

Exelon Nuclear

Job Performance Measure

Perform APRM Flow Biased High Flux (Heat Balance) Calibration Test (Partial for step H.4.)

JPM Number: 2.1 RO 1 NRC JPM

Revision Number: 01

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed for ILT Certification Exam 03-1 IAW NUREG 1021, Rev. 8.

Revision 01, This JPM was revised to current procedures and a new template for the 2009 ILT Licensing Exam IAW NUREG 1021, Rev. 9 Supplement 1.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 20 (rst 20). (75% Power)

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. Shutdown Cooling cannot be in service.

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

INITIAL CONDITIONS

Unit 1 has been operating at 75% power for the last 2 days.

Unit 1 has been operating at a stable power level and flow for the last hour and expected to remain stable for the remainder of the shift.

The weekly APRM flow bias calibration check is due.

You are the Administrative Nuclear Station Operator.

Another NSO will be available to perform calculation verifications prior to final acceptance of the procedure.

INITIATING CUE

In accordance with QCOS 0700-06, perform the APRM flow biased calibration check portion only, on Unit 1.

Inform the Unit Supervisor when the test is complete.

Provide examinee with:

1. Copy of QCOS 0700-06, APRM Flow Bias High Flux (Heat Balance) Calibration Test filled out as a partial test for step H.4 only. Steps H.1, H.2 and H.3 to be marked N/A.
2. Calculator
3. Copy of QCGP 4-1, Attachment A, stating that rated drive flow is 35.69 Mlb/hr.

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.
- Denotes critical elements of a critical step.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
H.4.a	Maintains Drive Flow constant.	Initials H.4.a that Drive Flow is being held constant.	—	—	—
CUE: Provide the candidate with a copy of QCGP 4-1 Attachment A.					
*H.4.b	•Records rated drive flow from QCGP 4-1 Attachment A. •	Records 30.04 from QCGP 4-1 Attachment A.	—	—	—
*H.4.c	•Obtains and records drive flow from process computer. •	Obtains and records drive flow from process computer using OD-5 WD=20.58	—	—	—
CUE: When candidate demonstrates ability to access drive flow from the process computer using OD-5, provide them with the OD-5 printout.					
*H.4.d	•Calculates % drive flow • and signs as the performer.	Enters 68.51 and signs as the performer. $20.58 \div 30.04 \times 100 = 68.51 \pm 0.1$	—	—	—
CUE: If asked for verification, reiterate that verification is not available right now but will be available prior to final acceptance of the procedure per procedure limitations and actions section.					
EVALUATOR: for the following steps, after the candidate selects FLOW on the APRM meters, give them the prompts provided.					
*H.4.e. (1)	•Determines % flow from APRM #1. •	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	—	—	—
CUE: Tell the candidate that the meter is reading 67.0%					
*H.4.e. (2)	•Determines % flow from APRM #2. •	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	—	—	—
CUE: Tell the candidate that the meter is reading 68.5%					

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*H.4.e. (3)	•Determines % flow from APRM #3•	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	—	—	—
CUE: Tell the candidate that the meter is reading 69.0%					
*H.4.e. (4)	•Determines % flow from APRM #4•	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	—	—	—
CUE: Tell the candidate that the meter is reading 69.0%					
*H.4.e. (5)	•Determines % flow from APRM #5. •	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	—	—	—
CUE: Tell the candidate that the meter is reading 68.5%					
*H.4.e. (6)	•Determines % flow from APRM #6. •	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	—	—	—
CUE: Tell the candidate that the meter is reading 68.0%					
H.4.f	Verifies flow on each APRM is \leq % drive flow.	Does NOT sign "Performed By" in step H.4.f.	—	—	—
CUE: Tell the candidate that the meter is reading 68.0%					
*H.4.g. (1)	Refers to step F.5. • Notifies US that APRMs #3 & #4 are above % drive flow • Holds power constant and prompts US to refer to TS and the TRM.	Notifies US that APRMs #3 & #4 are above % drive flow, holds power constant and prompts US to refer to TS and the TRM.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
CUE: Role Play US as necessary. Tell the candidate that you will refer to TS and the TRM for the out of calibration APRMs.					
H.4.g. (2)	Contacts IMD.	Contacts IMD or asks US to contact IMD to perform QCIPM 0200-11, 25, 26 or 27.	—	—	—
CUE: As IMD or the US, inform the candidate that the QCIPM will be completed.					
H.4.g. (3)	Informs QNE.	Informs QNE or asks US to contact QNE and notify of failed surveillance.	—	—	—
CUE: As QNE, tell the candidate that you understand QCOS 0700-06 has failed due to flows on the APRMS being higher than % drive flow.					
EVALUATOR: The candidate should inform you that the task is complete.					

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Perform APRM Flow Biased High Flux (Heat Balance) Calibration Test
(Partial for step H.4.)

JPM Number: 2.1 RO 1 NRC JPM **Revision Number:** 01

Task Number and Title:

SR-0700-P08 (Freq: LIC=I) Given an operating reactor plant and Instrument Maintenance personnel are NOT available, perform the APRM Flow Biased High Flux (Heat Balance) Calibration Test in accordance with QCOS 0700-06 and QCOP 0700-07.

