NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: **Point Beach Nuclear Plant**

JPM TITLE: **PERFORM CONTROL ROOM REACTOR STARTUP CHECKLIST**

JPM NUMBER: **P001.001a.COT** **REV. 0**

RELATED PRA INFORMATION: **None**

TASK NUMBER(S) / TASK TITLE(S): **P001.001.COT / Perform Mode Change Checklist for Reactor Startup**

K/A NUMBERS: **2.1.2 (3.0/4.0) 2.2.1 (3.7/3.6)**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO/RO

Additional signatures may be added as needed.

Developed by:	**Signature on File**	
	Instructor	Date
Validated by:	**Signature on File**	
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:	**Signature on File**	
	Training Supervisor	Date

JPM Number: P001.001a.COT

JPM Title: **PERFORM CONTROL ROOM REACTOR STARTUP CHECKLIST**

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

X Procedure adequately addresses task elements.
Enter Identifier here: **PBF-2140, Control Room Reactor Startup Checklist**

___ Other document adequately describes necessary task elements.
Enter Identifier here: _____

X Task elements described as attached.

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER

THIS SECTION IS READ ONCE FOR THE ENTIRE PACKAGE OF JPMS. IT IS NOT REQUIRED TO REVIEW THIS SECTION FOR EVERY JPM BEING PERFORMED IN THE PACKAGE. THE INITIAL CONDITIONS AND INITIATING CUE(S)/TASKS TO BE PERFORMED SHOULD BE READ AND THEN PROVIDED TO THE EXAMINEE.

After I read you the initial conditions and initiating cue(s)/task to be performed for this JPM and provide you a copy of the same, you may review and begin. Once you have completed the task, indicate completion by handing back this form to the evaluator unless otherwise told.

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate actions steps without using the procedure, you may then use any approved reference materials.

For all two and three-way communications, make your report to me, the JPM evaluator. I will reply to your reports with the statement, “acknowledge.” All actions in the plant are to be simulated and all actions in the simulator will be performed. Ensure you make it clear to me, the evaluator, of all actions you are taking so that credit may be given for completing each step of the task.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- You are the Unit 1 BOP.
- A Reactor Startup is about to be commenced on Unit 1.
- CL-2E, Mode 3 to Mode 2 checklist has been completed
- Unit 1 Boron Concentration is 1450 PPM.
- Unit 1 Letdown Gas stripper is online

INITIATING CUES (IF APPLICABLE):

- You have been assigned to perform Control Room Portion of Section 1.0 of PBF-2140, Control Room Reactor Startup Checklist.

JPM PERFORMANCE INFORMATION

Required Materials: Form PBF-2140, Control Room Reactor Startup Checklist
Blender 4.0 U1

General References: OP-1B, Reactor Startup

Task Standards: Three critical items, which are out of required position, are identified and recorded on PBF-2140, Control Room Reactor Startup Checklist.

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

NOTE: Examinee may choose to complete the entire checklist prior to reporting out of position equipment. If this is the case, review the checklist with the examinee and ensure all out-of-position equipment is noted as listed in this JPM.

Start Time: _____

Performance Step: 1 **Critical N (SEQ-1)**	Identify PZR Backup Heater Groups A and B as being out of required position.
Standard:	Pressurizer Backup Heater Groups A and B identified as ON. Position of switches is documented on PBF-2140. Examinee should note actual switch position on PBF-2140.
Evaluator Note:	**Per the NOTE at the top of PBF-2140, the checklist does NOT allow repositioning of equipment without authorization.**
Evaluator Cue:	If examinee notifies supervision of heater switches in ON, acknowledge switch position. Inform examinee that current PZR heater alignment has been requested by shift management.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical N (SEQ-1)**	Identify both running charging pumps in MANUAL.
Standard:	1P-2A and 1P-2C identified as both pumps being in manual control and position recorded on PBF-2140. Examinee should circle MANUAL for both pumps on PBF-2140.
Evaluator Note:	**Per the NOTE at the top of PBF-2140, the checklist does NOT allow repositioning of equipment without authorization.**
Evaluator Cue:	If examinee notifies supervision that one pump should be in AUTO, inform examinee that charging pump alignment has been requested by shift management.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical Y (SEQ-1)**	Identify discrepancy between Rx Makeup Water Flow controller setting and Boric Acid Flow controller setting.
Standard:	Identify that the settings of the RMUW flow controller and Boric Acid flow controller are not correct when compared with one another. Per Blender 4.0 U1, the expected settings ratio would be 3.52 / 1 (Rx Makeup / Boric Acid).
Evaluator Note:	**For a Rx Makeup setting of 40 GPM, Boric Acid should be set at ~11.5 GPM. (10-13 GPM acceptable)**
Evaluator Note:	**As left settings: _____ GPM Water, _____GPM Boric Acid**
Evaluator Note:	**Per the NOTE at the top of PBF-2140, the checklist does NOT allow repositioning of equipment without authorization.**
Evaluator Cue:	If examinee notifies supervision of the settings, direct examinee to establish required controller settings for auto-makeup.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical Y (SEQ-1)**	Identify HC-466, SG A Main Feed Reg Valve controller in AUTO
Standard:	Identify HC-466 is in AUTO vice MANUAL.
Evaluator Note:	**Per the NOTE at the top of PBF-2140, the checklist does NOT allow repositioning of equipment without authorization.**
Evaluator Cue:	If examinee notifies supervision of controller in AUTO, direct examinee to place controller in MANUAL.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical Y (SEQ-1)**	Identify HC-476, SG B Main Feed Reg Valve controller in AUTO
Standard:	Identify HC-476 is in AUTO vice MANUAL
Evaluator Note:	**Per the NOTE at the top of PBF-2140, the checklist does NOT allow repositioning of equipment without authorization.**
Evaluator Cue:	If examinee notifies supervision of controller in AUTO, direct examinee to place controller in MANUAL.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 Critical N (SEQ-1)	Identify PC-2273 LP FWH Bypass Controller, set in manual.
Standard:	Identify that PC-2273 is set in MANUAL vice AUTO.
Evaluator Note:	**Per the NOTE at the top of PBF-2140, the checklist does NOT allow repositioning of equipment without authorization.**
Evaluator Cue:	If examinee notifies supervision of incorrect setting, direct examinee to place PC-2273 LP FWH bypass controller, in AUTO.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Evaluator Note: **When Control Room portion of Section 1.0 is completed, JPM may be terminated. Local check of AF-4000 and AF-4001, Turbine Driven Aux Feed Pump discharge throttle valves, is not required.**

Terminating Cues: **The evolution is complete.**

Stop Time: _____

SIMULATOR SET UP:

Simulator Setup Instructions:

- Snap into Reactor Startup IC or specific IC created for this JPM.
- Verify that conditions of the simulator match required positions of PBF-2140 with the following exceptions:
  - A and B PZR Backup heaters ON
  - 1P-2A and 1P-2C in manual
  - Boric Acid Flow controller does not agree with RMUW flow controller for the given boron concentration, set at 5 GPM.
  - Both MFRV Controllers, 1HC-466 and 476 in AUTO
  - 1PC-2273, LP FWH Bypass pressure controller in manual.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are the Unit 1 BOP.
- A Reactor Startup is about to be commenced on Unit 1.
- CL-2E, Mode 3 to Mode 2 checklist has been completed
- Unit 1 Boron Concentration is 1450 PPM.
- Unit 1 Letdown Gas stripper is online

INITIATING CUES (IF APPLICABLE):

- You have been assigned to perform Control Room Portion of Section 1.0 of PBF-2140, Control Room Reactor Startup Checklist.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

NMC Committed to Nuclear Excellence	JOB PERFORMANCE MEASURE (JPM)

SITE: **PBNP**

JPM TITLE: **PERFORM SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR**

JPM NUMBER: **JPM P000.002b.COT** **REV. 0**

RELATED PRA INFORMATION: **None**

TASK NUMBERS / TASK TITLE(S): **P000.002.COT**
PERFORM SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR

K/A NUMBERS: **003 AK1.07 (3.1/3.9)** **003 AK3.04 (3.8/4.1)**
2.1.25 (2.8/3.1)

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [X]

Lab: [ ]

Time for Completion: 20 Minutes Time Critical: YES

Alternate Path: N/A

TASK APPLICABILITY: SRO: [X] RO: [X] NLO [ ]

Additional site-specific signatures may be added as desired.

