JPM TITLE: PERFORM SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR

JPM NUMBER: PBN JPM P000.002d.COT **REV.** 4

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

K/A NUMBERS:	K/A VALUE:
003 AK1.07	3.1/3.9
003 AK3.04	3.8/4.1
2.1.25	3.9/4.2

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☒ **RO** ☒ **SRO** ☐ **STA** ☐ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** _____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ] Simulator: [X] Other: [X] Lab: [ ]

Time for Completion: 20 Minutes Time Critical: NO

Alternate Path [NRC]: N/A

Alternate Path [INPO]: N/A

Developed by:	Jeffrey Hinze Instructor/Developer	Date
Reviewed by:	Andrew Zommers Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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".
- Assume today's date and time is current.

INITIATING CUES:
- 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:
- Boron Concentration - 1125 ppm
- Rx Power - 90%
- T_{ave} – 572 °F
- T_{ref} – 573 °F
- Control Bank D @ 180 steps
- All other banks @ 228 steps

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

JPM PERFORMANCE INFORMATION

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).

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.

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 Y**	Obtain Core Burn-Up from ROD 1.1.
Standard:	Core burn-up determined to be 2120 ± 30 MWD/MTU (2090-2150).
Evaluator Note:	Core burn-up determined to be 2120 MWD/MTU and recorded on PBF-2513. From ROD 1.1, examinee will have 1930 MWD/MTU five days ago and will need to add 190 MWD/MTU (5 Days * 38 MWD/MTU/Day)
Evaluator Cue:	**Provide examinee with a copy of Unit 1 ROD book.**
Performance:	SATISFACTORY ____ UNSATISFACTORY ____
Comments:	_____

Performance Step: 3 **Critical N**	Obtain Nominal EOL Burn-Up from ROD1.1.
Standard:	EOL burn-up determined to be 18874 MWD/MTU and recorded on PBF-2513.
Performance:	SATISFACTORY ____ UNSATISFACTORY ____
Comments:	_____

Performance Step: 4 Calculate % Burn-Up.
Critical N

Standard: Calculate % burn-up to be 11.23% ± 0.16% (11.07-11.39) and record on PBF-2513.

Performance: SATISFACTORY ____ UNSATISFACTORY ___

Comments: _____

Performance Step: 5 Obtain Reactor Power Level (%).
Critical Y

Standard: Record 90% on PBF-2513.

Performance: SATISFACTORY _____ UNSATISFACTORY _____

Comments: _____

Performance Step: 6 Obtain Control Rod Position
Critical N

Standard: Bank C and D control rod position determined to be 228 and 180 steps and recorded on PBF-2513.

Evaluator Cue: If asked Bank C is at 228 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 1620 pcm ± 20 pcm (1600-1640, based on possible min/max reading on graph) 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, at HZP) from ROD 5.
Standard:	Determine control rod worth (Bank D, C, B, A, S in, at HZP) to be 6550 pcm 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 689 pcm 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 5861 pcm and record on PBF-2513.
Performance:	SATISFACTORY _____ UNSATISFACTORY _____
Comments:	_____

Performance Step: 11 **Critical Y**	Obtain Bank Worth to ARO from ROD 3.1, Use Step 2 and Step 6 data.
Standard:	Determine bank worth to ARO to be 141 pcm 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 689 pcm 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 4781 pcm and record on PBF-2513.
Performance:	SATISFACTORY _____ UNSATISFACTORY _____
Comments:	_____

Performance Step: 14 **Critical Y**	Calculates Shut Down Margin by adding Steps 13 and 7.
Standard:	Determine calculated SDM to be 3161 $\pm$ 20 pcm (3141-3181) and record on PBF-2513.
Performance:	SATISFACTORY _____ UNSATISFACTORY _____
Comments:	_____

Performance Step: 15 **Critical Y**	Determine the Required Shut Down Margin using TRM 2.1, [COLR] Figure 2 using Step 4 data.
Standard:	Determines required SDM to be -2000 pcm and record on PBF-2513.
Performance:	SATISFACTORY _____ UNSATISFACTORY _____
Comments:	_____

