXECUTE
   - Click on the PLAY button (bottom left of screen)
   - Verify setup conditions for CR-e automatically load
3. Verify the following are included in the Smart Scenario:




4. Ensure a copy of 1BEP 0 attachment B is available for use by the candidate.
5. This completes the setup for this JPM.

## INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. Unit 1 had an automatic Safety Injection Actuation.

## INITIATING CUE

1. The Unit Supervisor directs you to perform 1BEP-0, Attachment B Step 4 to Verify RCFC's are running in Accident Mode.

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

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **4, 6, & 7**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Candidate will complete the alignment of RCFCs in accident mode by closing 1SX112B and opening 1SX016B. Candidate will start RCFCs 1VP01CB and 1VP01CD in low speed.

| ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|
| 1. Refer to 1BEP-0, Reactor Trip or Safety Injection, Attachment B | • LOCATE and 1BEP-0, Reactor Trip or Safety Injection, Attachment B Step 4 | ___ | ___ | ___ |
| 2. Check Group 2 RCFC Accident Mode Status Lights. | • Group 2 RCFC Accident Mode Status Lights are NOT lit | ___ | ___ | ___ |
| **NOTE: Alternate path begins here.** | | | | |
| 3. Stop any RCFC running in High Speed. | • Stop all RCFC's running in High Speed (all are stopped) | ___ | ___ | ___ |
| ***4.** Close CNMT chiller inlet and outlet valves. | ○ 1SX112A /1SX114A are closed<br>• Close1SX112B /1SX114B | ___ | ___ | ___ |
| 5. Open CNMT chiller bypass valves. | • 1SX147A is OPEN<br>• 1SX147B is OPEN | ___ | ___ | ___ |
| ***6.** Open RCFC inlet and outlet valves. | ○ 1SX016A is OPEN<br>• Open 1SX016B<br>○ 1SX027A is OPEN<br>○ 1SX027B is OPEN | ___ | ___ | ___ |
| ***7.** Start all RCFC's in Low Speed. | • 1VP01C1 & 1VP01CC are running<br>• Start 1VP01CB and 1VP01CD | ___ | ___ | ___ |
| ***Cue: This JPM is completed.*** | | | | |

## JPM SUMMARY

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

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

JPM Title: Start RCFC's in Low Speed (SX Valves Not Open)

JPM Number: C5-5-01-23 Revision Number: 1

Task Number and Title: 4C.VP-06 STARTUP a RCFC

Task Standard: Candidate will complete the alignment of RCFCs in accident mode by closing 1SX112B and opening 1SX016B. Candidate will start RCFCs 1VP01CB and 1VP01CD in low speed.

K/A Number and Importance:

022 A4.01: Ability to manually operate and/or monitor in the control room: CCS fans. Importance 3.6 / 3.6

Suggested Testing Environment: Simulator

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

Reference(s):

Procedure: 1BEP 0 Attachment B Revision: 306
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____

**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

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

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

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

## INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. Unit 1 has had an automatic Safety Injection Actuation.

## INITIATING CUE

2. The Unit Supervisor directs you to perform 1BEP-0, Attachment B Step 4 to Verify RCFC's are running in Accident Mode.

# Performance Measure

## Reclose Ring Bus At Power

JPM Number: CR-6-03-23

Revision Number: Rev 1

Date: 06/15/2021

| | | | |
|---|---|---|---|
| Developed By: | Benjamin Reyes / *Benjamin Reyes /s/* | 10/28/2020 |
| | Instructor: Print / Sign | Date |
| Reviewed By: | Barry Mingus / *Barry Mingus /s/* | 07/16/2021 |
| | SME or Instructor: Print / Sign | Date |
| Reviewed By: | Peter Leonhardt / *Peter Leonhardt /s/* | 08/04/2021 |
| | Operations Representative: Print / Sign | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | 08/04/2021 |
| | Training Department: Print / Sign | Date |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

1. Task description and number, JPM description and number are identified. BH
2. Knowledge and Abilities (K/A) references are included. BH
3. Performance location specified. (in-plant, control room, simulator, or other) BH
4. Initial setup conditions are identified. BH
5. Initiating cue (and terminating cue if required) are properly identified. BH
6. Task standards identified and verified by instructor or SME review. BH
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). BH
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. BH
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
   Procedure: BOP SY-8 Revision: 28
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
10. Verify cues both verbal and visual are free of conflict. BH
11. Verify performance time is accurate. BH
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. N/A
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: BH

| | | |
|---|---|---|
| Bill Hines / William Hines /s/ | | 7/17/23 |
| SME / Instructor (Print/Sign) | | Date |
| _____ / _____ | | _____ |
| SME / Instructor (Print/Sign) | | Date |
| _____ / _____ | | _____ |
| SME / Instructor (Print/Sign) | | Date |

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 1 | Revised for new JPM template, current revision of procedure. Made editorial corrections. Verified no substantive changes requiring revalidation |
| 0 | Developed new for 21-1 ILT Certification Exam. |
| | |
| | |

## SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC-78. There is no Smart Scenario for this JPM.

| 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 both OCB 4-5 Control Switches in PTL.
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. Ensure a copy of BOP SY-8 Placing a 345KV Oil Circuit Breaker in Service is available for use by the candidate.
5. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are the Unit 1 Assist NSO

- The unit is in Mode 1 steady state power
- A fault had occurred on L0621 during the previous shift
- ComEd has corrected the fault and the clearance order has been lifted.
- 345KV Breaker OCB 5-6 is closed
- 345KV Breaker OCB 4-5 is open, Equipment Status Tags (EST) have been removed.

## INITIATING CUE

The Unit Supervisor directs you to restore the 345KV Switchyard Ring Bus by closing 345KV Breaker OCB 4-5 per BOP SY-8 PLACING A 345KV OIL CIRCUIT BREAKER IN SERVICE.