Developed by:	**Andrew Zommers**	
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

JPM Number: JPM P000.002b.COT

JPM Title: PERFORM SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Make written comments for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. *EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
- Unit 1 had been operating at 100% power.
- Rod H-2 in Shutdown Bank "A" has dropped to the bottom of the core.
- The crew is responding in accordance with AOP-6A, "Dropped Rod".

INITIATING CUES (IF APPLICABLE):
OS1 has directed you to calculate the required shutdown margin in accordance with PBF-2513, "Shutdown Margin for an Operating Reactor", per Step 9 of AOP-6A.

The following Unit 1 conditions currently exist:
- Core burnup 3040 MWD/MTU
- Boron Concentration - 1275 ppm
- Rx Power - 90%
- T_{ave}-567 °F
- T_{ref}-568 °F
- Control Bank D @ 180 steps
- All other banks @ 225 steps

NOTE: This is a time critical JPM and timing starts once examinee understands the task at hand.

JPM PERFORMANCE INFORMATION

Required Materials: PBF-2513, Shutdown Margin for an Operating Reactor
Calculator
General References: Technical Requirements manual (TRM)
Unit 1 ROD Book
Task Standards: Required Shutdown Margin calculated within the specified tolerance (+/- 50 pcm) and time (<60 minutes).

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical N**	**Verify T_{AVG} within 1.5°F of T_{REF}.**
Standard:	**Verify T_{AVG} within 1.5°F of T_{REF} based on initial conditions given and circle YES on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 2 **Critical N**	**Obtain Core burn-up from given information or ROD 1.1.**
Standard:	**Core burn-up determined to be 3040 MWD/MTU and recorded on PBF-2513.**
Evaluator Note:	**Rod 1.1 should be 3040 MWD/MTU.**
Evaluator Cue:	**Provide examinee with copy of Unit 1 ROD book.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 3 **Critical Y**	**Obtain EOL burn-up from Rod 1.1.**
Standard:	**EOL burn-up determined to be 15535 MWD/MTU and recorded on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 4 **Critical N**	**Calculate % burn-up.**
Standard:	**Calculate % burn-up to be 19.6% ± 1.0 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 5 **Critical N**	**Obtain reactor power level.**
Standard:	**Record 90% on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 6 **Critical N**	**Obtain control rod position for Bank C and D.**
Standard:	**Bank C and D control rod position determined to be 225 and 180 steps and recorded on PBF-2513.**
Evaluator Cue:	**If asked Bank C is at 225 steps per initial conditions.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 7 **Critical Y**	**Obtain power defect from Rod 7.**
Standard:	**Determine power defect to be 1640 pcm ± 50 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 8 **Critical Y**	**Obtain control rod worth (Bank D, C, B, A, S in, HZP) from Rod 5.**
Standard:	**Determine control rod worth (Bank D, C, B, A, S in, HZP) to be 6059pcm ± 0 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 9 **Critical Y**	**Obtain stuck rod worth from Rod 5.**
Standard:	**Determine stuck rod worth to be 784 pcm ± 0 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 10 **Critical Y**	**Calculate stuck rod worth minus control rod worth.**
Standard:	**Calculate stuck rod worth minus control rod worth to be - 5275 pcm ± 0 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 11 **Critical Y**	**Obtain bank worth to ARO from Rod 3.1, using Step 2 and Step 6 data.**
Standard:	**Determine bank worth to ARO to be 200 pcm ± 0 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 12 **Critical Y**	**Obtain correct value for dropped rod, stuck rod or no abnormal condition.**
Standard:	**Determine dropped rod and enter stuck rod worth from ROD 5 and record 784 on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 13 **Critical Y**	**Calculate total available control rod negative reactivity by adding Step 10, 11, 12 and 250 pcm.**
Standard:	**Determine Total available control rod negative reactivity to be 4041 pcm ± 0 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 14 **Critical Y**	**Calculates shutdown margin by adding Steps 13 and 7.**
Standard:	**Determine calculated SDM to be 2401 pcm ± 50 and record on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 15 **Critical Y**	**Determine the required shutdown margin using TRM 2.1 Figure 2 using Step 4 data.**
Standard:	**Determines required SDM to be 1400 pcm ± 50 and record on PBF-2513.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical Y**	**Determines if calculated shutdown margin is more negative than required shutdown margin.**
Standard:	**Determines Calculated SDM is greater than Required SDM and circles YES on PBF-2513.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 **Critical N**	**Inform OS1 you calculated the shutdown margin in accordance with PBF-2513, "Shutdown Margin for an Operating Reactor" and shutdown margin is satisfactory.**
Standard:	**Inform OS1 that SDM calculation is complete.**
Evaluator Note:	**Stop timing for time critical JPM.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: **Evolution complete**

Stop Time: _____

Historical Record: Rev. 0 Developed JPM for ILT 2007 NRC exam

DO NOT HAND OUT THIS IS A KEY

SHUTDOWN MARGIN FOR AN OPERATING REACTOR

UNIT ___1_____ TIME _____ DATE ___Today__

STEP	CORE PARAMETER OR VARIABLE	ROD BOOK SECTION	DATA
1	T_{AVG} within 1.5°F of T_{REF} (Consult with Reactor Engineering if greater than 1.5°F)		(circle one) **YES**/NO
2	Core Burn-Up (MWD/MTU from ROD 1.1)	ROD 1.1	**3040** MWD/MTU
3	Nominal EOL Burn-Up (MWD/MTU from ROD 1.1)	ROD 1.1	**15535** MWD/MTU
4	% Burn-Up (Step 2 ÷ Step 3)		**19.6 ± 1.0** %
5	Reactor Power Level (%)		**90** %
6	Control Rod Position		Bank C **225** steps Bank D **180** steps
7	Power Defect (for power recorded in Step 5)	ROD 7	(+) **1640 ± 50** pcm
8	Control Rod Worth (Bank D, C, B, A, S in; at HZP)	ROD 5	(+) **6059** pcm
9	Stuck Rod Worth	ROD 5	(+) **784** pcm
10	Stuck Rod Worth minus Control Rod Worth (Step 9 – Step 8)		(-) **5275** pcm
11	Bank Worth to ARO (Use Step 2 and Step 6 data)	ROD 3.1	(+) **200** pcm
12	For a dropped rod, enter the Stuck Rod Worth from ROD 5. For a stuck rod, multiple misaligned rods, or a rod misaligned low, contact Reactor Engineering. Enter 0 if no rod abnormalities exist.	ROD 5	(+) **784** pcm
13	Total Available Control Rod Negative Reactivity (Step 10 + Step 11 + Step 12 + 250 pcm*) *250 pcm added to account for redistribution effects from Xenon and voiding		(-) **4041** pcm
14	Calculated Shut Down Margin (Step 13 + Step 7)		(-) **2401 ± 50** pcm
15	Required Shut Down Margin (From TRM 2.1, [COLR], Figure 2, using Step 4 data)		(-) **1400 ± 50** pcm
16	Calculated Shut Down Margin is more negative than Required Shut Down Margin (Step 14 more negative than Step 15)		(circle one) **YES**/NO

Completed By: _____

Independent Verification By: _____

DO NOT HAND OUT THIS IS A KEY

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 had been operating at 100% power.
- Rod H-2 in Shutdown Bank "A" has dropped to the bottom of the core.
- The crew is responding in accordance with AOP-6A, "Dropped Rod".