Performance Step: 16 **Critical Y**	Determines if calculated Shut Down Margin is more negative than Required Shut Down 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.
Performance:	SATISFACTORY _____ UNSATISFACTORY _____
Comments:	_____

Terminating Cues: This completes the JPM

Stop Time: _____

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

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	**2120±30** MWD/MTU
3	Nominal EOL Burn-Up (MWD/MTU from ROD 1.1)	ROD 1.1	**18874** MWD/MTU
4	% Burn-Up (Step 2 ÷ Step 3)		**11.23 ± 0.16** %
5	Reactor Power Level (%)		**90** %
6	Control Rod Position		Bank C **228** steps Bank D **180** steps
7	Power Defect (for power recorded in Step 5)	ROD 7	(+) **1620 ± 20** pcm
8	Control Rod Worth (Bank D, C, B, A, S in; at HZP)	ROD 5	(+) **6550** pcm
9	Stuck Rod Worth	ROD 5	(+) **689** pcm
10	Stuck Rod Worth minus Control Rod Worth (Step 9 – Step 8)		(-) **5861** pcm
11	Bank Worth to ARO (Use Step 2 and Step 6 data)	ROD 3.1	(+) **141** 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 	(+) **689** 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		(-) **4781** pcm
14	Calculated Shut Down Margin (Step 13 + Step 7)		(-) **3161 ± 20** pcm
15	Required Shut Down Margin (From TRM 2.1, [COLR], Figure 2, using Step 4 data)		(-) **2000** 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**

JPM TITLE: REVIEW SHUTDOWN MARGIN CALCULATION FOR AN OPERATING REACTOR

JPM NUMBER: PBN JPM P000.002c.COT **REV.** 3

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

K/A NUMBERS:	003AK1.07 003AK3.04 2.1.25	**K/A VALUE:**	3.1/3.9 3.8/4.1 3.9/4.2

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☐ **RO** ☒ **SRO** ☐ **STA** ☐ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** _____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [X] Other: [X]
Lab: [ ]

Time for Completion: 20 Minutes Time Critical: No

Alternate Path [NRC]: Yes
Alternate Path [INPO]: Yes

Developed by:	Jeffrey Hinze Instructor/Developer	Date
Reviewed by:	Andrew Zommers Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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".
- Assume today's date and time is current.

INITIATING CUES (IF APPLICABLE):

- SM has directed you to review the calculated 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:

- Boron Concentration - 1275 ppm
- Rx Power - 90%
- T_{ave} – 572 °F
- T_{ref} – 573 °F
- Control Bank D @ 180 steps
- All other banks @ 228 steps

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

JPM PERFORMANCE INFORMATION

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).

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: If the candidate attempts to stop evaluating the SDM after finding the first mistake, direct them to complete evaluating the entire SDM.

NOTE: Provide examinee with a copy of the Unit 1 ROD book with ROD 1.1 filled out for 2850 MWD/MTU five days ago. Also provide examinee with a copy of the TRM.