The EO in the switchyard has completed all required actions in BOP SY-8 PLACING A 345KV OIL CIRCUIT BREAKER IN SERVICE Steps 1 through 10.

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. **1, 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 candidate had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Applicant successfully closes the OCB 4-5 from 1PM01J.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| NOTE: The Main Power Transformer Disconnect is CLOSED. Close operations for this breaker must be performed at 1PM01J. | | | | | |
| ***CUE*** | ***The Unit Supervisor informs you that all Prerequisites are complete.*** | | | | |
| NOTE: The following actions are required to take place at 1PM01J in order to be successful.<br>The candidate may take time to review Precautions, Limitations and Actions, and Steps 1 – 10. | | | | | |
| ***1** | VERIFY switch position at 0PM03J will not interfere<br>• OCB 4-5 control switch NOT in PULL OUT<br>• Synchroscope switch is OFF | • VERIFY/PLACE OCB 4-5 Control Switch at 0PM03J to AFTER TRIP<br>○ VERIFY Synchroscope switch is OFF | ___ | ___ | ___ |
| NOTE: The following actions are required to take place at 1PM01J in order to be successful. | | | | | |
| NOTE: Checking the RUNNING and INCOMING voltages and equal loading on all three phases prior to closing the breaker is directed per the Limitations and Actions of the procedure (L&A #4). | | | | | |
| ***2** | PLACE the Main Transformer Feed to 345KV Sync switch to the ON position for OCB 4-5 | • PLACE the Main Transformer Feed to 345KV Sync switch to the ON position for OCB 4-5<br>○ CHECK RUNNING and INCOMING voltages are equal<br>○ CHECK loading on all three buses are equal<br>○ CHECK syncroscope indicating the 12 o'clock postion | ___ | ___ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| *3 | CLOSE the 345KV Breaker OCB 4-5 | • PLACE Control Switch for 345KV Breaker OCB 4-5 to CLOSED at 1PM01J | ___ | ___ | ___ |
| NOTE: The six trip coil monitoring lights will only be lit when the breaker is closed. It would be acceptable for the candidate to check these as an indication that the breaker is CLOSED.<br>The direction for the candidate to check the loading on all three phases after restoring power is located in the Limitations and Actions portion of the procedure (L&A #5). | | | | | |
| 4 | VERIFY Breaker 4-5 CLOSED | • DIRECT EO to LOCALLY observe CLOSED indication for OCB 4-5<br>• CHECK POLE DISAGREEMENT annunciator 0-35-C5 BLUE SYS BRKR POLE DISAGREEMENT NOT lit<br>○ CHECK six trip coil lights lit for OCB 4-5 on 0PM03J | ___ | ___ | ___ |
| ***CUE*** | ***EO reports that 345KV Breaker OCB 4-5 CLOSED.*** | | | | |
| 5 | PLACE the Main Transformer Feed to 345KV Swyd Sync switch to OFF | • PLACE the Main Transformer Feed to 345KV Swyd Sync switch to OFF | ___ | ___ | ___ |
| 6 | Match targets of the corresponding breaker on 0PM03J | • PLACE the Control Switch for 345KV Breaker OCB 4-5 to After Close on 0PM03J | ___ | ___ | ___ |
| ***CUE*** | ***This JPM is Complete.*** | | | | |

## JPM SUMMARY

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

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

JPM Title: Reclose Unit 1 345KV Ring Bus (At Power)

JPM Number: CR-6-03-23 Revision Number: 1

Task Number and Title: 4C.AP-03, Remotely Operate a 345KV Breaker

Task Standard: Applicant successfully closes the OCB 4-5 from 1PM01J.

K/A Number and Importance:

062 A4.01: Ability to manually operate and/or monitor in the control room: All breakers (including available switchyard) Importance 3.3/3.1

Suggested Testing Environment: Simulator

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

Reference(s):

Procedure: BOP SY-8 Revision: 28

Procedure: _____ Revision: _____

Procedure: _____ Revision: _____

Procedure: _____ Revision: _____

**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

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

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

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

## INITIAL CONDITIONS

You are the Unit 1 Assist NSO

- The unit is in Mode 1 steady state power
- A fault had occurred on L0621 during the previous shift
- ComEd has corrected the fault and the clearance order has been lifted.
- 345KV Breaker OCB 5-6 is closed
- 345KV Breaker OCB 4-5 is open, Equipment Status Tags (EST) have been removed.

## INITIATING CUE

The Unit Supervisor directs you to restore the 345KV Switchyard Ring Bus by closing 345KV Breaker OCB 4-5 per BOP SY-8 PLACING A 345KV OIL CIRCUIT BREAKER IN SERVICE.

The EO in the switchyard has completed all required actions in BOP SY-8 PLACING A 345KV OIL CIRCUIT BREAKER IN SERVICE Steps 1 through 10.

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

Performance Measure

# Remove an Area Radiation Monitor from Service

JPM Number: CR-7-03-23

Revision Number: Rev 03

Date: 06/02/2021

| | | | |
|---|---|---|---|
| Developed By: | Benjamin Reyes / *Benjamin Reyes /s/* | 10/29/2020 |
| | Instructor: Print / Sign | Date |
| Reviewed By: | Barry Mingus / *Barry Mingus /s/* | 06/02/2021 |
| | SME or Instructor: Print / Sign | Date |
| Reviewed By: | Peter Leonhardt / *Peter Leonhardt /s/* | 08/04/2021 |
| | Operations Representative: Print / Sign | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | 08/04/2021 |
| | Training Department: Print / Sign | Date |

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

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

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

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

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

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 3 | Applied current revision of template TQ-AA-150-J020.<br>Change JPM designator, this JPM was previously utilized as CR-d on 2017 Cert Exam. |
| | |
| | |
| | |