INITIATING CUES (IF APPLICABLE):

OS1 has directed you to calculate the required shutdown margin in accordance with PBF-2513, "Shutdown Margin for an Operating Reactor", per Step 9 of AOP-6A.

The following Unit 1 conditions currently exist:

- Core burnup 3040 MWD/MTU
- Boron Concentration - 1275 ppm
- Rx Power - 90%
- T_{ave}-567 °F
- T_{ref}-568 °F
- Control Bank D @ 180 steps
- All other banks @ 225 steps

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the cover page filled in correctly?	☒	☐	
2.	Has the JPM been reviewed and validated by SMEs?	☒	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☒
4.	Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☒	☐	
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☒	☐	
6.	If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	☐	☐	☒
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☒	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	☒	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	☒	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☒	☐	
11.	Have all special tools and equipment needed to perform the task been identified?	☒	☐	
12.	Are all references identified, current, and accurate?	☒	☐	
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☒	☐	

All applicable questions must be answered "YES" or the JPM is not valid for use. If all applicable questions are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

NMC Committed to Nuclear Excellence	JOB PERFORMANCE MEASURE (JPM)

SITE: **PBNP**

JPM TITLE: **VERIFY SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR**

JPM NUMBER: **JPM P000.002c.COT** **REV. 0**

RELATED PRA INFORMATION: **None**

TASK NUMBERS / TASK TITLE(S): **P000.002.COT**
PERFORM SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR

K/A NUMBERS: **003 AK1.07 (3.1/3.9)** **003 AK3.04 (3.8/4.1)**
2.1.25 (2.8/3.1)

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [X]

Lab: [ ]

Time for Completion: 20 Minutes Time Critical: YES

Alternate Path: YES

TASK APPLICABILITY: SRO: [X] RO: [ ] NLO [ ]

Additional site-specific signatures may be added as desired.

Developed by: **Andrew Zommers**
Developer Date

Validated by:
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by:
Training Supervisor Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

JPM Number: JPM P000.002c.COT

JPM Title: VERIFY SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Make written comments for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. *EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
- Unit 1 had been operating at 100% power.
- Rod H-2 in Shutdown Bank "A" has dropped to the bottom of the core.
- The crew is responding in accordance with AOP-6A, "Dropped Rod".
- The 4th RO has completed PBF-2513, "Shutdown Margin for an Operating Reactor", per Step 9 of AOP-6A.

INITIATING CUES (IF APPLICABLE):
The Shift Manager has directed you to verify the shutdown margin calculation.

The following Unit 1 conditions currently exist:
- Core burnup 3040 MWD/MTU
- Boron Concentration - 1275 ppm
- Rx Power - 90%
- T_{ave}-567 °F
- T_{ref}-568 °F
- Control Bank D @ 180 steps
- All other banks @ 225 steps

NOTE: This is a time critical JPM and timing starts once examinee understands the task at hand.

JPM PERFORMANCE INFORMATION

Required Materials: PBF-2513, Shutdown Margin for an Operating Reactor
Calculator

General References: Technical Requirements manual (TRM)
Unit 1 ROD Book

Task Standards: Verify Shutdown Margin calculated within the specified tolerance (+/- 50 pcm) and find pre-selected errors within 60 minutes.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical N**	**Verify T_{AVG} within 1.5°F of T_{REF}.**
Standard:	**Verify T_{AVG} within 1.5°F of T_{REF} based on initial conditions given and YES circled on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 2 **Critical N**	**Verify Core burn-up from given information or ROD 1.1.**
Standard:	**Core burn-up determined to be 3040 MWD/MTU as recorded on PBF-2513.**
Evaluator Note:	**Rod 1.1 should be 3040 MWD/MTU.**
Evaluator Cue:	**Provide examinee with copy of Unit 1 ROD book.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 3 **Critical N**	**Verify EOL burn-up from Rod 1.1.**
Standard:	**EOL burn-up determined to be 15535 MWD/MTU as recorded on PBF-2513.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical N**	**Verify % burn-up.**
Standard:	**Verify 19.6% as recorded on PBF-2513.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical N**	**Verify reactor power level.**
Standard:	**Verify 90% recorded on PBF-2513.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical N**	**Verify control rod position for Bank C and D.**
Standard:	**Bank C and D control rod position determined to be 225 and 180 steps as recorded on PBF-2513.**
Evaluator Cue:	**If asked Bank C is at 225 steps per initial conditions.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical Y**	**Verify power defect from Rod 7.**
Standard:	**Determine that the power defect of 1810pcm recorded on PBF-2513 is in error and it should be 1640 ± 50pcm.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 8 **Critical N**	**Verify control rod worth (Bank D, C, B, A, S in, HZP) from Rod 5.**
Standard:	**Verify control rod worth (Bank D, C, B, A, S in, HZP) to be 6059pcm as recorded on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 9 **Critical N**	**Verify stuck rod worth from Rod 5.**
Standard:	**Verify stuck rod worth to be 784 pcm as recorded on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 10 **Critical N**	**Verify stuck rod worth minus control rod worth.**
Standard:	**Verify stuck rod worth minus control rod worth to be - 5275 pcm as recorded on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 11 **Critical Y**	**Verify bank worth to ARO from Rod 3.1, using Step 2 and Step 6 data.**
Standard:	**Determine bank worth to ARO of 175 pcm recorded on PBF-2513 to be in error and it should be 200 ± 0pcm.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 12 **Critical N**	**Verify correct value for dropped rod, stuck rod or no abnormal condition.**
Standard:	**Verify dropped rod and stuck rod worth from ROD 5 784 pcm as recorded on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 13 **Critical Y**	**Verify calculated total available control rod negative reactivity by adding Step 10, 11, 12 and 250 pcm.**
Standard:	**Verify Total available control rod negative reactivity of 4066pcm recorded on PBF-2513 to be in error and 4041 pcm ± 0 should be the correct number.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 14 **Critical Y**	**Verify calculated shutdown margin by adding Steps 13 and 7.**
Standard:	**Determine calculated SDM of 2256pcm as record on PBF-2513 to be in error and it should be 2401 pcm ± 50.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 15 **Critical N**	**Verify the required shutdown margin using TRM 2.1 Figure 2 using Step 4 data.**
Standard:	**Verify required SDM to be 1400 pcm ± 50 as recorded on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 16 **Critical N**	**Verify if calculated shutdown margin is more negative than required shutdown margin.**
Standard:	**Verify Calculated SDM is greater than Required SDM as circled on PBF-2513.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Terminating Cues: **Evolution complete**