K/A Number and Importance: **K/A:** 2.1.43 **Rating:** 4.1/4.3

Ability to use procedures to determine the effects on reactivity of plant changes, such as reactor coolant system temperatures, secondary plant, fuel depletion, etc.

Suggested Testing Environment: Simulator

Alternate Path: Yes No **SRO Only:** Yes No **Time Critical:** Yes No

Reference(s): QCOS 0700-06, Rev. 26

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 10.5 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

Unit 1 has been operating at 76% power for the last 2 days.

Unit 1 has been operating at a stable power level and flow for the last hour and expected to remain stable for the remainder of the shift.

The weekly APRM flow bias calibration check is due.

You are the Administrative Nuclear Station Operator.

Another NSO will be available to perform calculation verifications prior to final acceptance of the procedure.

INITIATING CUE

In accordance with QCOS 0700-06, perform the APRM flow biased calibration check portion only, on Unit 1.

Inform the Unit Supervisor when the test is complete.

Exelon Nuclear

Job Performance Measure

Operate the Plant Process Computer

JPM Number: 2.1 RO 2 NRC JPM

Revision Number: 00

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for "Administrative Topics."

This JPM was developed NEW for the 2009 ILT NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC-21.

<p>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.</p>

2. Bypass the Rod Worth Minimizer.
3. Run an initial Current Rod Position AUTO-SCAN per QCOP 9950-07 and obtain a printout.
4. Insert control rods G-14 and H-2 from position 48 to 46 and run an Auto-Scan per QCOP 9950-07.
5. Verify the Main Menu is displayed in the Process Computer.
6. This completes the setup for this JPM.

INITIAL CONDITIONS

- You are the U-1 ANSO.
- It is Wednesday, November 25, and the U-1 NSO has performed QCOS 0300-01, CRD Exercise through step I.7.
- The Rod Worth Minimizer has been bypassed for maintenance the last several days.

INITIATING CUE

Perform step I.8.b of QCOS 0300-01, CRD Exercise.

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.
- Denotes critical elements of a critical step.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*I.8.b. (1)(a)	<ul style="list-style-type: none"> For Unit 1, run new current Rod Position AUTO-SCAN per QCOP 9950-07. 	At the Process Computer (Main Menu): <ul style="list-style-type: none"> Selects "Operator Demandable." Selects "Control Rod Positions/Substitutions." Selects "Perform Scan." Verifies that a warning panel appears stating: "Continuing will start an AUTO-SCAN of all control rod positions." Selects "Continue." Verifies that the display has updated with most current Control Rod positions. 	_____	_____	_____
<p>CUE: Provide the examinee with the printout of the control rod positions provided and state "the printout accurately reflects the indications on the full core display".</p> <p>If the examinee prints the scan before you intervene, the printout must be controlled as it is now exam material.</p>					
*I.8.b. (1)(c)	<ul style="list-style-type: none"> Compare new Rod Positions with Rod Positions from Step I.1. Identifies Control Rod G-14 is mispositioned. Identifies Control Rod H-2 is mispositioned. 	Compares both Control Rod Scan printouts.	_____	_____	_____
I.8.b. (1)(e)	Verify each Rod is returned to its initial position <u>OR</u> position change is accounted for on Attachment C.	Reports to Unit Supervisor that Control Rods H-2 and G14 are at position 46 and should be at position 48.	_____	_____	_____
<p>ROLE PLAY: As the Unit Supervisor, tell the examinee that the U-1 NSO and a verifier will return Control Rods H-2 and G14 to position 48.</p>					

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Operate the Plant Process Computer

JPM Number: 2.1 RO 2 NRC JPM Revision Number: 0

Task Number and Title: **SR-9900-P01**

given an operating reactor plant, perform the following process computer operations in accordance with the appropriate QCOP 9950 procedure:

9900.007 Control rod positions - determine rod positions/bad

K/A Number and Importance: **K/A:** 2.1.19 **Rating:** 3.9/3.8

Ability to use plant computers to evaluate system or component status.

Suggested Testing Environment: Simulator

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

Reference(s):

QCOS 0300-01 Rev. 39, "CRD Exercise"

QCOP 9950 Rev. 0, "Plant Process Computer Control Rod Positions-Substitutions"

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

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

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- You are the U-1 ANSO.
- It is Wednesday, November 25, and the U-1 NSO has performed QCOS 0300-01, CRD Exercise through step I.7.
- The Rod Worth Minimizer has been bypassed for maintenance the last several days.
- .

INITIATING CUE

Perform step I.8.b of QCOS 0300-01, CRD Exercise.

Exelon Nuclear

Job Performance Measure

Review QOS 0005-S01 for Start of Daily Refueling Activities

JPM Number: 2.1 SRO 1 NRC JPM

Revision Number: 0

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM is developed IAW guidelines established in NUREG 1021 Rev 9 ES-301 and Appendix C. This JPM meets the criteria of Category B.1 "Control Room Systems," for RO/SRO candidates.

This is a new JPM that was developed for the 2009 NRC Initial License exam.

JPM SETUP INSTRUCTIONS

1. This is an Administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.
2. Verify the following information is available for the Initiating Cue:
 - QOS 0005-S01 properly completed for the week except for following errors:
 - Section 50.a.4 notes the date and time of completion as 5/9/09
 - Section 32 shows SRM Channel 23 at 2 cps on Saturday 1st and 2nd shift and drifting down throughout the week
3. This completes the setup for this JPM.