**SIMULATOR SETUP INSTRUCTIONS**

1. Reset to IC-76. There is no Smart Scenario for this JPM.

| 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. Ensure the handout of 1BOSR XPT-17 Movable Incore Detector Functional Checkout Following Refueling is available for use by the candidate.
4. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are the Unit 1 Assist NSO

- Unit 1 is in Mode 1
- Unit 1 will be performing a functional check of the Moveable Incore Detector System

## INITIATING CUE

The Unit Supervisor directs you to remove the Seal Table Monitor Radiation Monitor 1RE-AR003 from service per 1BOSR XPT-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. **3, 4 & 9**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Candidate will place RMS console in Supervisor mode and select monitor 4AS303Cndiddate will then select monitor item and change the value of channel 3 to 'OUT', Task is successfully completed when the candidate selects 'SAVE', removing the Seal Table Monitor 1RE-AR003 from service.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| **NOTE**: Provide the candidate with a copy of 1BOSR XPT-17, Unit One Moveable Incore Detector Functional Checkout Following Refueling. The candidate may review the Prerequisites, Precautions, and Limitations and Actions. | | | | | |
| 1 | Refer to 1BOSR XPT-17, Unit One Moveable Incore Detector Functional Checkout Following Refueling | • LOCATE and OPEN 1BOSR XPT-17 | ___ | ___ | ___ |
| **CUE** | ***All prerequisites are complete.*** | | | | |
| 2 | VERIFY there are no personnel in containment | • VERIFY there are no personnel in containment | ___ | ___ | ___ |
| ***CUE*** | ***Unit Supervisor states that there are no personnel in containment.*** | | | | |
| **NOTE**: Steps 3 & 4 can be done in either order. Candidate may select the channel prior to taking the RMS to Supervisor mode to ensure proper channel selection prior to being able to make changes. 4AS303 can be found on Grid 4 or Grid 6. | | | | | |
| *3 | PLACE the RMS console in Supervisor Mode | • PLACE the RMS console in Supervisor Mode | ___ | ___ | ___ |
| *4 | SELECT Channel 4AS303 | • SELECT Channel 4AS303 | ___ | ___ | ___ |
| 5 | SELECT CHANNEL ITEMS | • SELECT CHANNEL ITEMS | ___ | ___ | ___ |
| 6 | RECORD the "As Found" status of the Seal Table Monitor, 1RE-AR003, Channel Item 16 | • CIRCLE Channel Item 16 IN | ___ | ___ | ___ |
| 7 | SELECT Channel Item 16 value field | • SELECT Channel Item 16 value field | ___ | ___ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| 8 | NOTIFY Unit NSO and Unit Supervisor of expected alarm on the RMS | • NOTIFY Unit NSO and Unit Supervisor of expected alarm on the RMS | ___ | ___ | ___ |
| ***CUE*** | ***Unit Supervisor and Unit 1 NSO acknowledge pending alarm.*** | | | | |
| NOTE: The candidate may comment on the Seal Table Monitor being inoperable after the next action. Acknowledge as the US.<br>Candidate may prepare for annunciator response by referring to the AR/PR BAR and communicating with the Unit Supervisor and Unit NSO. Acknowledge communications accordingly. These communications are not required as Passing criteria for this JPM. | | | | | |
| *9 | SELECT OUT as the NEW value in the Channel 3 IN/OUT SERVICE REQUEST popup display and SELECT Save. | • SELECT OUT as the NEW value in the Channel 3 IN/OUT SERVICE REQUEST popup display and SELECT Save in the RMS | ___ | ___ | ___ |
| 10 | VERIFY Channel Item 16 updated. | • VERIFY Channel Item 16 updated. | ___ | ___ | ___ |
| 11 | PLACE the RMS console in Normal Mode. | • PLACE the RMS console in Normal Mode | ___ | ___ | ___ |
| ***CUE*** | ***This JPM is Complete.*** | | | | |

## JPM SUMMARY

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

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

JPM Title: Remove an Area Radiation Monitor from Service

JPM Number: CR-7-03-23 Revision Number: 03

Task Number and Title: 4C.AR-03: OPERATE the Radiation Monitoring System

Task Standard: Candidate will place RMS console in Supervisor mode and select monitor 4AS303Cndiddate will then select monitor item and change the value of channel 3 to 'OUT', Task is successfully completed when the candidate selects 'SAVE', removing the Seal Table Monitor 1RE-AR003 from service.

K/A Number and Importance:

073A4.02 : Ability to manually operate and/or monitor in the control room: RMS control panel Importance 3.6

Suggested Testing Environment: Simulator

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

Reference(s):

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

**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

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

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

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

## INITIAL CONDITIONS

You are the Unit 1 Assist NSO

- Unit 1 is in Mode 1
- Unit 1 will be performing a functional check of the Moveable Incore Detector System

## INITIATING CUE

The Unit Supervisor directs you to remove the Seal Table Monitor Radiation Monitor 1RE-AR003 from service per 1BOSR XPT-17.