Stop Time: _____

Historical Record: Rev. 0 Developed JPM for ILT 2007 NRC exam

Point Beach Nuclear Plant

SHUTDOWN MARGIN FOR AN OPERATING REACTOR

UNIT ____1____ TIME ___15 minutes ago___ DATE ____Today_____

STEP	CORE PARAMETER OR VARIABLE	ROD BOOK SECTION	DATA
1	T_{AVG} within 1.5°F of T_{REF} (Consult with Reactor Engineering if greater than 1.5°F)		(circle one) **YES**/**NO**
2	Core Burn-Up (MWD/MTU from ROD 1.1)	ROD 1.1	**3040** MWD/MTU
3	Nominal EOL Burn-Up (MWD/MTU from ROD 1.1)	ROD 1.1	**15535** MWD/MTU
4	% Burn-Up (Step 2 ÷ Step 3)		**19.6** %
5	Reactor Power Level (%)		**90** %
6	Control Rod Position		Bank C **225** steps Bank D **180** steps
7	Power Defect (for power recorded in Step 5)	ROD 7	(+) **1810** pcm
8	Control Rod Worth (Bank D, C, B, A, S in; at HZP)	ROD 5	(+) **6059** pcm
9	Stuck Rod Worth	ROD 5	(+) **784** pcm
10	Stuck Rod Worth minus Control Rod Worth (Step 9 – Step 8)		(-) **5275** pcm
11	Bank Worth to ARO (Use Step 2 and Step 6 data)	ROD 3.1	(+) **175** pcm
12	For a dropped rod, enter the Stuck Rod Worth from ROD 5. For a stuck rod, multiple misaligned rods, or a rod misaligned low, contact Reactor Engineering. Enter 0 if no rod abnormalities exist.	ROD 5 	(+) **784** pcm
13	Total Available Control Rod Negative Reactivity (Step 10 + Step 11 + Step 12 + 250 pcm*) *250 pcm added to account for redistribution effects from Xenon and voiding		(-) **4066** pcm
14	Calculated Shut Down Margin (Step 13 + Step 7)		(-) **2256** pcm
15	Required Shut Down Margin (From TRM 2.1, [COLR], Figure 2, using Step 4 data)		(-) **1400** pcm
16	Calculated Shut Down Margin is more negative than Required Shut Down Margin (Step 14 more negative than Step 15)		(circle one) **YES**/**NO**

Completed By: ___4th RO_____

Independent Verification By: ___

DOS/SM Review: _____

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 had been operating at 100% power.
- Rod H-2 in Shutdown Bank "A" has dropped to the bottom of the core.
- The crew is responding in accordance with AOP-6A, "Dropped Rod".
- The 4th RO has completed PBF-2513, "Shutdown Margin for an Operating Reactor", per Step 9 of AOP-6A.

INITIATING CUES (IF APPLICABLE):

The Shift Manager has directed you to verify the shutdown margin calculation.

The following Unit 1 conditions currently exist:

- Core burnup 3040 MWD/MTU
- Boron Concentration - 1275 ppm
- Rx Power - 90%
- T_{ave}-567 °F
- T_{ref}-568 °F
- Control Bank D @ 180 steps
- All other banks @ 225 steps

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the cover page filled in correctly?	☒	☐	
2.	Has the JPM been reviewed and validated by SMEs?	☒	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☒
4.	Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☒	☐	
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☒	☐	
6.	If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	☐	☐	☒
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☒	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	☒	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	☒	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☒	☐	
11.	Have all special tools and equipment needed to perform the task been identified?	☒	☐	
12.	Are all references identified, current, and accurate?	☒	☐	
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☒	☐	

All applicable questions must be answered "YES" or the JPM is not valid for use. If all applicable questions are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: **Point Beach Nuclear Plant**

JPM TITLE: **COMPLETE A TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET**

JPM NUMBER: **JPM P119.003.SRO** **REV.** **0**

RELATED PRA INFORMATION: **None**

TASK NUMBERS / TASK TITLE(S): **P119.003.SRO**
Maintain required logs and records

K/A NUMBERS: **2.2.23 (2.6/3.8)**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [X]

Simulator: [X] Other: [X]

Lab: [ ]

Time for Completion: 20 Minutes Time Critical: NO

Alternate Path: NO

TASK APPLICABILITY: SRO: [X] RO: [ ] NLO [ ]

Additional site-specific signatures may be added as desired.

Developed by: **Andrew Zommers**
Developer Date

Validated by:
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by:
Training Supervisor Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

JPM P119.003.SRO, COMPLETE A TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET Rev. 0

JPM Number: JPM P119.003.SRO

JPM Title: COMPLETE A TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Make written comments for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM P119.003.SRO, COMPLETE A TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET Rev. 0

JPM BRIEFING/TURNOVER
You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. *EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- Unit 1 is at 98% power and Unit 2 is at full power.
- P-38A Motor Driven Auxiliary Feedwater pump was removed from service **4 hours ago** for testing IAW IT-10A TEST OF ELECTRICALLY-DRIVEN AUXILIARY FEED PUMPS AND VALVES WITH FLOW TO UNIT 1 STEAM GENERATORS (QUARTERLY).
- During the testing of P-38A Motor Driven Auxiliary Feedwater pump it was determined that the motor vibrations were above the acceptable limits and IT-10A was backed out of.
- It has been determined the pump will not be returned to service for several days. AR1234567, P-38A failed surveillance testing, was written to document the failure and WO7654321 was generated to repair the motor.

INITIATING CUES (IF APPLICABLE):

- The Shift Manager directs you to document LCO tracking in accordance with NP 10.1.1 TECH SPEC AND ADMINISTRATIVE LCO ACTION CONDITION ENTRY AND TRACKING.

JPM P119.003.SRO, COMPLETE A TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET Rev. 0

JPM PERFORMANCE INFORMATION

Required Materials: NP 10.1.1 TECH SPEC AND ADMINISTRATIVE LCO ACTION CONDITION ENTRY AND TRACKING
PBF-9133, TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET
NP 10.3.8 Safety Function Determination Program
OM 3.27 Control of Fire Protection and Appendix R Safe Shutdown Equipment