INITIAL CONDITIONS

- You are the Unit Supervisor on Unit 1 during a refueling outage.
- Today is Shift 2 on Saturday May 16th.
- Core alterations were suspended for three days during the week for scheduled outage work.
- That work has been completed and the second fuel shuffle can begin.
- The Mode switch is locked in REFUEL.
- All control rods are fully inserted.
- The Refueling cavity is flooded.
- Communications have been established and tested satisfactorily earlier in the shift.
- The following core alteration surveillances were completed satisfactorily:
 - SRM Functional Test QCIS 0700-09; completed 5/10 at 0600 hrs. SRM signal to noise ratios are: SRM 21-15:1, SRM 22-17:1, SRM 23 -14:1, SRM 24 -12:1.
 - IRM Functional Test QCIS 0700-09; completed 5/13 at 1000 hrs
 - SRM/IRM Detector Not Full In Functional Test QCIS 0700-01; completed 5/11 at 1600 hrs
 - Refuel interlocks operable per QCFHP 0500-08; completed 5/7 at 0400 hrs
 - One Rod out Interlock operable per QOS 0300-17; completed 5/15 at 2300 hrs

INITIATING CUE

Review QOS 0005-S01 Sections 10, 15, 24, 32, 37, 38, and 50 for Start of Daily Refueling Activities.

Contact the Fuel Handling Supervisor when your review has been completed.

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.
- Denotes critical elements of a critical step.

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

G:\License Examinations\2009\Quad Cities Draft\Proposed\JPMs\2.1 SRO 1 NRC JPM.docSRRS: 3D.105 (when utilized for operator initial or continuing training)

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: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
10	Verify SRMs are operable. Recognizes that SRM count rates ≥ 3 cps is not checked.	Saturday Shift 2 already completed for steps (a) and (b). SRM count rates ≥ 3 cps is not checked.			
15	Record Reactor Water Level indications and verify within 12 inches of each other.	Saturday Shift 2 already completed. Both indicators reading >60 inches with Refueling cavity flooded.			
24	Verify Rx Coolant Circulation.	Saturday Shift 2 already completed. One loop of shutdown Cooling in service.			
32	Checks SRM counts and channel check within 1 decade of each other. Recognizes that SRM 23 is reading only 2 cps.	Saturday Shift 2 already completed. All channels are within 1 decade. SRM 23 is reading only 2 cps.			
37	Record Reactor Water Level indications and verify within 12 inches of each other.	Saturday Shift 2 already completed. All 4 indicators reading >60 inches with Refueling cavity flooded.			
38	Record Reactor Water Level indications and verify within 12 inches of each other.	Saturday Shift 2 already completed. All 4 indicators reading >60 inches with Refueling cavity flooded.			
50.a.1	Verify SRM Functional completed within 7 days prior to the start of core alterations.	Saturday Shift 2 checked per turnover information.	—	—	—
50.a.2	Verify IRM Functional completed within 7 days prior to the start of core alterations.	Saturday Shift 2 checked per turnover information.	—	—	—

G:\License Examinations\2009\Quad Cities Draft\Proposed\JPMs\2.1 SRO 1 NRC JPM.docSRRS: 3D.105 (when utilized for operator initial or continuing training)

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
50.a.3	Verify SRM/IRM Detector not Full In Functional completed within 7 days prior to the start of core alterations.	Saturday Shift 2 checked per turnover information.	—	—	—
*50.a.4	Verify Refueling Interlock test completed within 7 days prior to the start of core alterations. <ul style="list-style-type: none"> •Recognize that 5/7 0400 hrs to 5/16 Shift 2 exceeds 7 days. • 	Recognizes Saturday Shift 2 is NOT CHECKED and that performance of QCFHP 0500-08 has exceeded 7 days from the given Initial conditions.	—	—	—
ROLE PLAY: If contacted and instructed to perform QCFHP 0500-08, state “you will brief the crew and start the surveillance”.					
50.a.5	Verify Rx water level > 23 ft above the top of the RPV flange.	Saturday Shift 2 checked per turnover information.	—	—	—
50.a.6	Verify Rx Mode Switch locked in Refuel with any control rod withdrawn.	Saturday Shift 2 marked N/A per turnover information.	—	—	—
50.a.7	Verify One-Rod-Out interlock is operable within 7 days prior to the start of control rod withdrawal.	Saturday Shift 2 checked per turnover information. Directs NSO to check box based on turnover or checks it himself/herself.	—	—	—
ROLE PLAY: As NSO: You will check the step if asked.					
50.a.8	Verify Direct Communications have been established.	Saturday Shift 2 checked per turnover information.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*50.a.9	Verify Operable fully-inserted SRM detector reading of ≥ 3 cps or ≥ 0.7 cps with a signal to noise ratio $\geq 20/1$ located in the core quadrant where Core Alterations will be performed. •Recognize SRM 23 is inoperable. •	Recognizes Saturday Shift 2 block is CHECKED IN ERROR and notes previous SRM reading was 2 cps and signal to noise ration is $< 20/1$ per the turnover.	—	—	—
ROLE PLAY: If contacted to investigate and troubleshoot SRM 23, as the Instrument Maintenance Supervisor state you “will prepare a package and start work as soon as possible”.					
50.a.10	Verify all control rods fully inserted.	Saturday Shift 2 checked per turnover information.	—	—	—
50.a.11	Verify withdrawn control rod accumulator pressures >940 psig once per 7 days.	Saturday Shift 2 marked N/A per turnover information.	—	—	—
Evaluator Note: Candidate should report to the FHS that the requirements of QOS 0500-S01 are not satisfied and Refueling activities except for performance of QCFHP 0500-08 are NOT authorized. Also, SRM 23 is inoperable, which dis-allows fuel movement in the associated quadrant of the core. The JPM is complete.					