# Performance Measure

**Start standby CW pump per BOP CWS-1**
**(discharge valve fails to open)**

JPM Number: CR-8-01-23

Revision Number: Rev 01

Date: 06/28/2023

| | | | |
|---|---|---|---|
| Developed By: | Barry Mingus / *Barry Mingus /s/* | | 06/28/2023 |
| | Instructor: Print / Sign | | Date |
| Reviewed By: | Bill Hines / *Bill Hines /s/* | | 06/29/2023 |
| | SME or Instructor: Print / Sign | | Date |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | | 06/29/2023 |
| | Operations Representative: Print / Sign | | Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | | 07/31/2023 |
| | Training Department: Print / Sign | | Date |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

   Procedure: BOP CW-1 Revision: 46
   Procedure: BAR 1-17-C13 Revision: 3
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____

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

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

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

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

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

## Revision Record (Summary)

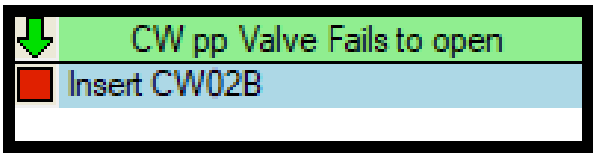
| Revision # | Summary |
|---|---|
| 1 | Revised to current JPM template and procedure Revs. Updated naming convention, IC and smart scenario. |
| 0 | New JPM developed for the NRC 2019-2 exam. |
| | |
| | |

## SIMULATOR SETUP INSTRUCTIONS

1. Reset the Simulator to IC-63

| | |
|---|---|
| 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 Circulating Water Pumps 1A and 1C are in operation with discharge valves 1CW001A and 1CW001C throttled to maintain an indicated pump discharge pressure of 38-50 psid.
3. Initiate Smart Scenario:
   - Open SMART SCENARIO (Extreme Ace icon)
   - Open file Scenario CR-h.ssf
   - Click on the MODE button (near top of screen) and pick EXECUTE
   - Click on the PLAY button (bottom left of screen)
4. Verify the following are included in the Smart Scenario:




5. Verify CW Pump/Motor bearing temperatures (TR30 CW Pumps page 2 of 3) are trending on computer (prerequisite C.3).
6. 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.
7. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are the Unit 1 Assist NSO.

- Unit 1 is in Mode 1.
- BOP CW-1, Circulating Water System Startup is in progress for the start of the third CW pump.
  - All Prerequisites have been met for the start of the 1B CW pump.
  - Steps F.2.a thru F.2.h have been completed and an equipment operator is standing by at the pump.

## INITIATING CUE

The Unit Supervisor has just directed you to start the 1B CW pump per BOP CW-1, Circulating Water System Startup.

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

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **2 & 5**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Task is successfully completed when the 1B CW pump is tripped, in accordance with the abnormal response procedure, after the discharge valve does not open upon a start per BOP CW-1.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| NOTE: | Provide the candidate with a marked-up copy of BOP CW-1, CIRCULATING WATER SYSTEM STARTUP. | | | | |
| CUE | (If requested) All Prerequisites have been met for the start of the 1B CW pump. Steps F.2.a thru F.2.h have been completed. | | | | |
| NOTE: | Candidate may notify security and/or IT of impending CW pump start. Respond with "Security (or IT) has been notified". | | | | |
| 1 | Refer to BOP CW-1, CIRCULATING WATER SYSTEM STARTUP. | • LOCATE and OPEN BOP CW-1. | ___ | ___ | ___ |
| ***2** | START 1CW01B, 1B CW Pump. | At 1PM03J:<br>• START 1CW01B, 1B CW Pump. | ___ | ___ | ___ |
| NOTE: | **Alternate Path Begins Here as 1CW001B does not open.** | | | | |
| NOTE: | Examinee may trip the pump at any time after realizing that the discharge valve is NOT going open. | | | | |
| NOTE: | Annunciator 1-17-C13, CW PUMP RUNNING WITH DSCH VLV CLOSED, will actuate 145 seconds after the CW pump breaker closes. | | | | |
| 3 | VERIFY 1CW001B, 1B CW Pp Dsch Vlv, is opening. | At 1PM03J:<br>○ VERIFY 1CW001B is - Opening.<br>• Determine 1CW001B is not opening. | ___ | ___ | ___ |
| NOTE: | Candidate may attempt (unsuccessfully) to open 1CW001B with the control switch. | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| 4 | THROTTLE 1CW001B, 1B CW Pp Dsch Vlv. | At 1PM03J:<br>• THROTTLE 1CW001B, 1B CW Pp Dsch Vlv, to an indicated pump discharge pressure of 38 - 50 psid<br>• Determine 1CW001B WILL NOT Open. | ___ | ___ | ___ |
| CUE | (If requested of local operator) 1CW001B CW pump discharge valve is not opening. | | | | |
| ***5** | Trip 1CW01B, 1B CW Pump. | At 1PM03J:<br>• Trip 1CW01B, 1B CW Pump. | ___ | ___ | ___ |
| CUE | This JPM is complete. | | | | |

## JPM SUMMARY

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

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

JPM Title: Start standby CW pump per BOP CW-1(discharge valve fails to open)

JPM Number: CR-8-01-23 Revision Number: 01

Task Number and Title: 4C.CW-01, Startup the Circulating Water System

Task Standard: Task is successfully completed when the 1B CW pump is tripped, in accordance with the abnormal response procedure, after the discharge valve does not open upon a start per BOP CW-1.

K/A Number and Importance:

075A4.02: Ability to manually operate and/or monitor in the control room: Circulating water pump Importance 3.1

Suggested Testing Environment: Simulator

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

Reference(s):

| | | | |
|---|---|---|---|
| Procedure: | BOP CW-1 | Revision: | 46 |
| Procedure: | BAR 1-17-C13 | Revision: | 3 |
| Procedure: | | Revision: | |
| Procedure: | | Revision: | |

**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

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

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

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

## INITIAL CONDITIONS

You are the Unit 1 Assist NSO.

- Unit 1 is in Mode 1.
- BOP CW-1, Circulating Water System Startup is in progress for the start of the third CW pump.
  - All Prerequisites have been met for the start of the 1B CW pump.
  - Steps F.2.a thru F.2.h have been completed and an equipment operator is standing by at the pump.

## INITIATING CUE

The Unit Supervisor has just directed you to start the 1B CW pump per BOP CW-1, Circulating Water System Startup.