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 ROD 1.1.
Standard:	Core burn-up determined to be 3040 ± 30 MWD/MTU (3010-3070).
Evaluator Note:	**Core burn-up determined to be 3040 MWD/MTU and recorded on PBF-2513. From ROD 1.1, examinee will have 2850 MWD/MTU five days ago and will need to add 190 MWD/MTU (5 Days * 38 MWD/MTU/Day)**
Evaluator Cue:	**Provide examinee with a copy of Unit 1 ROD Book.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 3 **Critical N**	Verify Nominal EOL Burn-Up from ROD1.1.
Standard:	EOL burn-up determined to be 18874 MWD/MTU as recorded on PBF-2513.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 4 **Critical N**	Verify % Burn-Up.
Standard:	Verify % burn-up to be 16.11% ± 0.16% (15.95-16.27) as recorded on PBF-2513.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 5 Critical N	Verify Reactor Power Level (%).
Standard:	Verify 90% as recorded on PBF-2513.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 6 Critical N	Verify Control Rod Position
Standard:	Bank C and D control rod position determined to be 228 and 180 steps as recorded on PBF-2513.
Evaluator Cue:	**If asked Bank C is at 228 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 1480 pcm recorded on PBF-2513 is in error, and the value should be 1630 pcm ± 30 pcm (1600-1660), based on possible min/max reading on the graph.
Evaluator Note:	**If the candidate attempts to stop evaluating the SDM after finding the first mistake, direct them to complete evaluating the entire SDM.**
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 8 **Critical N**	Verify Control Rod Worth (Bank D, C, B, A, S in, at HZP) from ROD 5.
Standard:	Verify control rod worth (Bank D, C, B, A, S in, at HZP) to be 6669 pcm as record 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 705 pcm as record 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 5964 pcm as record 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 129 pcm recorded on PBF-2513 to be in error and the value should be 147 pcm.
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 of 705 pcm as record 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:	Verify Total available control rod negative reactivity of 4880 pcm recorded on PBF-2513 to be in error and the value should be 4862 pcm.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 14 Critical Y	Verify Shut Down Margin by adding Steps 13 and 7.
Standard:	Determine calculated SDM of 3400 pcm as recorded on PBF-2513 to be in error and the correct value should be 3232± 30 pcm (3062-3202).
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 15 Critical N	Verify the Required Shut Down Margin using TRM 2.1, [COLR] Figure 2 using Step 4 data.
Standard:	Verify required SDM to be - 2000 pcm as record on PBF-2513.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Performance Step: 16 Critical N	Verify if calculated Shut Down Margin is more negative than Required Shut Down Margin.
Standard:	Verify Calculated SDM is greater than Required SDM **AND** YES is circled on PBF-2513.
Performance:	SATISFACTORY ☐ UNSATISFACTORY ☐
Comments:	_____

Terminating Cues: **This completes the JPM**

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

Stop Time: _____

Point Beach Nuclear Plant
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	**18874** MWD/MTU
4	% Burn-Up (Step 2 ÷ Step 3)		**16.11** %
5	Reactor Power Level (%)		**90** %
6	Control Rod Position		Bank C **228** steps Bank D **180** steps
7	Power Defect (for power recorded in Step 5)	ROD 7	(+) **1480** pcm
8	Control Rod Worth (Bank D, C, B, A, S in; at HZP)	ROD 5	(+) **6669** pcm
9	Stuck Rod Worth	ROD 5	(+) **705** pcm
10	Stuck Rod Worth minus Control Rod Worth (Step 9 – Step 8)		(-) **5964** pcm
11	Bank Worth to ARO (Use Step 2 and Step 6 data)	ROD 3.1	(+) **129** 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 	(+) **705** 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		(-) **4880** pcm
14	Calculated Shut Down Margin (Step 13 + Step 7)		(-) **3400** pcm
15	Required Shut Down Margin (From TRM 2.1, [COLR], Figure 2, using Step 4 data)		(-) **2000** 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

JPM TITLE: **Calculate and Adjust PPCS Forebay and Pump Bay Alarm Setpoints**

JPM NUMBER: **PBN JPM P075.005a.COT** **REV. 0**

TASK NUMBER(S) / TASK TITLE(S): **PBN P075.005.COT Operate the Circulating Water Pumps in different combinations**

K/A NUMBERS: 2.2.14 **K/A VALUE:** 3.9/4.3

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☒ **RO** ☒ **SRO** ☐ **STA** ☐ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** ____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [X] Other: [ ]
Lab: [ ]

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path [NRC]: NO
Alternate Path [INPO]: NO

Developed by:	Andrew Zommers Instructor/Developer	Date
Reviewed by:	Jeff Hinze Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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:

- Today's date is 20 November 2014
- Per OI 38, Circulating Water System Operation, we are going to shift Circulating Water Pumps from 2 running per unit down to a single Circulating Water Pump per unit.
- Both 1CW-2 and 2CW-2, Circulating Water Intake valves will remain open.