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Review QOS 0005-S01 for Start of Daily Refueling Activities

JPM Number: 2.1 SRO NRC JPM Revision Number: 0

Task Number and Title: (Learning Objective) SRL-805-K20

Given refueling equipment related operability status OR parameter indications, various plant conditions, and a copy of Tech Specs, DETERMINE if the Conduct of Refueling related Tech Spec LCOs have been met.

K/A Number and Importance: **K/A:** 2.1.36 **Rating:** 4.1

Knowledge of procedures and limitations involved in core alterations

Suggested Testing Environment: Classroom

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

Reference(s):

QOS 0005-S01, Rev 162, "Operations Department Weekly Summary of Daily Surveillances"

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

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

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- You are the Unit Supervisor on Unit 1 during a refueling outage.
- Today is Shift 2 on Saturday May 16th.
- Core alterations were suspended for three days during the week for scheduled outage work.
- That work has been completed and the second fuel shuffle can begin.
- The Mode switch is locked in REFUEL.
- All control rods are fully inserted.
- The Refueling cavity is flooded.
- Communications have been established and tested satisfactorily earlier in the shift.
- The following core alteration surveillances were completed satisfactorily:
 - SRM Functional Test QCIS 0700-09; completed 5/10 at 0600 hrs
 - IRM Functional Test QCIS 0700-09; completed 5/13 at 1000 hrs
 - SRM/IRM Detector Not Full In Functional Test QCIS 0700-01; completed 5/11 at 1600 hrs
 - Refuel interlocks operable per QCFHP 0500-08; completed 5/7 at 0400 hrs
 - One Rod out Interlock operable per QOS 0300-17; completed 5/15 at 2300 hrs

INITIATING CUE

Review QOS 0005-S01 Sections 10, 15, 24, 32, 37, 38, and 50 for Start of Daily Refueling Activities.

Contact the Fuel Handling Supervisor when your review has been completed.

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for “Administrative Topics.”

This JPM was developed NEW for the 2009 ILT NRC Exam.

JPM SETUP INSTRUCTIONS

1. This is an Administrative JPM that may be performed in any setting where the necessary procedures and support information can be provided.
2. Verify the following information is available for the Initiating Cue:
 - The current shift schedule
3. Verify the following information is available for JPM performance:
 - QAP 0300-03 Rev. 39, Operations Shift Staffing
 - Tech Spec 5.2, Organization
 - OP-AA-112-101, Shift Turnover and Relief
 - SY-AA-102-201, "Call-Outs for Unscheduled Work"
4. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

(Evaluator Note: Provide the shift staffing information per the JPM Setup Instructions)

INITIAL CONDITIONS

You are the Shift Manager.

Unit 1 and Unit 2 are at full power.

The STA's wife is expecting a baby. He has permission from the Operations Director to leave if necessary to join his wife.

At 0400 the STA departs the site when his wife calls him home because she has gone into labor.

There are no other STA qualified supervisors on shift.

INITIATING CUE

Identify the staffing adjustments that need to be made and the time constraints involved.

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.
- Denotes critical elements of a critical step.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

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

The timeclock starts when the candidate acknowledges the initiating cue.

•JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*QAP 0300-03 C.1.d	•Determine that the STA position must be staffed for both Units in Mode 1, 2, or 3. •	The requirement for STA staff position manning is identified.	—	—	—
*T. S. 5.2.2.b.	•Determine that the STA position must be staffed in a time not to exceed 2 hours. •	The requirement to fill the STA staff position within 2 hours is identified.	—	—	—
CUE:	Role Play as Field Supervisor who will make the call-outs. STA #1, STA #2, and STA #3 have been called and all are qualified and fit for duty. Provide the Call-Out List Attachment to this JPM .				
	Directs STA # 3 to report to work.	The STA position can be vacant for 2 hours per T. S. 5.2.2.b.	—	—	—
CUE:	As Field Supervisor tell the candidate you will contact STA #3 to drive in and fill the position.				

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Use Procedures Related to Shift Staffing

JPM Number: 2.1 SRO 2 NRC JPM Revision Number: 0

Task Number and Title: (Discussion requirement) SS-S-08 Operations Shift Staffing

K/A Number and Importance: **K/A:** 2.1.5 **Rating:** 2.9*/3.9

Ability to use procedures related to shift staffing, such as minimum crew compliment, overtime limitations, etc.

Suggested Testing Environment: Classroom

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

Reference(s): QAP 0300-03 Rev. 39, Operations Shift Staffing

Tech Spec 5.2, Organization

OP-AA-112-101 Rev. 5, Shift Turnover and Relief

SY-AA-102-201 Rev. 6, "Call-Outs for Unscheduled Work"

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 10 minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

STA Callout List

STA #1 Could arrive on site by 0700

STA #2 Could arrive on site by 0630

STA #3 Could arrive on site by 0530

INITIAL CONDITIONS

You are the Shift Manager.