# Performance Measure

## Local Operation of SG PORV

JPM Number: IP-4P-01-23

Revision Number: Rev 11

Date: 06/29/2023

| | | | |
|---|---|---|---|
| Developed By: | Barry Mingus / *Barry Mingus /s/* | 06/29/2023 | |
| | Instructor: Print / Sign | Date | |
| Reviewed By: | Bill Hines / *Bill Hines /s/* | 06/29/2023 | |
| | SME or Instructor: Print / Sign | Date | |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | 06/29/2023 | |
| | Operations Representative: Print / Sign | Date | |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | 07/31/2023 | |
| | Training Department: Print / Sign | Date | |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

   Procedure: BOP MS-6 Revision: 10
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____

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

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

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

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

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

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 11 | Revised to current revision of JPM template. Verified procedure is current and correct for JPM. |
| 10 | This JPM has been modified from the Bank JPM N083.<br>Updated the JPM to current template TQ-AA-150-J020.<br>JPM number format has been revised to better track JPMs as opposed to changing letter designations based on where placed sequentially on ES-301 forms.<br>Added a Task Performance Standard.<br>Updated the referenced procedure to the current revision.<br>Revised the setup instructions to reflect the changes. |
| 09 | Apply new template TQ-JA-150-02 Rev.1<br>Verified / updated KAs and TPOs to current revision<br>Verified / updates procedure references<br>Change NLO to EO<br>Made changes listed in validation comments. |
| | |

## JPM SETUP INSTRUCTIONS

1. This is an In-Plant JPM written to be performed on either Unit 1 or Unit 2.
2. ENSURE a current revision of BOP MS-6, LOCAL MANUAL OPERATION OF THE STEAM GENERATOR POWER OPERATED RELIEF VALVES.
3. This completes the setup for this JPM.

## INITIAL CONDITIONS

You are an EO.

- The control room has been evacuated.
- The NSO at the RSP is unable to operate the _A SG PORV (_MS018A).

## INITIATING CUE

The NSO at the RSP directs you to crack open the _A SG PORV (_MS018A) per BOP MS-6, then wait for further instructions.

An extra EO is available to operate breakers in the Aux Building.

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

---

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **4 - 6, 8, 10 - 12**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

---

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

**Task Standard:** Candidate simulates operating the _A SG PORV (_MS018A) per BOP MS-6, by removing power, equalizing pressures across the 3-way valve, then using the handle to manually crack open the valve.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| NOTE: PORV rooms are NO RADIO ZONES. Ensure all radios and cell phones are off / No Transmit /Airplane Mode for both examiner and the candidate.<br>Candidate may pick up the Handle to demonstrate where it goes and how it is operated. DO NOT allow candidate to connect the handle to plant equipment.<br>Ensure the candidate does NOT actually reposition anything associated with this JPM. SIMULATE ONLY! | | | | | |
| NOTE: This step may be performed at any time. | | | | | |
| 1 | Refer to BOP MS-6. | • LOCATE and OPEN BOP MS-6. | ___ | ___ | ___ |
| CUE | Provide a copy of BOP MS-6, LOCAL MANUAL OPERATION OF THE STEAM GENERATOR POWER OPERATED RELIEF VALVES. | | | | |
| NOTE: The candidate may request to contact the Control Room with a “First Check” to ensure they are at the correct location. If that is done provide the following CUE: First check with Control Room acknowledged. | | | | | |
| NOTE: MCC_31X2B is located in the electrical penetration area 414' S-12 for Unit 1, and 414' S-24 for Unit 2. The extra EO may be used in lieu of physically going to breaker location. | | | | | |
| 2 | Open breaker for _MS018A. | • OPEN breaker for _MS018A at MCC _31X2B Compt B1-A. | ___ | ___ | ___ |
| **CUE** | **Breaker for _MS018A at MCC _31X2B Compartment B1-A is OPEN.** | | | | |
| 3 | Establish communications with the RSP. | • ESTABLISH communications between safety valve room and RSP. | ___ | ___ | ___ |
| **CUE** | **Communications have been established between the valve area and the RSP.** | | | | |

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

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| ***4** | Align PORV Hand Pump Isolation Valve. | • OPEN _MS185A. | ___ | ___ | ___ |
| **CUE** | **_MS185A is in the position you described.** | | | | |
| ***5** | Align PORV Hand Pump Isolation Valve. | • OPEN _MS186A. | ___ | ___ | ___ |
| **CUE** | **_MS186A is in the position you described.** | | | | |
| ***6** | Align PORV Hand Pump Isolation Valve. | • OPEN _MS187A. | ___ | ___ | ___ |
| **CUE** | **_MS187A is in the position you described.** | | | | |
| 7 | Verify/Move the 3 position valve. | • VERIFY 3-position valve to NEUTRAL. | ___ | ___ | ___ |
| **CUE** | **3-position valve is in the position you described. ( 'N' position - NEUTRAL).** | | | | |
| ***8** | Loosen the two set screws. | • Loosen the two set screws. | ___ | ___ | ___ |
| **CUE** | **Setscrews are loose.** | | | | |
| 9 | CHECK local pressure gauges. | • CHECK local pressure gauges (3). | ___ | ___ | ___ |
| **CUE** | **Pressures drop, then stabilize, and are now equal.** | | | | |
| ***10** | Tighten two set screws. | • Tighten two set screws. | ___ | ___ | ___ |
| **CUE** | **Setscrews are retightened.** | | | | |
| ***11** | Position valve handle to open. | • MOVE 3-position handle to OPEN position (handle left). | ___ | ___ | ___ |
| **CUE** | **Handle is in the position you described.** | | | | |
| ***12** | Open _A SG PORV. | • OPERATE hand pump to crack open valve. | ___ | ___ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| **CUE** | **_MS018A has moved off its closed seat.** | | | | |
| 13 | Contact NSO at RSP. | • Contact NSO at RSP. | ___ | ___ | ___ |
| **CUE** | **The NSO directs you to leave the _A SG PORV in its current position and await further instructions.** | | | | |
| **CUE** | **This JPM is completed.** | | | | |

## JPM SUMMARY

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

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

JPM Title: Local Operation of SG PORV

JPM Number: IP-4P-01-23 Revision Number: 11

Task Number and Title: 4C.MS-06: DUMP Steam through the S/G PORVs.