INITIATING CUES (IF APPLICABLE):

- OS2 has directed you to calculate and adjust the PPCS Forebay and Pump Bay alarm setpoints per PBF-2124, PPCS Forebay and Pump Bay Level Alarm Setpoints.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

JPM PERFORMANCE INFORMATION

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).

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.

Performance Step: 1 **Critical N**	**Review notes 1 and 2 prior to performing the first step**
Standard:	**Examinee review notes 1 and 2**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical N**	1.0 Obtain Lake Michigan Water level information as follows: 1.1 GO TO the following Web Site address: http://www.lre.usace.army.mil/Missions/GreatLakesInformation/GreatLakesWaterlevels/CurrentConditions.aspx 1.2 SELECT "The Great Lakes Water Levels Report" for the current month, in feet, option.
Standard:	**Attempt to log on to a Lan computer for access to the internet**
Evaluator Cue:	**When the Examinee attempts to log on to a computer, provide the student with a copy of "The Great Lake Water Levels Report"**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 3 **Critical N**	1.0 Obtain Lake Michigan Water level information as follows: (cont) 1.3 SCROLL down to "Lakes Michigan and Huron Water Levels" (IGLD 1985) table.
Standard:	**Locate the Lakes Michigan and Huron Water Levels table**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 4 **Critical Y**	1.0 Obtain Lake Michigan Water level information as follows: (cont) 1.4 RECORD Mean level for Lake Michigan Huron below and SUBTRACT 580.9 feet to correct for plant elevation:
Standard:	**Record the value of 579.21 (Mean Level) and subtract 580.9 for final value of (-1.69)**
Evaluator Note:	NOTE: At bottom of column labeled "Michigan Huron Lake Mean" the "Mean" level for current month will be displayed. NOTE: 580.9 ft. comes from the sum of 580.2 ft IGLD 1955 (which is plant elevation zero) and 0.7 ft, the delta between IGLD 1955 and IGLD 1985. NOTE: Corrected mean level is the difference in Lake Michigan level as compared to plant elevation zero.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 5 **Critical N**	1.0 Obtain Lake Michigan Water level information as follows: (cont) 1.5 IF Web Site in step 1.1 used, THEN PRINT a copy of the current month's Great Lakes Water Levels in (Feet) IGLD 85" AND ATTACH to this form.
Standard:	**Retain copy, attach to form and initial the step.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 6 **Critical Y**	2.0 RECORD the head loss for the CW System configuration from the table below:_____
Standard:	**Locate and enter the value for 2 intake pipes, 2 CW pumps running (one per unit). Value is (-1.6)**
Evaluator Note:	NOTE: Head loss values were calculated assuming CW waterbox valves are fully open and minimal condenser fouling. Throttled waterbox valves or fouled condensers would result in higher observed forebay levels. NOTE: High Lake water level alarm and High-High Lake water level alarm calculation is a function of CW intake valve alignment, number of cooling water (CW) pumps in service, and the two values used from Table 6-5 Calculation 2014-06279 "Time Available To Respond To Rising Lake Level".
Evaluator Cue:	**If asked, all waterbox valves are open and thermodynamic testing indicated that waterboxes are not fouled.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 7 **Critical Y**	3.0 **ADD** Steps 1.4 and 2.0 to obtain forebay/pump bay level: _____ + _____ = _____
Standard:	**Enter the value from step 1.4 (-1.69) add the value from step 2.0 (-1.6) for a total of (-3.29)**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 8 **Critical Y**	4.0 **CALCULATE** Low Alarm Limit #1 level setpoint to be one foot below forebay level determined in Step 3.0 as follows: Forebay/pump bay level from Step 3.0 – 1 foot = Forebay/pump bay Low Alarm Limit #1 setpoints
Standard:	**Enter the value from step 3.0 (-3.29) and subtract (1) for a total of (-4.29)**
Evaluator Note:	**CAUTION:** **LO and LO-LO level alarms should NOT be set less than –11.0 feet and -11.5 feet, respectively. Forebay level and/or pump bay of less than –11.5 feet is a violation of TLCO 3.7.7 for SW System.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 9 **Critical Y**	5.0 CALCULATE Low-Low Alarm Limit #2 setpoint to be 1.5 feet below forebay level determined in Step 3.0 as follows: Forebay/pump bay level from Step 3.0 – 1.5 foot = Forebay/pump bay Low Alarm Limit #1 setpoints
Standard:	**Enter the value from step 3.0 (-3.29) and subtract (1.5) for a total of (-4.79)**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	_____