General References: Technical Specifications

Task Standards: Complete PBF-9133 IAW NP 10.1.1 for P-38A Motor Driven Auxiliary Feedwater Pump.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 Critical Y	**Reference NP 10.1.1 and start procedure at step 4.1.**
Standard:	**Examinee determines steps 4.1.1 and 4.1.2 are not applicable and proceeds with step 4.1.3 to start a PBF-9133 LCO tracking log.**
Evaluator Note:	**Step 4.1.1 is not applicable due to the LCO not being met going past one shift and IT-10A is no longer in use.**
Evaluator Cue:	**Give the Examinee a blank PBF-9133.** **If asked, the applicable TSAC and station log entries were made for P-38A during the performance of IT-10A.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 2 **Critical N**	**Assign Action Condition Index Number and log in the Action Statement Log Index (PBF-9133e).**
Standard:	**Examinee lists the Index Number.**
Evaluator Cue:	**The Action Condition Index Number is 0-07-25 and it has been entered in the Action Statement log Index.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical Y**	**Indicate Action Condition Status (active or potential).**
Standard:	**Examinee lists ACTIVE.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical Y**	**Record the applicable document reference.**
Standard:	**At a minimum examinee lists TS 3.7.5.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical N**	**Record the Work Week Number for which the activity is scheduled. If the activity occurs during an outage, record the outage number.**
Standard:	**Examinee records work week.**
Evaluator Cue:	**If asked, give examinee the work week number 0732.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 6 **Critical Y**	**Record the Date and Time entered (either active or potential).**
Standard:	**Examinee enters today's date and the active time approximately 4 hours prior to the start of the JPM.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 7 **Critical N**	**Record present Mode for applicable unit/units.**
Standard:	**Examinee lists Mode 1 for both units.**
Evaluator Note:	**TSAC 3.7.5.C is applicable to BOTH units due to P-38B MDAFW Pump being shared safety equipment.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 8 **Critical Y**	**Record Operational Condition Applicability (mode or other specified condition) for the Action Condition.**
Standard:	**Examinee lists Modes 1, 2, 3, 4, when SG relied upon for heat removal.**
Evaluator Note:	**Examinee should find this information in Technical Specification LCO 3.7.5.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical N**	**Determine if a Mode change is allowed per TS 3.0.4 with this condition.**
Standard:	**Examinee determines mode changes are NOT allowed.**
Evaluator Note:	**Examinee should find this information in Technical Specifications.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical N**	**Record the equipment description.**
Standard:	**Examinee lists P-38A MDAFW Pump.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical N**	**Record any other applicable references.**
Standard:	**Examinee lists additional references as desired.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 12 **Critical Y**	**State the reason for the SSC condition in the Summary Description section and a brief summary of all actions required, including as applicable:** • **Action Condition(s)** • **Required Action(s)** • **Completion time(s)/Clock Time** • **Testing of any redundant equipment (including surveillance requirements and frequency)** • **Submittal of any special reports to the NRC**
Standard:	**Examinee fills out the Summary Description with the following information:** • **TSAC 3.7.5.C for P38A MDAFW Pump motor high vibrations or failing surveillance testing** • **C.1 Restore Motor Driven AFW pump to operable** • **Within 7 days and 10 days from failure to meet LCO**
Evaluator Note:	**The form does not have to match the standard word for word; the examinee needs to meet the intent.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 13 **Critical N**	**Initiate required departmental notifications for required compensatory actions and document person contacted with time, date, and reason for contact. For planned maintenance activities, some of these notifications may also be covered by the VLCO Maintenance Plan. In those instances it is acceptable to reference the VLCO Maintenance Plan.**
Standard:	**Examinee is not required to list anything for this step.**
Evaluator Cue:	**If asked, the Shift Manager determined there are no compensatory measures to be put in place at this time.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical Y**	**If any LCO is NOT met then perform a SFDP Screening using NP 10.3.8.**
Standard:	**Examinee puts 'Y' and performs a SFDP Screening per NP 10.3.8 and determines no other TSAC's are to be entered.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical N**	**If a current LOSF evaluation exists then review all existing LOSF evaluations to verify they are valid IAW NP10.3.8.**
Standard:	**Examinee determines no LOSF exist per the screening done on previous step and puts an 'N'.**
Evaluator Cue:	**If asked, there are no current Loss Of Safety Function evaluations at this time.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical N**	**If a condition or inoperable SSC affects on-line/outage safety then perform an outage/on-line safety assessment using NP 10.3.6 OR 10.3.7 as applicable.**
Standard:	**Examinee determines that on-line safety is affected.**
Evaluator Cue:	**The Shift Technical Advisor will conduct an on-line safety assessment per NP 10.3.7.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 17 **Critical N**	**If the LCO/TLCO NOT met is involuntary then initiate an AR and make proper notifications to the DCS and NRC resident.**
Standard:	**Examinee determines that an AR is required and notifications need to be made.**
Evaluator Note:	**The AR was given in the initial conditions and satisfies this step.**
Evaluator Cue:	**The Shift Manager has made the notification to the DCS and will notify the NRC Resident.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 18 **Critical N**	**Determine if Fire Rounds are applicable per OM 3.27.**
Standard:	**Examinee determines Fire Rounds are NOT applicable per OM 3.27.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 19 **Critical N**	**Ensure all applicable Work Orders, AR's, tag Series, Plant Modifications, overdue Technical Specification surveillances, overdue PMs, etc (conditions rendering the SSC Inoperable), are entered on the Work Order and Clearance Addendum. Include any surveillance required to restore the equipment to operability. If available, attach and reference a copy of VLCO Maintenance Plan for scheduled maintenance activities.**
Standard:	**The examinee determines that the AR (given) and WO (given) should be listed in the Addendum.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 20 **Critical N**	**The DOS/OS/WCC SRO shall ensure the Action Condition Log Sheet data is complete. When satisfactorily completed, sign, date and time the log sheet.**
Standard:	**Examinee signs, dates and times the log sheet and returns it to examiner.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: **Evolution complete**

Stop Time: _____

Historical Record: Rev. 0 Developed for ILT 2007 NRC exam.

DO NOT HAND OUT THIS IS A KEY

TECHNICAL SPECIFICATION AND ADMINISTRATIVE ACTION CONDITION LOGSHEET

Index Number:	**0-07-25**			**Condition Status (active/potential):**	**Active**
Document References(s):	**TS 3.7.5**			**(TS, TRM, RECM, OM 3.27, AR, HELB, FLOOD, OD Compensatory Measure, Other)**	
Work Week Scheduled:	**0732**			**Date/Time Entered:**	**Today/4 hrs**
Present Mode:	**1 for both units**	**Applicability:**	**Modes 1,2,3,4 when SG relied upon for heat removal**	**TS 3.0.4 Applicable:**	**N**
Equipment Name/ID:	**P-38A, Motor Driven AFW pump**			**Other Applicable References:**	

SUMMARY DESCRIPTION

Condition and Reason for OOS	Required Action	Completion Time/Clock Time	Special Testing / Reportability
TSAC 3.7.5.C due to P38A failing surveillance IT-10 A high motor vibrations	**C.1 Restore Motor driven AFW pump to operable**	**Within 7 days and 10 days from failure to meet LCO**	

RESPONSIBLE DEPARTMENT NOTIFICATION(S) FOR COMPENSATORY ACTIONS

DEPARTMENT	ENTRY NOTIFICATION NAME/DATE/TIME/REASON	EXIT NOTIFICATION NAME/DATE/TIME

		If YES, Complete the Following:
Any LCO NOT Met (Y/N)	Y	**Perform a SFDP Screening using NP 10.3.8.**
Current LOSF Evaluation Exists (Y/N)	N	**Review all existing LOSF Evaluations to verify they are valid IAW NP 10.3.8.**
Condition or Inoperable SSC Affects On-line/Outage Safety (Y/N)	Y	**Perform Outage/On-line Safety Assessment using NP 10.3.6 or 10.3.7 as Applicable.**
Involuntary Entry into LCO/TLCO (Y/N)	Y	**Initiate a AR and make proper notifications to the DCS and NRC Resident.**
Fire Rounds required per OM 3.27 (Y/N)	N	**Record requirements in summary description and implement as required.**

Approvals (Must be complete prior to voluntarily removing SSC from service)

SRO: _____ _____
SIGNATURE **DATE/TIME**

STA: _____ _____
SIGNATURE **DATE/TIME**

SM NOTIFIED: _____ _____
SRO INITIALS **DATE/TIME**

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

DO NOT HAND OUT THIS IS A KEY

WORK ORDER AND CLEARANCE ADDENDUM

WO/AR/ CLEARANCE/ OTHER REFERENCE #	DESCRIPTION	SYSTEM	RESP. DEPT/ GROUP	COMPLETE (✓)
AR1234567	P38A failed surveillance IT-10A	AF		
WO7654321	Repair P38A motor	AF		

Return To Service (DOS/OS/WCC/SRO Initial or N/A all lines)

Tags Removed, System/Equipment Filled & Vented, Restored for Operation: _____

Surveillance Re-tests & Special Test/Actions Complete: _____

Responsible Departments Informed: _____

Plant Modification Turnover Completed: _____

Action Statement Log Index Updated: _____

SRO: _____ _____
SIGNATURE **DATE/TIME**

STA: _____ _____
SIGNATURE **DATE/TIME**

SM Notified: _____ _____
SRO INITIALS **DATE/TIME**

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 is at 98% power and Unit 2 is at full power.
- P-38A Motor Driven Auxiliary Feedwater pump was removed from service **4 hours ago** for testing IAW IT-10A TEST OF ELECTRICALLY-DRIVEN AUXILIARY FEED PUMPS AND VALVES WITH FLOW TO UNIT 1 STEAM GENERATORS (QUARTERLY).
- During the testing of P-38A Motor Driven Auxiliary Feedwater pump it was determined that the motor vibrations were above the acceptable limits and IT-10A was backed out of.
- It has been determined the pump will not be returned to service for several days. AR1234567, P-38A failed surveillance testing, was written to document the failure and WO7654321 was generated to repair the motor.