Task Standard: Candidate simulates operating the A SG PORV ( MS018A) per BOP MS-6, by removing power, equalizing pressures across the 3-way valve, then using the handle to manually crack open the valve.

K/A Number and Importance:

E13EA1.06 Ability to operate and/or monitor the following as they apply to Steam Generator Overpressure: SGS Importance 3.5

Suggested Testing Environment: In-Plant

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

Reference(s):

Procedure: BOP MS-6 Revision: 10
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____

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

**Testing Method:** ☒ Simulate ☐ Perform

**Estimated Time to Complete:** 21 minutes **Actual Time Used:** _____ minutes

**EVALUATION SUMMARY:**

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

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

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

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

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

## INITIAL CONDITIONS

You are an EO.

- The control room has been evacuated.
- The NSO at the RSP is unable to operate the _A SG PORV (_MS018A).

## INITIATING CUE

The NSO at the RSP directs you to crack open the _A SG PORV (_MS018A) per BOP MS-6, then wait for further instructions.

An extra EO is available to operate breakers in the Aux Building.

# Performance Measure

**Perform a local emergency start of the 1B AF pump (Start with Bypass)**

JPM Number: IP-4S-1-23

Revision Number: Rev 3

Date: 05/25/2023

| | | | |
|---|---|---|---|
| Developed By: | Barry Mingus / *Barry Mingus /s/* | 05/23/2023 | |
| | Instructor: Print / Sign | Date | |
| Reviewed By: | Bill Hines / *Bill Hines /s/* | 05/24/2023 | |
| | SME or Instructor: Print / Sign | Date | |
| Reviewed By: | Austin Wilde / *Austin Wilde /s/* | 05/24/2023 | |
| | Operations Representative: Print / Sign | Date | |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | 07/31/2023 | |
| | Training Department: Print / Sign | Date | |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

   Procedure: 1BOA ELEC-5 Revision: 108
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____

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

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

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

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

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

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 3 | Updated to current procedure revisions and JPM template. No operational changes. IP-4S-2-23 is same JPM for unit 2. |
| 2 | Modified to return Start with bypass. New rev due to template and procedural changes. |
| 1 | Applied new template TQ-AA-150-J020, Modified Alternate Path deleting Start With Bypass actions. Corrected task number and added title. |
| 0 | Created from JPM No. N-56A (modified). |
| | |

## INITIAL CONDITIONS

You are an Equipment Operator.

- The unit has just tripped in conjunction with an electrical fire in the unit's Remote Shutdown Panel.
- 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 1BOA ELEC-5, Attachment D.

Inform the Shift Manager when complete.

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

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **11, 14**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** Candidate attempts a local start of the 1B Aux Feed pump on each battery bank, and when that fails, starts the 1B AF pump from the 364' elevation using 'Start with Bypass'