Performance Step: 10 **Critical Y**	6.0 ENTER the LEAST NEGATIVE value of: Step 4.0 of _____ OR -11.0 feet to establish new Lo Alarm Limit #1 level setpoint. _____
Standard:	**Enter the value from step 4.0 (-4.29) and the least negative value of (-4.29)**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	_____

Performance Step: 11 **Critical Y**	7.0 ENTER the LEAST NEGATIVE value of: Step 5.0 of _____ OR -11.5 feet to establish new Lo-Lo Alarm Limit #2 level setpoint. _____
Standard:	**Enter the value from step 4.0 (-4.79) and the least negative value of (-4.79)**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	_____

Performance Step: 12 **Critical N (SEQ-)**	8.0 ADJUST PPCS Alarm limits to values calculated in steps 6.0, 7.0, and Step 2.0 Table, and RECORD below:
Standard:	

	LO Alarm Limit #1 (Step **Error! Reference source not found.**)	LO-LO Alarm Limit #2 (Step **Error! Reference source not found.**)	HI Alarm Limit **Error! Reference source not found.** Table	HI-HI Alarm Limit **Error! Reference source not found.** Table
1L-3586A, Pump Bay Level Alarm	-4.29	-4.79		
1L-3586B, Forebay Level Alarm	-4.29	-4.79	-0.8	-0.6
2L-3586A, Pump Bay Level Alarm	-4.29	-4.79		
2L-3586B, Forebay Level Alarm	-4.29	-4.79	-0.8	-0.6

Evaluator Note:	**The Table information is contained in this step, the adjusting of PPCS alarms will be in following steps**
Evaluator Note:	**CAUTION** **LO and LO LO level alarms should NOT be set less than –11.0 feet and 11.5 feet, respectively. Forebay level and/or pump bay of less than –11.5 feet is a violation of TLCO 3.7.7 for SW System.** NOTE: While adjusting alarm setpoints in PPCS, a priority alarm may be received.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 13 **Critical Y**	From a Simulator (Control Room) PPCS workstation, "Pump House" block either Sim 1 or Sim 2 directory to go to Pump House Drawing
Standard:	Bring up 3192 **OR** 3692 Pump House
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 14 **Critical Y**	Click on the "Change LEV ALRM LIMITS" button and enter the Low and High Limits #1 and #2 values for both units.
Standard:	Examinee clicks 'Change LEV ALRM LIMITS" button and changes alarms setpoints per limits listed in Step 8.0. (-4.29 for Low Limit #1 and -4.79 for Low Limit #2 and -0.8 for High Limit #1 and -0.6 for High Limit #2)
Evaluator Note:	**Simulator PPCS will not allow changes to current alarm setpoints.**
Evaluator Cue:	**Cue examinee that PPCS alarm setpoints were changed to the values that they gave and PPCS indicates said values.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 15 **Critical N**	Examinee makes a report to OS2 that adjustment of PPCS Forebay and Pump Bay Alarm Setpoints is completed and hands signed PBF-2124 back.
Standard:	Examinee communicates completion of PBF-2124.
Evaluator Cue:	**Acknowledge communication to OS2.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: **This Completes the JPM**