INITIATING CUES (IF APPLICABLE):

- The Shift Manager directs you to document LCO tracking in accordance with NP 10.1.1 TECH SPEC AND ADMINISTRATIVE LCO ACTION CONDITION ENTRY AND TRACKING.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the cover page filled in correctly?	☒	☐	
2.	Has the JPM been reviewed and validated by SMEs?	☒	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☒
4.	Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☒	☐	
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☒	☐	
6.	If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	☒	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☒
8.	Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	☒	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	☒	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☒	☐	
11.	Have all special tools and equipment needed to perform the task been identified?	☒	☐	
12.	Are all references identified, current, and accurate?	☒	☐	
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☒	☐	

All applicable questions must be answered "YES" or the JPM is not valid for use. If all applicable questions are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: **PBNP**

JPM TITLE: **PERFORM RCS LEAK RATE DETERMINATION**

JPM NUMBER: **JPM P002.005aCOT** **REV. 1**

RELATED PRA INFORMATION: **None**

TASK NUMBERS / TASK TITLE(S): **P002.005.COT PERFORM RCS LEAK RATE DETERMINATION**

K/A NUMBERS: **009 EA 2.33 (3.3/3.8) 2.3.10 (2.9/3.3)**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [X]

Simulator: [ ] Other: [X]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path: N/A

TASK APPLICABILITY: SRO: [X] RO: [X] NLO [ ]

Additional site-specific signatures may be added as desired.

Developed by: **Andrew Zommers**
Developer Date

Validated by: _____
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

JPM Number: JPM P002.005aCOT

JPM Title: PERFORM RCS LEAK RATE DETERMINATION

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Make written comments for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. *EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- Unit 1 is operating at rated power since indications of a primary leak occurred. AOP-1A Unit 1 Reactor Coolant Leak was entered and is currently in progress.
- Unit 1 LDGS is operating normally with controls in AUTO.
- 1P-2C Charging Pump has pre-identified leakage of 0.2 gpm.
- The following plant parameters were observed at time 0 minutes:
  - RCS Tavg 569.8 °F
  - RCS T(Terr) 0 °F
  - PZR Level 46.5 %
  - VCT Level 45 %
  - U1 LDGS level 66”
  - U1 RCDT Level 52 %
- The following plant parameters were observed at time 20 minutes:
  - RCS Tavg 569.8 °F
  - RCS T(Terr) 0 °F
  - PZR Level 46.0 %
  - VCT Level 43.5 %
  - U1 LDGS level 66”
  - U1 RCDT Level 52.5 %
- No borations or dilutions took place.

INITIATING CUES (IF APPLICABLE):

- OS1 directs you to perform OI-55, Primary Leak Rate Calculation per step 21 of AOP-1A Unit 1 Reactor Coolant Leak.

JPM PERFORMANCE INFORMATION

Required Materials: OI-55, Primary Leak Rate Calculation.
Calculator

General References: OI-55, Primary Leak Rate Calculation.

Task Standards: Calculate RCS leakage.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical Y**	**IF the Unit is in Mode 1, 2, 3, or 4, THEN determine RCS Leak Rate as follows: Record initial set of parameter readings on Attachment A, Primary Leak Rate Worksheet or PBF-2131(2132) Control Room Miscellaneous Shift Log.**
Standard:	**Determine the Unit is in Mode 1 per turnover sheet.**
Evaluator Note:	**If the trainee asks, the leak rate should be completed on Attachment A of OI-55, not PBF-2131(2132)**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 2 **Critical N**	**Using the same instrumentation channels for the first set of readings, record second set of parameter readings when T (error) meter is the same as in initial data set.**
Standard:	**None, the second set of data is given to the trainees on turnover.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 3 **Critical N**	**IF dilution OR boration took place, THEN correct the leak rate by using the different totalizer readings. This step does not apply to PBF-2131(2132)**
Standard:	**Determine no dilution or boration took place.**
Evaluator Cue:	**If asked, per turnover inform trainee that no boration or dilution occurred.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 4 **Critical N**	**IF operator timed manual full divert was used, THEN calculate the number of gallons diverted by multiplying the letdown flow in gpm times minutes diverted. This step does not apply to PBF-2131(2132)**
Standard:	**Determine no divert took place.**
Evaluator Cue:	**If asked, per turnover inform trainee that no divert took place.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 5 **Critical N**	**Calculate AND record leak rate.**
Standard:	**Calculate leak rate per Attachment A and record results.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 6 **Critical N**	**On Attachment A verify Reactor Power Stable.**
Standard:	**Verify Reactor Power Stable.**
Evaluator Note:	**Per turnover sheet, Reactor Power has not changed.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 7 **Critical N**	**On Attachment A Record data for LDGS:** **1. The LDGS is operating normally with controls in AUTO AND with no level adjustments being made** **2. The LDGS is bypassed per OI-17, LDGS Operation** **3. Initial and final LDGS levels recorded in Step 2.0**
Standard:	**Determine LDGS operation and level normal per turnover sheet.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 8 **Critical Y**	**On Attachment A Record data in section 2.0 from turnover sheet.** **1. Time change 20 minutes** **2. RC Tavg change is zero (0).** **3. RC T(Terr) change is zero (0).** **4. PZR Level change is .5 % or 32.45 gal.** **5. VCT Level change is 1.5 % or 19.5 gal.** **6. Stripper Level change is zero (0).** **7. RCDT Level change is .5 % or 1.75 gal.**
Standard:	**Record data accurately from the turnover sheet and calculate the RCS leak rate.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 9 **Critical N**	**On Attachment A Record data in section 3.0 RMW and BA additions**
Standard:	**n/a this step as it does not apply**
Evaluator Note:	**Per previous data given to trainee, no RMW or acid additions occurred.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 10 **Critical N**	**On Attachment A Record data in section 4.0 divert.**
Standard:	**n/a this step as it does not apply**
Evaluator Note:	**Per previous data given to trainee, no diverts occurred.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 11 **Critical Y**	**On Attachment A calculate RCS leak rate in section 5.0**
Standard:	**Calculate RCS leak rate of 2.59 to 2.61 gpm given turnover data.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 12 **Critical Y**	**IF RCS leak rate is greater than 0.2 gpm, THEN perform the following:**
Standard:	**Calculated RCDT leak rate per section 6.0 to be .087 to .089 gpm.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 13 **Critical Y**	**Measure AND record below any identified component leakage that is NOT pressure boundary leakage.**
Standard:	**Record identified component leak rate for 1P-2C charging pump.**
Evaluator Note:	**1P-2C Charging pump has 0.2 gpm identified leakage as stated in initial conditions.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 14 **Critical Y**	**Calculate identified leakage.**
Standard:	**Calculate RCS identified leakage to be .287 to .289 gpm.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 15 **Critical Y**	**Calculate unidentified leakage.**
Standard:	**Calculate RCS unidentified leakage to be 2.30 to 2.32 gpm.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 16 **Critical N**	**Primary Leak Rate calculation completed**
Standard:	**Attachment A signed off that calculation was completed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 **Critical N**	**Independent verification of calculation completed.**
Standard:	**Independent verification of calculation requested.**
Evaluator Note:	**Evaluator should sign as the IV check to satisfy procedural usage requirements.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 **Critical N**	**IF the Unit is in Mode 5, THEN perform Attachment B as follows:**
Standard:	**Trainee determines Attachment B is not required from data given on turnover sheet.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: **Evolution complete terminate the JPM**

Stop Time: _____

Historical Record: Rev. 1 modified JPM for ILT 2007 NRC exam.

THIS IS A KEY DO NOT HAND OUT

ATTACHMENT A
PRIMARY LEAK RATE WORKSHEET

UNIT _____ DATE _____

NOTE: Normally, no system dilution, boration, or divert to holdup tank should take place. However, if required, blender totalizers and operator timed manual full divert can account for these operations. Positive leak rates indicate leakage from the RCS.

NOTE: VCT Level is taken at the same point in the level cycle when the LDGS is on-line to provide as accurate of a leak rate as possible.