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| NOTE: | Provide the Candidate with a copy of 1BOA ELEC-5, Attachment D. | | | | |
| 1 | Locate the 1B AF pump. | On 383' Aux Bldg:<br>• LOCATE 1B AF pump | ___ | ___ | ___ |
| NOTE: | JPM steps 2 and 3 may be performed in any order. If candidate walks down the area beforehand, cue that there are no abnormal indications. | | | | |
| NOTE: | Steps should be executed by the candidate pointing (use of laser pointer is recommended) to the applicable control switches and explaining to the evaluator the specific switch manipulation required. | | | | |
| NOTE: | There may be an EST on the JW Isol. Valve C/S. If candidate inquires, state that if you have to operate that C/S adhere to the instructions on the EST. | | | | |
| 2 | Verify/Start associated Aux Lube Oil Pump | • Pump lube oil pump<br>  • 1AF01PB-A (outside pump room 383 L15) | ___ | ___ | ___ |
| CUE: | When candidate indicates the correct switch (1AF01PB-A) is in the correct position (start) then CUE: as **"the switch is in the position you selected."** | | | | |
| CUE: | When candidate verifies, then report **"Good oil pressure and flows exist."** | | | | |
| 3 | Verify/Start Gearbox Lube Oil Pump | • Gearbox lube oil pump<br>  • 1AF01PB-C (inside pump room 383 L16) | ___ | ___ | ___ |
| CUE: | When candidate indicates the correct switch (1AF01PB-C) is in the correct position (start) then CUE: as **"the switch is in the position you selected."** | | | | |
| CUE: | When candidate verifies, then report **"Good oil pressure and flows exist."** | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| 4 | Place ENGINE START switch in - MAN | At 1AF01J:<br>• PLACE ENGINE START Switch to MAN. | ___ | ___ | ___ |
| CUE: | When candidate indicates the correct switch (1HS-AF175) is in the correct position (MAN) then CUE: as **"the switch is in the position you selected."** | | | | |
| 5 | Check Air Box Tripped annunciator NOT LIT. | At 1AF01J:<br>• CHECK Diesel Air Box Trip annunciator NOT LIT. | ___ | ___ | ___ |
| CUE: | **Air Box Trip Annunciator is NOT LIT.** | | | | |
| 6 | Momentarily depress the RESET button. | At 1AF01J:<br>• DEPRESS and RELEASE the Reset button. | ___ | ___ | ___ |
| CUE: | **The RESET button was depressed and released.** | | | | |
| NOTE: | The candidate may inform the Control Room about impending start. As the evaluator, acknowledge the communication(s). | | | | |
| 7 | Depress the 1B AF Pump START pushbutton. | At 1AF01J:<br>• DEPRESS the Start button<br>• VERIFY the engine starts | ___ | ___ | ___ |
| CUE: | **NO engine sounds are heard.** | | | | |
| 8 | Try to start the 1B AF pump with the other battery bank. | At 1AF01J:<br>• SELECT other battery bank | ___ | ___ | ___ |
| CUE: | When candidate indicates the correct switch (1HS-AF167) is in the alternate position (i.e. If it was in "A", it is now moved to "B") then CUE: as "**A/B switch in is the position you selected.**" | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| 9 | Reset the engine trips | At 1AF01J<br>• DEPRESS and RELEASE the Reset button | ___ | ___ | ___ |
| CUE: | **The Reset pushbutton has been depressed and released.** | | | | |
| 10 | Start the engine | At 1AF01J<br>• DEPRESS the Start button<br>• VERIFY the engine starts within 60 seconds | ___ | ___ | ___ |
| CUE: | **NO engine sounds are heard.** | | | | |
| NOTE: | IF the following step is NOT completed, the 1B AF pump will NOT start from the 364' control switch and the candidate should be given the CUE: "**the RUN light is NOT LIT**" after the REMOTE EMERGENCY START with BYPASS is attempted. | | | | |
| ***11** | Place ENGINE START switch in AUTO | At 1AF01J:<br>• PLACE ENGINE START Switch to AUTO | ___ | ___ | ___ |
| CUE: | **The component you indicated is in the position you described** | | | | |
| NOTE: | THIS BEGINS THE ALTERNATE PATH | | | | |
| 12 | Place REMOTE EMERGENCY START switch in START | At 1AF03J (364' M16):<br>• Place REMOTE EMERGENCY START switch in START | ___ | ___ | ___ |
| CUE: | **The component you indicated is in the position you described** | | | | |
| 13 | Verify RUN light is LIT within 60 seconds | At 1AF03J (364' M16):<br>• Verify RUN light is LIT within 60 seconds | ___ | ___ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| CUE: | **RUN light is NOT lit** | | | | |
| ***14** | Place REMOTE EMERGENCY START switch in START WITH BYPASS | At 1AF03J (364' M16):<br>• Place REMOTE EMERGENCY START switch in START WITH BYPASS | ___ | ___ | ___ |
| CUE: | **The component you indicated is in the position you described** | | | | |
| 15 | Verify RUN light is LIT within 60 seconds | At 1AF03J (364' M16):<br>• Verify RUN light is LIT within 60 seconds | ___ | ___ | ___ |
| CUE: | **(IF step 11 is NOT complete) RUN light is NOT LIT. (Must return to Step 11)** | | | | |
| CUE: | **(IF step 11 is completed) RUN light is LIT. (Continue on to step 16)** | | | | |
| 16 | Monitor 1B AF pump operation | ○ Monitor engine performance<br>○ Inform Shift Manager that task is complete | ___ | ___ | ___ |
| CUE: | **BOP AF-7T1 will be completed by another EO who will monitor the pump** | | | | |
| CUE: | **This JPM is complete.** | | | | |

## JPM SUMMARY

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

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

JPM Title: Perform a local emergency start of the 1B AF pump (Start with Bypass)

JPM Number: IP-4S-1-23 Revision Number: 01

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

Task Standard: Candidate attempts a local start of the 1B Aux Feed pump on each battery bank, and when that fails, starts the 1B AF pump from the 364' elevation using 'Start with Bypass'

K/A Number and Importance: 061A2.04 Ability to (a) predict the impacts of the following on the Auxiliary/Emergency Feedwater System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations: AFW pump failure or improper operation Importance: 4.1/4.0

Suggested Testing Environment: In-Plant

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

Reference(s):

Procedure: 1BOA ELEC-5 Revision: 108
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____

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

**Testing Method:** ☒ Simulate ☐ Perform

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

**EVALUATION SUMMARY:**

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

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

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

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

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

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

## INITIAL CONDITIONS

1. You are an Equipment 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 1BOA ELEC-5, Attachment D.

Inform the Shift Manager when complete.

# Performance Measure

## Purge the Main Control Room from the Remote Shutdown Panel (0B Train)

JPM Number: IP-8-02-23

Revision Number: Rev 00

Date: 06/15/2021

| | | | |
|---|---|---|---|
| Developed By: | Benjamin Reyes / *Benjamin Reyes /s/* | Instructor: Print / Sign | 10/23/2020 Date |
| Reviewed By: | Barry Mingus / *Barry Mingus /s/* | SME or Instructor: Print / Sign | 06/012/2021 Date |
| Reviewed By: | Peter Leonhardt / *Peter Leonhardt /s/* | Operations Representative: Print / Sign | 08/04/2021 Date |
| Approved By: | Brian Lewin / *Brian Lewin /s/* | Training Department: Print / Sign | 08/04/2021 Date |

# JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

   Procedure: BOP VC-7 Revision: 4
   Procedure: 1BOA PRI-5 Revision: 111
   Procedure: _____ Revision: _____
   Procedure: _____ Revision: _____

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

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

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

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

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

## Revision Record (Summary)

| Revision # | Summary |
|---|---|
| 00 (2023) | Updated to current JPM template. No procedure rev changes. No JPM changes. |
| 0 | This JPM developed from LORT Bank JPM N36u revision 10. |
| | |
| | |

## JPM SETUP INSTRUCTIONS

1. The following materials will be needed:
   - Reference drawing of Panel 1PL05JA as no entry will be made into cabinet for evaluation performance.
   - A copy of the current revision of BOP VC-7, PURGE OF THE CONTROL ROOM WITH 100% OUTSIDE AIR.