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

Stop Time: _____

JPM TITLE: **Review Weekly Power Availability Verification**

JPM NUMBER: **PBN JPM P119.210b.SRO** **REV. 0**

TASK NUMBER(S) / TASK TITLE(S): **PBN P119.210.SRO**
Review Operating Logs for Trends and Out-of-Specification Conditions

K/A NUMBERS: **2.1.18** **K/A VALUE: 3.6/3.8**

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☐ **RO** ☒ **SRO** ☐ **STA** ☐ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** ____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [ ] Other: [X]
Lab: [ ]

Time for Completion: 30 Minutes Time Critical: NO

Alternate Path [NRC]: YES
Alternate Path [INPO]: YES

Developed by:	Andrew Zommers Instructor/Developer	Date
Reviewed by:	Jeff Hinze Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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 OS
- Unit 1 is in Mode 4 per OP 1A, Cold Shutdown to Hot Standby
- Unit 2 is in Mode 6, performing a core reload per RP 1C, Refueling
- 0-TS-EP-001 Weekly Power Availability Verification has just been completed

INITIATING CUES (IF APPLICABLE):

- The 4th License has provided 0-TS-EP-001, Weekly Power Availability Verification, for you to perform and document the "completed procedure review".

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

JPM PERFORMANCE INFORMATION

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).

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 is expected to identify errors in the completed surveillance and determine the Technical Specification applicability/implications for these errors. This determination should identify the applicable LCOs, Action Conditions, and Required Actions. Determining the exact time of Applicability and Associated Completion Time is NOT required for satisfactory performance. Identification of required cascading to Supported System LCO(s) per NP 10.3.8, Safety Function Determination Program, is not required for satisfactory performance.