Unit 1 and Unit 2 are at full power.

The STA's wife is expecting a baby. He has permission from the Operations Director to leave if necessary to join his wife.

At 0400 the STA departs the site when his wife calls him home because she has gone into labor.

There are no other STA qualified supervisors on shift.

INITIATING CUE

Identify the staffing adjustments that need to be made and the time constraints involved.

Exelon Nuclear

Job Performance Measure

Review a Worker Tagout for 2nd Approval

JPM Number: 2.2 RO NRC JPM

Revision Number: 00

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for “Administrative Topics.”

Bank JPM RO Admin 3 Rev. 0 was the basis for this JPM, which was updated to a new JPM template and slightly revised procedures.

JPM SETUP INSTRUCTIONS

1. This JPM may be performed in any setting where the stand alone database and support material for the WTO package can be provided.
2. The WTO referenced in this JPM was developed on a stand alone version of the WTO database. Do not use WTO 2009-9898 in the actual WTO database.
3. The WTO package must include the following:
 - M-83 sh.4 with the isolation points highlighted
 - QOM 2-6500-T03 with Cubicle 5 highlighted
 - QOM 2-6700-T07, page 4, with Cubicle J2 highlighted
 - A copy of the C/O request
 - A copy of OP-AA-109-101, Att. 5 with checks in the Approve 1 section
 - A copy of the WTO
4. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.

INITIAL CONDITIONS

You are an extra NSO on day shift.

Worker tagout (WTO) 2009-9898 to uncouple and realign, 2A CRD pump is in need of a 2nd approval.

You have been briefed IAW OP-AA-109-1010 Att. 5 by your supervisor.

INITIATING CUE

Review WTO 2009-9898. and sign as the second approver or identify all required changes.

Provide candidate with the packet for WTO 2009-9898.

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.
- Denotes critical elements of a critical step.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<p>EVALUATOR: The guidance for Clearance Order preparation is in OP-AA-109-101. To complete the JPM successfully, the candidate must identify two errors in the WTO. The faults are listed below, not necessarily in the order which the candidate will identify them.</p>					
*Att. 14	<ul style="list-style-type: none"> Identifies incorrect sequence: breaker is racked out prior to removal of close and trip fuses 	Recognizes WTO checklist steps 4, 5, and 6 sequence steps are also incorrect. Step 4, breaker racked out, should be after the Close and Trip fuses are removed.	_____	_____	_____
*Att.14	<ul style="list-style-type: none"> Identifies the Unit 1 CRD pump min flow valve is listed on the checklist instead of the Unit 2 CRD pump min flow valve 	Recognizes that the WTO checklist lists has the 1-0301-245A, 1A CRD Pump Min Flow Isolation Vlv, instead of the 2-0301-254A, 2A CRD Pump Min Flow Isolation Vlv.	_____	_____	_____
<p>EVALUATOR: The candidate should inform you that the WTO cannot be approved and the two identified changes are needed.</p>					

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Review a Worker Tagout for 2nd Approval

JPM Number: 2.2 RO NRC JPM Revision Number: 00

Task Number and Title:

SRNL-CO-K4 (Freq: LIC=B NF=B) Given the following Clearance tasks, DESCRIBE the general process steps in accordance with OP-AA-109-101 and OP-AA-108-106,
b. Prepare/approve Clearance Order (C/O) checklists

K/A Number and Importance: **K/A:** 2.2.13 **Rating:** 4.1/4.3

Knowledge of tagging and clearance procedures.

Suggested Testing Environment: Simulator

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

Reference(s): OP-AA-109-101, Rev 4, Clearance and Tagging
OP-AA-108-106, Rev. 3, Equipment Return to Service

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 30 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

You are an extra NSO on day shift.

Worker tagout (WTO) 2009-9898 to uncouple and realign, 2A CRD pump is in need of a 2nd approval.

You have been briefed IAW OP-AA-109-1010 Att. 5 by your supervisor.

INITIATING CUE

Review WTO 2009-9898 and sign as the second approver or identify all required changes.

Exelon Nuclear

Job Performance Measure

Determine On Line Risk

JPM Number: 2.2 SRO NRC JPM

Revision Number: 00

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for “Administrative Topics.”

Bank JPM SRO-017-I Rev. 0 was the basis for this JPM, which was updated to a new JPM template and slightly revised procedures.

SIMULATOR SETUP INSTRUCTIONS

- 1) This JPM should be performed in any appropriate setting provided the following:
- 2) Log on to PARAGON using an instructor user ID. Use the QC Training Region.
- 3) Select the following data set:
 - a. **MODULE:** QC2-TRN-M-05B08
 - b. **PRA:** QC2-TRN-P-05B24
 - c. **SCHEDULE:** PRA JPMS.
 - d. **Click on the “Connect” Button**
- 4) Click on **“MSO”** in the upper left corner
- 5) Select Operators Module and click on OK.
- 6) The Operators Module View should displayed.
- 7) Candidates should have access to WC-AA-101

This completes the setup for this JPM.