## INITIAL CONDITIONS

You are an extra NSO

- The control room has been evacuated due to a fire
- The control room HVAC is operating normally with no safeguards or radiation signals present
- 0B VC train is in operation

## INITIATING CUE

The fire is now fully extinguished. the Unit Supervisor directs you to initiate a purge of the main control room from the MCR HVAC Train B Remote Shutdown Panel in accordance with BOP VC-7

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

**Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

* Denotes critical steps. **2 & 3**

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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

**Task Standard:** The task is satisfactorily met when the MCR has been purged by taking the HVAC control switch to local, the system taken to purge.

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| ***CUE*** | ***When the candidate acknowledges the Initiating Cue, provide a copy of BOP VC-7, PURGE OF THE CONTROL ROOM WITH 100% OUTSIDE AIR.*** | | | | |
| 1 | Refer to BOP VC-7 (step F.3), Purge of the Control Room with 100% Outside Air | ○ Locate and open BOP VC-7 | ___ | ___ | ___ |
| ***CUE*** | ***All prerequisites have been met.*** | | | | |
| ***CUE*** | ***If requested; the necessary key was obtained during performance of 1BOA PRI-5, CONTROL ROOM INACCESSIBILITY UNIT 1.*** | | | | |
| NOTE: | When Local Panel 1PL05JA has been identified, have candidate refer to the reference drawing of Panel 1PL05JA for simulation of following steps. | | | | |
| ****2*** | Take LOCAL control | At 1PL05JA:<br>• PLACE MCR Train B Max Outside Air Dmpr Transfer Switch in LOCAL | ___ | ___ | ___ |
| ***CUE*** | ***The switch that you have manipulated is in the position that you have indicated.*** | | | | |
| ****3*** | Place the Control Room HVAC System in the Purge Mode | At 1PL05JA:<br>• PLACE and HOLD MCR Train B Max Outside Air Dmpr control switch in PURGE | ___ | ___ | ___ |
| ***CUE*** | ***The switch that you have manipulated is in the position that you have indicated.*** | | | | |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| 4 | ENSURE the dampers shift to their PURGE positions | At 1PL05JA:<br>○ ENSURE the following dampers shift to their PURGE positions as follows:<br>○ 0VC04Y, MCR Max Outside Air Dmpr, indicates OPEN.<br>○ 0VC02Y, MCR Exh Dmpr to Turb Bldg, indicates OPEN.<br>○ 0VC03Y, MCR Rtrn Air Fan Outlt Dmpr, indicates CLOSED. | ___ | ___ | ___ |
| ***CUE***<br>***CUE***<br>***CUE*** | ***0VC04Y 'RED' light is LIT, 'GREEN' light is EXTINGUISHED.***<br>***0VC02Y 'RED' light is LIT, 'GREEN' light is EXTINGUISHED.***<br>***0VC03Y 'RED' light is LIT, 'GREEN' light is EXTINGUISHED.*** | | | | |
| 5 | RETURN Purge Control Switch to the AUTO position | At 1PL05JA:<br>○ RELEASE MCR Max Outside Air Dmpr control switch<br>○ VERIFY MCR Max Outside Air Dmpr control switch returns to AUTO | ___ | ___ | ___ |
| ***CUE*** | ***The switch that you have manipulated is in the position that you have indicated*** | | | | |
| NOTE: | In order to check damper position from the RSP in the next step, the transfer switch must be taken to LOCAL. The switch would be in LOCAL if Attachment A of 1BOA PRI-5 was performed. | | | | |
| 6 | Check MCR outside air dampers | At 1PL05JA:<br>○ CHECK OPEN:<br>○ 0VC16Y<br>○ 0VC282Y | ___ | ___ | ___ |

| STEP | ELEMENT | STANDARD | SAT | UNSAT | Comment Number |
|---|---|---|---|---|---|
| ***CUE*** | ***If requested; the transfer switch was previously placed in Local during performance of 1BOA PRI-5, CONTROL ROOM INACCESSIBILITY UNIT 1.*** | | | | |
| ***CUE*** | ***0VC16Y 'GREEN' light is LIT, 'RED' light is EXTINGUISHED.***<br>***0VC282Y 'GREEN' light is LIT, 'RED' light is EXTINGUISHED.*** | | | | |
| 7 | Restore REMOTE control | At 1PL05JA:<br>PLACE the MCR Train A/B Max Outside Air Dmpr Transfer Switch in the REMOTE position | ___ | ___ | ___ |
| ***CUE*** | ***The switch that you have manipulated is in the position that you have indicated.*** | | | | |
| ***CUE*** | ***This JPM is complete.*** | | | | |

## JPM SUMMARY

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

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

JPM Title: Purge the Main Control Room from the Remote Shutdown Panel (0B Train)

JPM Number: IP-8-02-23 Revision Number: 00

Task Number and Title: R-VC-006 Shift VC system to various alignments

Task Standard: The task is satisfactorily met when the MCR has been purged by taking the HVAC control switch to local, the system taken to purge.

K/A Number and Importance:

068AA1.24, Ability to operate and/or monitor the following as they apply to Control Room Evacuation: Auxiliary shutdown panel Importance 4.2

Suggested Testing Environment: In-Plant

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

Reference(s):

Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____
Procedure: _____ Revision: _____

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

**Testing Method:** ☒ Simulate ☐ Perform

**Estimated Time to Complete:** 25 minutes **Actual Time Used:** _____ minutes

**EVALUATION SUMMARY:**

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

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

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

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

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

## INITIAL CONDITIONS

You are an extra NSO

- The control room has been evacuated due to a fire
- The control room HVAC is operating normally with no safeguards or radiation signals present
- 0B VC train is in operation

## INITIATING CUE

The fire is now fully extinguished. the Unit Supervisor directs you to initiate a purge of the main control room from the MCR HVAC Train B Remote Shutdown Panel in accordance with BOP VC-7

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