Performance Step: 1 **Critical N**	Conduct a "completed procedure review" of 0-TS-EP-001, Weekly Power Availability Verification, (Sections 4 through 6 and Attachment A through Attachment H, as applicable).
Standard:	The Examinee will review steps 5.2.1-5.2.11 and attachments A-H
Evaluator Note:	**This review is contained in the following JPM steps.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 2 Critical Y	5.2.1 IF Unit 1 is in MODE 1, 2, 3, or 4, THEN CHECK the following 345/13.8 kV alignment: a. CHECK 1X-03 is in service OR 2X-03 is in service with G05 operating and the 13kV bus tied across to Unit 1. b. MARK results on Attachment A, Electrical Breaker Alignment And Power Availability Checks, 345/13.8 KV Alignment.
Standard:	The Examinee will verify that: 1. The Unit 1 meets the conditions (mode 1, 2, 3, or 4) 2. 1X-03 is in service OR 2X-03 is in service with G05 operating and the 13kV bus tied across to Unit 1, using Attachment A to verify 345/13.8 KV Alignment, AND note that 2X-03 is supplying 1X-04 and G-05 is NOT in operation.
Evaluator Note:	**The Examinee should continue with the review of the completed surveillance given the current information.**
Evaluator Cue:	**If asked, Attachment A shows the current plant lineup**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 3 **Critical Y**	5.2.1 (cont'd) c. IF this operability check is UNSAT, THEN REFER to Technical Specifications LCO 3.8.1 and LCO 3.8.9 for required actions.
Standard:	The examinee will identify the following LCOs/TSAC/RAs 1. LCO 3.8.1, AC Sources - Operating 2. TSAC 3.8.1.A, Gas turbine not in operation when utilizing opposite unit's 345/13.8kV (X03) transformer 3. RA A.1, Verify one circuit between the offsite transmission network and the associated unit's 4.16kV Class 1E safeguards buses, A05 and A06, utilizing the opposite unit's 345/13.8kV (X03) transformer 4. RA A.2, Verify gas turbine in operation
Evaluator Note:	**Identification of required cascading to Supported System LCO(s) per NP 10.3.8, Safety Function Determination Program, is not required for satisfactory performance.**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 4 **Critical N**	5.2.2 IF Unit 2 is in MODE 1, 2, 3, or 4, THEN CHECK the following 345/13.8 kV alignment:
Standard:	The Examinee will verify that Unit 2 does not meet this condition, and step 5.2.2 is properly filled out.
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 5 **Critical N**	5.2.3 IF both units are in MODE 1, 2, 3, or 4, THEN PERFORM AC breaker alignment check on Attachment B, Electrical Breaker Alignment And Power Availability Checks, Units in MODE 1, 2, 3, or 4, as follows:
Standard:	The Examinee will verify that BOTH Units do not meet this condition, and step 5.2.3 is properly filled out.
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 6 **Critical Y**	5.2.4 IF Unit 1 is in MODE 1, 2, 3, or 4 AND Unit 2 is in MODE 5, 6 or defueled THEN PERFORM AC breaker alignment check on Attachment C, Electrical Breaker Alignment And Power Availability Checks, Unit 1 in MODE 1, 2, 3, or 4 and Unit 2 in MODE 5, 6 or defueled, as follows: b. CHECK control switch in PULL OUT and indicating lights are OFF for 1B52-16C, 1B-03 to 1B-04 Bus Tie Breaker, on Panel C02. e. MARK results of Steps 5.2.4.a through 5.2.4.d electrical alignment check for Unit 1, on Attachment C.
Standard:	The Examinee will 1. Verify that the Units MEET this condition 2. Determine this is NOT met due to the breaker being closed
Evaluator Note:	**The sub steps of 5.2.4 noted above are the steps which are UNSAT (incorrect). All other sub step in 5.2.4 are SAT (correct) and not included.**
Evaluator Note:	**The Examinee should continue with the review of the completed surveillance given the current information.**
Evaluator Cue:	**If asked, Attachment C shows the current plant lineup**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 7 **Critical Y**	5.2.4. (cont'd) f. IF this operability check is UNSAT, THEN REFER to Technical Specifications LCO 3.8.1 and LCO 3.8.9 for required actions.
Standard:	The Examinee will identify the following LCOs/TSAC/RAs 1. LCO 3.8.9, Distribution Systems - Operating 2. TSAC 3.8.9.A, One or more electrical power distribution subsystem inoperable. 3. RA A.1, Declare associated supported required feature(s) inoperable
Evaluator Note:	**Identification of required cascading to Supported System LCO(s) per NP 10.3.8, Safety Function Determination Program, is not required for satisfactory performance.**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 8 **Critical N**	5.2.5 IF Unit 1 is in MODE 5, 6 or defueled AND Unit 2 is in MODE 1, 2, 3, or 4, THEN PERFORM AC breaker alignment check on Attachment D, Electrical Breaker Alignment And Power Availability Checks, Unit 1 in MODE 5, 6 or defueled and Unit 2 in MODE 1, 2, 3, or 4, as follows:
Standard:	The Examinee will verify that BOTH Units do not meet this condition, and step 5.2.5 is properly filled out.