NOTE: Following the completion of each JPM, refresh the setup screen as follows:

- 1) **Close the “Operators Module View” window**
- 2) **Click on “MSO” in the upper left corner**
- 3) **Select “Operators Module” and click on OK.**

INITIAL CONDITIONS

- You are the Unit 2 Unit Supervisor
- Unit 2 is operating at 912 MWe
- No LCO's are in effect.
- Spring/Fall Mode of Service Water (SW) is in effect.
- This JPM is NOT time critical.
- It has been determined that B Train of SBGTS is INOPERABLE AND UNAVAILABLE for On Line Risk.

INITIATING CUE

Given the above conditions, determine the On-Line Risk for Unit 2.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

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

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
EVALUATOR NOTE: The Operators Module View should be displayed on the screen.					
*	<ul style="list-style-type: none"> •Determines On Line Risk is YELLOW for the B Train of SBGTS UNAVAILABLE. • 	Under the “CONTAINMENT SYS” tab, click on “SBGT” . When this is complete, click on “OHVARB0SCSGB-B DIVISION SGBTS (S)” . This will bring up the “AVAILABLE/UNAVAILABLE” box. Click on “UNAVAILABLE” bringing up the “ADD ACTIVITY” window. <i>Information may be added as desired for description in Activity, and End Time/Duration.</i> THIS IS NOT A REQUIREMENT. Click on OK.	—	—	—
EVALUATOR NOTE: The candidate should inform you On-Line Risk is YELLOW for Unit 2.					
CUE:	Inform the candidate as the Shift Manger that the Unit 2 ESSENTIAL SERVICE BUS has just been determined to be INOPERABLE AND UNAVAILABLE for On-Line Risk. Determine the On-Line risk for this added issue for Unit 2 ONLY.				
*	<ul style="list-style-type: none"> •Determines On Line Risk is ORANGE • for additional UNIT 2 ESS UNAVAILABLE (Includes B SBGTS.). 	Under the “AC POWER” tab, click on “ESS BUS” . When this is complete, click on “2ACD0ESS-U2 ESSENTIAL SERVICE BUS” . This will bring up the “AVAILABLE/UNAVAILABLE” box. Click on “UNAVAILABLE” bringing up the “ADD ACTIVITY” window. <i>Information may be added as desired for description in Activity, and End Time/Duration.</i> THIS IS NOT A REQUIREMENT. Click on OK.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
EVALUATOR NOTE: The candidate should inform you On-Line Risk is ORANGE for Unit 2.					
CUE:	Inform the candidate that another SRO will perform any and all follow-up actions.				

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Determine On Line Risk

JPM Number: 2.2 SRO NRC JPM

Revision Number: 00

Task Number and Title:

S-RISK-K10 (Freq: LIC=B) Given a risk-related system/train/component being made unavailable or available and various plant conditions, use the PARAGON System and WC-AA-101 to determine the new risk level and what actions are required.

K/A Number and Importance: **K/A:** 2.2.17 **Rating:** 3.8

Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization and coordination with transmission system operator.

Suggested Testing Environment: Simulator

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

Reference(s): WC-AA-101, Rev. 16, On-Line Work Control Process

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 10 minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- You are the Unit 2 Unit Supervisor
- Unit 2 is operating at 912 MWe
- No LCO's are in effect.
- Spring/Fall Mode of Service Water (SW) is in effect.
- This JPM is NOT time critical.
- It has been determined that B Train of SBGTS is INOPERABLE AND UNAVAILABLE for On Line Risk.

INITIATING CUE

Given the above conditions, determine the On-Line Risk for Unit 2.

Exelon Nuclear

Job Performance Measure

Perform Whole Body Frisk

JPM Number: 2.3 RO SRO NRC JPM

Revision Number: 0

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for “Administrative Topics.”

This JPM was developed NEW for the 2009 ILT NRC Exam.

JPM SETUP INSTRUCTIONS

1. This JPM is performed at a lab location that has been secured for Licensing Exam administration.
2. Provide the following equipment.
 - A frisker
 - A phone
 - A can of spray cleaner (like the cleaner used in the plant)
 - A role of paper towels (like the ones used in the plant)
3. This completes the setup for this JPM.

INITIAL CONDITIONS

- You have just completed a task in a highly contaminated area.
- You have removed your protective clothing, boots and gloves when you crossed the step off pad.
- A field monitoring station has been setup near the exit.

INITIATING CUE

Perform a whole body frisk before proceeding to a Whole Body Monitor (IPM 8)

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.
- Denotes critical elements of a critical step.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE: The following steps are from RP-AA-350 Attachment 5 unless otherwise noted.					
B	Verify the equipment is within calibration, has had proper pre-operational checks, and is operating on the X1 scale	Verifies: -Calibration Due date sticker is current -Range switch is on X1 scale	___	___	___
C	The background reading should be less than 300 cpm	Verifies Portable Radiation Monitor is indicating < 300 cpm.	___	___	___
*F.1	Survey both hands before picking up probe. •Identifies contamination on palm of second hand before touching probe with contaminated hand. •	Moves both sides of hand(s) slowly (2 in/sec) at approx. ½ inch from the probe face before picking up probe.	___	___	___
CUE:	When the second hand is surveyed, while frisking the palm state “ the frisker count rate has just increased by 150 cpm. State this again when the palm is surveyed a second time.				
Att. 5 (E.)	Surveys the palm of the hand a second time because of the count rate increase.	Moves probe slowly (2 in/sec) at approx. ½ inch from the palm of the hand.	___	___	___
*4.2.4 (2.)	• Remains in area and calls Radiation Protection to report contamination on hand. •	Uses phone to notify Radiation Protection when an increase in count rate of 150 cpm is determined on palm of hand.	___	___	___
ROLE PLAY: As the Radiation Protection Supervisor, tell the candidate to remain in the area and that you are dispatching a Technician to assist with decontamination.					
EVALUATOR NOTE: Attempting to clean the hand or proceeding to the Whole Body Counter in lieu of contacting Radiation Protection, constitutes a failure of the JPM.					