INITIALS

1.0 Monitor **AND** maintain the following during the performance of this test:

1.1 Reactor Power is stable. _____

1.2 The Letdown Gas Stripper (LDGS) meets ONE of the following:

1.2.1 The LDGS is operating normally with control in AUTO **AND** with no level adjustments being made. _____

1.2.2 The LDGS is bypassed per OI-17, Letdown Gas Stripped Operation. _____

1.2.3 Initial and final LDGS levels recorded in Step 2.0 _____

NOTE: Final and Initial values of Terr must be equal.

2.0 Record the following data:

RCS LEAK RATE DATA				
Parameter	Initial	Final	Formula	Result
Time (T) min	**0**	**20**	$T_F - T_I = T\Delta$	**20** min
RC T_{avg} (Tavg)	**569.8** °F	**569.8** °F	$Tavg_I - Tavg_F = Tavg\Delta$	**0** °F
RC T_{error} (Terr)	**0** °F	**0** °F	$Terr_I - Terr_F = Terr\Delta$	**0** °F
Pzr Level (PZR)	**46.5** %	**46** %	$(PZR_I - PZR_F) * 64.9 = PZR_{gal}$	**32.45**gal
VCT Level (VCT)	**45** %	**43.5** %	$(VCT_I - VCT_F) * 13 = VCT_{gal}$	**19.5** gal
Stripper Level (STP)	**66** in	**66** in	$(STP_I - STP_F) * 17 = STP_{gal}$	**0** gal
RCDT Level (RCDT)	**52** %	**52.5** %	$(RCDT_F - RCDT_I) * 3.5 = RCDT_{gal}$	**1.75** gal

_____

THIS IS A KEY DO NOT HAND OUT

ATTACHMENT A
PRIMARY LEAK RATE WORKSHEET

3.0 **IF** RMW or BA additions are made during test period,
THEN record the following data:

RMW AND BA ADDITIONS	
Time of Addition	Gallons Added
	gal
	gal
	gal
Total Gallons Added (MU_{gal}):	**0 gal**

4.0 **IF** divert to holdup tank is performed during test period,
THEN record the following data:

DIVERT				
Time of Divert	Flow Rate (D_F)	Divert Duration (D_T)	Formula	Gallons Diverted (D_V)
	gpm	min	$D_F \times D_T = D_V$	gal
	gpm	min	$D_F \times D_T = D_V$	gal
	gpm	min	$D_F \times D_T = D_V$	gal
			Total Gallons Diverted (D_{gal}):	**0 gal**

5.0 Calculate RCS leak rate:

CALCULATED RCS LEAK RATE		
Parameter	Formula	Leak Rate
RCS Leak Rate (LR_{RCS})	$(PZR_{gal} + VCT_{gal} + STP_{gal} + MU_{gal} - D_{gal}) \div T\Delta = LR_{RCS}$	**2.59-2.61 gpm**

6.0 **IF** RCS Leak Rate is greater than 0.2 gpm,
THEN perform the following:

6.1 Calculate RCDT leak rate:

CALCULATED RCDT LEAK RATE		
Parameter	Formula	RCDT Leak Rate
RCDT Leak Rate (LR_{RCDT})	$RCDT_{gal} \div T\Delta = LR_{RCDT}$	**.087-.089 gpm**

THIS IS A KEY DO NOT HAND OUT

ATTACHMENT A
PRIMARY LEAK RATE WORKSHEET

6.2 Measure **AND** record below any identified component leakage that is **NOT** Pressure Boundary Leakage:

COMPONENT LEAK RATE	
Component	Leak Rate
Unit 1 P-2C Charging Pump	0.2 gpm
	gpm
	gpm
	gpm
Total Component Leakage (LR_C):	**0.2 gpm**

6.3 Calculate Identified Leakage:

RCS IDENTIFIED LEAKAGE		
Parameter	Formula	Identified Leakage
RCS Identified Leakage (LR_{ID})	$LR_{RCDT} + LR_C = LR_{ID}$	**.287-.289 gpm**

6.4 Calculate Unidentified Leakage:

RCS UNIDENTIFIED LEAKAGE		
Parameter	Formula	Unidentified Leakage
RCS Unidentified Leakage (LR_{UID})	$LR_{RCS} - LR_{ID} = LR_{UID}$	**2.30-2.32 gpm**

7.0 Primary Leak Rate calculation completed.

8.0 Independent Verification of calculations completed.

IV

TURNOVER SHEET

INITIAL CONDITIONS:

- Unit 1 is operating at rated power since indications of a primary leak occurred. AOP-1A Unit 1 Reactor Coolant Leak was entered and is currently in progress.
- Unit 1 LDGS is operating normally with controls in AUTO.
- 1P-2C Charging Pump has pre-identified leakage of 0.2 gpm.
- The following plant parameters were observed at time 0 minutes:
  - RCS Tavg 569.8 °F
  - RCS T(Terr) 0 °F
  - PZR Level 46.5 %
  - VCT Level 45 %
  - U1 LDGS level 66”
  - U1 RCDT Level 52 %
- The following plant parameters were observed at time 20 minutes:
  - RCS Tavg 569.8 °F
  - RCS T(Terr) 0 °F
  - PZR Level 46.0 %
  - VCT Level 43.5 %
  - U1 LDGS level 66”
  - U1 RCDT Level 52.5 %
- No borations or dilutions took place.

INITIATING CUES (IF APPLICABLE):

- OS1 directs you to perform OI-55, Primary Leak Rate Calculation per step 21 of AOP-1A Unit 1 Reactor Coolant Leak.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the cover page filled in correctly?	☒	☐	
2.	Has the JPM been reviewed and validated by SMEs?	☒	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☒
4.	Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☒	☐	
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☒	☐	
6.	If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	☒	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☒
8.	Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	☒	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	☒	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☒	☐	
11.	Have all special tools and equipment needed to perform the task been identified?	☒	☐	
12.	Are all references identified, current, and accurate?	☒	☐	
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☒	☐	

All applicable questions must be answered "YES" or the JPM is not valid for use. If all applicable questions are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

NMC Committed to Nuclear Excellence	JOB PERFORMANCE MEASURE (JPM)

SITE: **PBNP**

JPM TITLE: **ACTIVATE ERDS**

JPM NUMBER: **JPM P083.019aCOT** **REV.** **0**

RELATED PRA INFORMATION:

TASK NUMBERS / TASK TITLE(S): **P083.0190.COT**
OPERATE THE PPCS KEYBOARD

K/A NUMBERS: **2.4.39 (3.3/3.1)**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path: NO

TASK APPLICABILITY: SRO: [X] RO: [X] NLO [ ]

Additional site-specific signatures may be added as desired.

Developed by: **Andrew Zommers**
Developer Date

Validated by:
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by:
Training Supervisor Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

JPM Number: JPM P083.019aCOT

JPM Title: ACTIVATE ERDS

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Make written comments for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. *EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- A Unit 1 Site Area Emergency has been declared by the Shift Manager due to a loss of offsite power concurrent with a steam generator tube rupture in the 1A steam generator.
- OS2 is responding in accordance with EPIP 1.1 Section 10 Site Area Emergency and is at step 10.9.
- You are the 4th Reactor Operator.

INITIATING CUES (IF APPLICABLE):

- OS2 directs you to activate ERDS per EPIP 1.1 Section 10 Attachment B, Activation of Emergency Response Data System (ERDS).

JPM P083.019aCOT, Activate ERDS, Rev. 0

JPM PERFORMANCE INFORMATION

Required Materials: **EPIP 1.1 Section 10 Attachment B.**

General References: **EPIP 1.1 Course Of Actions**

Task Standards: **Activate ERDS per EPIP 1.1.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical N**	**Review notes 1 through 4 prior to performing first step.**
Standard:	**Review notes 1-4.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 2 **Critical Y**	**From Control Room drop PPCS 101 or 102, click on the "MENU" icon.**
Standard:	**MENU icon selected.**
Evaluator Note:	**In the simulator the PPCS drops are numbered 191 or 192.**
Evaluator Cue:	**Clarify the drop number for examinee if asked.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 3 **Critical Y**	**Click on "Operator Station Programs".**
Standard:	**Review note prior to step and Operator Station Programs selected.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical Y**	**Click on "ERDS Datalink Start/Stop".**
Standard:	**ERDS Datalink Start/Stop selected.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical Y**	**Click "ERDS Unit 1 (Unit 2) and drop 179 (182)'.**
Standard:	**ERDS Unit 1 and drop 179 selected.**
Evaluator Note:	**In the simulator the PPCS drops are numbered 191 or 192.**
Evaluator Cue:	**Clarify the drop number for examinee if asked.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical Y**	**Click on the "Startup" button.**
Standard:	**Startup selected.**
Evaluator Note:	**ERDS will not activate in the simulator.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 7 **Critical N**	**Notify OS2 ERDS has been activated per EPIP 1.1 Section 10 Attachment B for Unit 1.**
Standard:	**Notify OS2 ERDS is activated.**
Evaluator Cue:	**OS2 acknowledges the report.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Terminating Cues: **Evolution complete**

Stop Time: _____

Historical Record: Rev. 0 Developed for ILT 2007 NRC exam.

TURNOVER SHEET

INITIAL CONDITIONS:

- A Unit 1 Site Area Emergency has been declared by the Shift Manager due to a loss of offsite power concurrent with a steam generator tube rupture in the 1A steam generator.
- OS2 is responding in accordance with EPIP 1.1 Section 10 Site Area Emergency and is at step 10.9.
- You are the 4th Reactor Operator.

INITIATING CUES (IF APPLICABLE):

- OS2 directs you to activate ERDS per EPIP 1.1 Section 10 Attachment B, Activation of Emergency Response Data System (ERDS).

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the cover page filled in correctly?	☒	☐	
2.	Has the JPM been reviewed and validated by SMEs?	☒	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☒	☐	☐
4.	Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☒	☐	
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☒	☐	
6.	If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	☒	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☒
8.	Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	☒	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	☒	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☒	☐	
11.	Have all special tools and equipment needed to perform the task been identified?	☒	☐	
12.	Are all references identified, current, and accurate?	☒	☐	
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☒	☐	

All applicable questions must be answered "YES" or the JPM is not valid for use. If all applicable questions are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: **PBNP**

JPM TITLE: **PERFORM REQUIRED NOTIFICATIONS**

JPM NUMBER: **JPM P119.214SRO** **REV.** **2**

RELATED PRA INFORMATION: **None**

TASK NUMBERS / TASK TITLE(S): **P119.214.SRO / PERFORM REQUIRED NOTIFICATIONS**

K/A NUMBERS: **2.4.38 (2.2/4.0)**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [X]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: YES

Alternate Path: NO

TASK APPLICABILITY: SRO: [X] RO: [ ] NLO [ ]

Additional site-specific signatures may be added as desired.

Developed by:	**Andrew Zommers**	
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.

JPM Number: JPM P119.214SRO

JPM Title: PERFORM REQUIRED NOTIFICATIONS

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Make written comments for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. *EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- You are participating in an ERO Team Training Drill.
- Unit 2 was operating at 100% steady-state conditions.
- A 20-gpm tube leak occurred on the “B” steam generator.
- Shortly thereafter, an unisolable “B” steam generator steam line break outside of containment upstream of the MSIV developed.
- Shift management ordered a Unit 2 trip, manual safety injection and containment isolation after the tube leak got worse.
- The Crew is responding in accordance with the Emergency Operating Procedure set.
- At 0900 the Shift Manager has declared a Site Area Emergency classification in accordance with EAL FS1, Loss or Potential Loss of ANY two barriers.
- PPCS page 2726 indicates the following:
  Wind Speed 9.5 MPH
  Wind Direction 278.9 DEG
  Stability Class ‘D’
  Lake Breeze ‘NO’

INITIATING CUES (IF APPLICABLE):

- The Shift Manager (Emergency Director) has directed you to complete the EPIP 1.1, Course of Actions, Section 10, Nuclear Accident Reporting System Form (NARS) through, and including Box 11 and return the form to him for his authorization signature.

NOTE: This is a time critical JPM, time starts when examinee understands the task at hand.

JPM PERFORMANCE INFORMATION

Required Materials: EPIP 1.1, Course of Actions.

General References: EPIP 1.1, Course of Actions, Section 10, Nuclear Accident Reporting System Form (NARS)

Task Standards: EPIP 1.1, Course of Actions, Section 10, Nuclear Accident Reporting System Form (NARS), Boxes 1 through 11 and returns it to the Shift Manager (Emergency Director) in less than or equal to 15 minutes.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1	**Fill out heading.**
Critical N	
Standard:	**Examinee circles CR**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2	**Box 1 Reason For Call**
Critical Y	
Standard:	**The Examinee checks Initial Report box**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical Y**	**Box 2 Status**
Standard:	**The Examinee checks the [B] Drill / Exercise**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 4 **Critical N**	**Box 3 Affected Station**
Standard:	**The Examine ensures that the [B] Point Beach box is checked**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 5 **Critical N**	**Box 4 Onsite Classification**
Standard:	**The Examinee ensures the [C] Site Area Emergency box is checked**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 6 **Critical Y**	**Box 5 Time & Date of Classification / PAR Change / Termination**
Standard:	• **The Examinee ensures the [A] Classification box is checked,** • **Enters 0900 and today's date, and** • **Enters the EAL# (EAL FS1)**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Performance Step: 7 **Critical Y**	**Box 6 Event Release Status**
Standard:	**The Examinee checks the [B] Occurring box.**
Evaluator Note:	**Indicate whether a radioactive release is occurring. The definition of radioactive release is the release of radioactive material to the environment attributable to the emergency event. Examples are given on back of NARS form box 6.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical Y**	**Box 7 Type of Release**
Standard:	**The Examinee checks the [B] Airborne box.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical Y**	**Box 8 Wind Direction**
Standard:	• **The Examinee enters the From _____Degrees value (278.9°) and** • **Circles the affected sectors (DEF).**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical Y**	**Box 9 Wind Speed & Stability Class**
Standard:	• **The Examinee enters the Miles/Hr.: _____ value (9.5 mph) and** • **Circles the applicable Stability Class (D).**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical Y**	**Box 10 Protective Action Recommendations**
Standard:	**The Examinee checks the [A] None block.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical Y**	**Box 11 Additional Information (EAL Description)**
Standard:	**The Examinee at a minimum describes the EAL being implemented, Loss or potential loss of ANY two barriers.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical Y**	**Return the form to the Emergency Director for approval.**
Standard:	**The Examinee returns the form (Boxes 1 through 11 completed) to the Shift Manager (Emergency Director) for his review and approval within 15 min.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Terminating Cues: The Evolution is complete.

Stop Time: _____

Historical Record: Rev 2: Updating JPM for ILT 2007 NRC exam.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are participating in an ERO Team Training Drill.
- Unit 2 was operating at 100% steady-state conditions.
- A 20-gpm tube leak occurred on the “B” steam generator.
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  Wind Direction 278.9 DEG
  Stability Class ‘D’
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INITIATING CUES (IF APPLICABLE):

- The Shift Manager (Emergency Director) has directed you to complete the EPIP 1.1, Course of Actions, Section 10, Nuclear Accident Reporting System Form (NARS) through, and including Box 11 and return the form to him for his authorization signature.

ATTACHMENT 1

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_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Retention: Life of Plant
Retain in: Training Record
Form retained in accordance with record retention schedule identified in FP-G-RM-01.