JPM Stop Time: _____

G:\License Examinations\2009\Quad Cities Draft\Proposed\JPMs\2.3 RO and SRO NRC JPM.docSRRS: 3D.105
(when utilized for operator initial or continuing training)

JPM SUMMARY

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

JPM Title: Perform Whole Body Frisk

JPM Number: 2.3 RO SRO NRC JPM Revision Number: 0

Task Number and Title: N-GET Radiation Worker Objective 70
Demonstrate removing protective clothing and performing a whole body frisk.

K/A Number and Importance: **K/A:** 2.3.5 **Rating:** 2.9/2.9
Ability to use radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.

Suggested Testing Environment: LAB

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

Reference(s): RP-AA-350, Personnel Contamination Monitoring, Decontamination and Reporting. Rev. 8

N-GET Study Guide Rev. 35

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

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

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- You have just completed a task in a highly contaminated area.
- You have removed your protective clothing, boots and gloves when you crossed the step off pad.
- A field monitoring station has been setup near the exit.

INITIATING CUE

Perform a whole body frisk before proceeding to a Whole Body Monitor (IPM 8).

Exelon Nuclear

Job Performance Measure

Classify Event and Determine Protective Action Recommendations (PARS)

JPM Number: 2.4 SRO NRC JPM

Revision Number: 00

Date: 10/08/09

Developed By: _____
Instructor Date

Validated By: _____
SME or Instructor Date

Reviewed By: _____
Operations Representative Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

Revision Record (Summary)

Revision 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for “Administrative Topics.”

Bank JPM SRO Admin 10 Rev. 0 was the basis for this JPM, which was updated to a new JPM template and slightly revised procedures.

SIMULATOR SETUP INSTRUCTIONS

Provide examinee with Initial NARS form completed as follows:

Utility Message	No. 1
State Message	N/A
Block #1. Status	[B] Drill/Exercise
Block #2. Station	[F] Quad Cities
Block #3. Onsite Condition	[C] Site Area Emergency
Block #4. Accident Classified:	Time = 26 minutes ago Date = "Today" EAL# = "FS1"
Block #4. Accident Terminated:	Time:=N/A Date:=N/A
Block #5. Release Status	[B] Occurring
Block #6. Type of Release	[B] Gaseous
Block #7. Wind Direction	28 degrees
Block #8. Wind Speed:	[A] Meters/Sec = 6.63 [B] Miles/Hr = 14.87
Block #9. Recommended Actions	[A] None
Block #10. Additional Information	None
Verified With [provide signature]	Approved By [provide SM signature]
Transmitted By [provide name]	
Phone Number [309-227-2210]	
Time/Date [10 minutes ago/Today]	
Received By [provide name]	Organization "IEMA" Time/Date [10 minutes ago/Today]

Initial and Final Blocks checked for Quad Cities NARS Code 43

Initial Roll Call Complete block on back Time/Date [20 minutes ago/Today]

INITIAL CONDITIONS

Unit 2 was operating at 85% rated power when the following took place:

- A head vent line rupture occurred, causing an automatic Reactor scram on DW pressure.
- An NLO reported a large steam leak in the U2 RCIC room.
- The US directed manual isolation of RCIC. The ANSO reported that light indication was immediately LOST for MO 2-1301-16 AND 2-1301-17 when each was given a close signal.
- MAX SAFE Temperature was exceeded in U2 RCIC Room
- **26 minutes ago** A Site Area Emergency was declared (FS1) based on LOSS of both RCS and containment
- **20 minutes ago** Transmission of NARS (Utility Message #1) was completed (see attached)
- Reactor Blowdown was initiated on inability to maintain Torus pressure within PSP curve.

The time is NOW (the current time)

The plant conditions are as follows:

- Drywell pressure is 22.5 psig and slowly lowering
- Torus pressure is 22 psig and slowly lowering
- Reactor pressure is 75 psig and slowing lowering
- Reactor water level –150 inches, steady
- 2A, 2B, 2C, 2D RHR pumps TRIPPED
- 2A Core Spray injecting at 3000 gpm
- 2B Core Spray injecting at 3100 gpm
- All actions taken to raise Reactor water level have been unsuccessful.
- All actions taken to isolate RCIC have been unsuccessful.
- There has been NO Change in release status, or meteorological data since message #1 was sent.
- **THIS IS AN EXERCISE**
- **THIS JPM IS TIME CRITICAL**

INITIATING CUE

As the Shift Emergency Director, determine if a change in Emergency Classification is required **AND:**

- IF a change is NOT required, THEN explain what plant changes would require a change. (Consider ONLY the fission product barrier series EALs) **OR**
- IF a change in classification IS required, THEN prepare the necessary form(s) that would allow another SRO to complete the required State and Local notifications.

Provide examinee with: Candidate needs to have access to all Emergency Plan procedures as found in the simulator.

Copy of EP-MW-114-100-F-01 “Nuclear Accident Reporting System (NARS) Form” Utility Message #1 form filled out as a Site Area Emergency as indicated in the setup instructions.

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.
- Denotes critical elements of a critical step.

Number any comments in the “Comment Number” column on the following pages. Then annotate that comment in the “Comments” section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site’s appropriate tracking system.

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

The timeclock starts when the candidate acknowledges the initiating cue.-----

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
EVALUATOR: The following step (Classification) must be completed within 15 minutes from the JPM start time.					
*	•Declares a General Emergency. •	Recognizes that the conditions for FG1 are met, due to Loss of RCS barrier and Containment, with a Potential Loss of Fuel Clad.	—	—	—
EVALUATOR: Record the Time actual time that candidate makes classification _____ This completed the FIRST of two time-critical requirements (classification < 15 minutes) and starts the SECOND (notifications ≤ 12 minutes)					
	Refers to EP-MW-114-100 Midwest Region OFFSITE NOTIFICATIONS as necessary to fill out NARS form.		—	—	—
NARS form	Fills out Utility Message Number.	Records Utility Message #2.	—	—	—
NARS form	Fills out State Message Number.	Records N/A for State Message Number.	—	—	—
Block #1	Fills out block #1 information regarding Status.	Records [B] Drill/Exercise in block #1.	—	—	—
*Block #2	•Fills out block #2 information regarding Station. •	Records [F] Quad Cities in block #2.	—	—	—
*Block #3	•Fills out block #3 information regarding onsite condition. •	Records [D] General Emergency.	—	—	—
*Block #4	•Fills out block #4 information regarding Accident Classified & Accident Terminated and EAL#. •	Records Accident Classification as Time= CURRENT time of day Date= today's date EAL=FG1 Records N/A for Accident Terminated in Time and Date space.	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*Block #5	•Fills out block #5 information regarding Release Status. •	Records [B] Occurring.	—	—	—
*Block #6	•Fills out block #6 information regarding Type of Release. •	Records [B] Gaseous.	—	—	—
<p>EVALUATOR: Candidate may take information from initial conditions, which state “meteorological conditions have not changed” OR they may look up the data on the station computer.</p> <p>IF the candidate chooses to look up computer data, THEN AFTER locate the proper data in PPDS, give them the following cue: “Wind Direction is 28 degrees with speed of 6.63 meters per second / 14.87 miles per hour”.</p>					
*Block #7	•Fills out block #7 information regarding Wind Direction. •	Records 28 degrees.	—	—	—
*Block #8	•Fills out block #8 information regarding Wind Speed. •	Records [A] Meters/Sec = 6.63 and [B] Miles/Hr = 14.87	—	—	—
<p>EVALUATOR: IF the candidate asks if Containment Venting is in progress, THEN reply: “NO”.</p>					
	Refers to EP-AA-111-F-06, “Quad Cities Plant Based PAR Flow Chart”, to determine a Loss of RCS barrier and Containment, with a Potential Loss of Fuel Clad.	Obtains and uses EP-AA-111-F-06, to determine a Loss of RCS barrier and Containment, with a Potential Loss of Fuel Clad.	—	—	—
*Block #9	•Fills out block #9 information regarding Recommended Actions. •	Utilizes EP-AA-111 F-06 Quad Cities Plant Based PAR Flowchart and determines PARS of “ <i>Evacuate 2 Mile Radius & 5 Miles Downwind. Advise Remainder of EPZ to Monitor Local Radio Stations.</i> ” • [D] Illinois sub-areas 1, 3 AND [E] Iowa sub-areas 1, 2, 4, & 6. •	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
Block #10	Fills out block #10 information regarding Additional Information.	Records NONE.	—	—	—
NARS form	Submits NARS form to another SRO for verification.	Submits NARS form for verification.	—	—	—
CUE:	When candidate submits the NARS form for verification, state that the verification is complete, and that you will direct the other Unit Supervisor to transmit the NARS form. Inform the candidate that the JPM is complete				
EVALUATOR: The candidate must have submitted form filled out for transmittal no later than 14 minutes after classification of the event.					

JPM Stop Time: _____

JPM SUMMARY

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

JPM Title: Classify Event and Determine Protective Action Recommendations (PARS)

JPM Number: 2.4 SRO NRC JPM Revision Number: 00

Task Number and Title:

S-EP-P01 (Freq: LIC=A) (ILT-MP) Given an event, classify the event and activate the Emergency Response organization in accordance with EP-AA-111 and EP-AA-112.

S-EP-P02 (Freq: LIC=A) (ILT-MP) Given an event, determine the public Protective Action Recommendation in accordance with EP-AA-111.

K/A Number and Importance: **K/A:** 2.4.44 **Rating:** 4.4

Knowledge of emergency plan protective action recommendations.

Suggested Testing Environment: Simulator

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

Reference(s): EP-AA-111 Rev 15
EP-AA-112-100 Rev 13
EP-MW-114-100 Rev 8
EP-AA-1006 Rev 27
EP-AA-111-F-06 Rev C

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

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

12 minutes – notify **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

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

Comments: _____

Evaluator's Name: _____ (Print)

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

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