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 9 **Critical N**	5.2.6 IF both units are in MODE 5, 6 or defueled, THEN PERFORM AC breaker alignment check on Attachment E, Electrical Breaker Alignment And Power Availability Checks, Each Unit in MODE 5, 6 or defueled, as follows:
Standard:	The Examinee will verify that BOTH Units do not meet this condition, and step 5.2.6 is properly filled out.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 10 **Critical N**	5.2.7 IF any unit is in MODE 1, 2, 3, or 4, THEN PERFORM a 125 V DC Bus alignment check on Attachment F, Electrical Breaker Alignment And Power Availability Checks, 125 V DC Buses.
Standard:	The Examinee will verify that a Units meets this condition, and step 5.2.7 and Attachment F are properly filled out.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 11 **Critical N**	5.2.8 IF both units are in MODE 5 or 6 or Defueled, THEN PERFORM a 125 V DC Bus alignment check on Attachment F, Electrical Breaker Alignment And Power Availability Checks, 125 V DC Buses.
Standard:	The Examinee will verify that BOTH Units do not meet this condition, and step 5.2.8 is properly filled out.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 12 **Critical N**	5.2.9 IF any unit is in MODE 1, 2, 3, or 4, THEN PERFORM a 120 V AC Vital Instrument Bus alignment check on 2C20 Panel for the applicable unit as follows:
Standard:	The Examinee will verify that a Unit meets this condition, and step 5.2.9 and attachment G are properly filled out.
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 13 **Critical Y**	5.2.10 IF any unit is in MODE 5 or 6 or Defueled THEN PERFORM a 120 V AC Vital Instrument Bus alignment check on 2C20 Panel for the applicable unit as follows: a. CHECK power availability to the 120 V AC Vital Instrument Buses listed on Attachment G, Electrical Breaker Alignment And Power Availability Checks, 120 V AC Vital Instrument Buses. b. CHECK 120 V AC Vital Bus Inverter power is operable to equipment required to be operable as specified by LCO 3.8.8 and LCO 3.8.10.
Standard:	The Examinee will determine this is NOT met due to 2DY-01 being shifted to the Backup Source
Evaluator Note:	**The sub steps of 5.2.10 noted above are the steps which are UNSAT (incorrect). All other sub step in 5.2.10 are SAT (correct) and not included.**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 14 **Critical Y**	5.2.10 (cont'd) d. IF this operability check is UNSAT, THEN REFER to Technical Specifications LCO 3.8.8 and LCO 3.8.10 for required actions.
Standard:	The Examinee will identify the following LCOs/TSAC/RAs 1. LCO 3.8.8, Inverters – Shutdown 2. TSAC 3.8.8.A, One or more required inverters inoperable. 3. RA A.1, Declare affected require feature(s) inoperable 4. RA A.2 Initiate action to restore required inverters to OPERABLE status
Evaluator Note:	**Identification of required cascading to Supported System LCO(s) per NP 10.3.8, Safety Function Determination Program, is not required for satisfactory performance.**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 15 **Critical N**	5.2.11 RECORD electrical bus voltages as listed on Attachment H, Electrical Breaker Alignment And Power Availability Checks, Bus Voltages.
Standard:	The Examinee will verify that a Unit meets this condition, and step 5.2.11 and attachment H are properly filled out.
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Performance Step: 16 Critical N	Inform the Shift Manager and/or 4th License of any actions required.
Standard:	The Examinee informs the SM and or 4th License of discrepancies identified.
Evaluator Note:	**If an assessment of Technical Specifications is performed here see JPM steps 3, 8, and 15 for the Technical Specifications identified in the JPM**
Evaluator Cue:	**Acknowledge the report from the Examinee** **If NO assessment of Technical Specifications was performed by the Examinee, ask for an assessment of Technical Specifications given the errors identified by the Examinee.**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	

Terminating Cues:

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

Stop Time: _____

JPM TITLE: DETERMINE A STAY TIME FOR A HIGH RADIATION AREA

JPM NUMBER: PBN JPM P162.006a.AOT **REV.** 2

TASK NUMBER(S) / TASK TITLE(S): PBN P162.006.AOT, COMPLY WITH RADIATION WORK PERMOTS

K/A NUMBERS: GENERIC 2.3.7 / GENERIC 2.3.12 **K/A VALUE:** 3.5/3.6 / 3.2/3.7

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☐ **RO** ☐ **SRO** ☐ **STA** ☒ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** _____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ] Simulator: [ ] Other: [X] Lab: [ ]

Time for Completion: 10 Minutes Time Critical: No

Alternate Path [NRC]: No

Alternate Path [INPO]: No

Developed by:	Jeffrey Hinze Instructor/Developer	Date
Reviewed by:	Andrew Zommers Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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:

- Reference the attached radiological survey map.
- A tag series is required to be hung in the Unit 1 Non-Regenerative Heat Exchanger Room which is posted as a High Radiation Area (HRA).
- The first valve on the tag series is 1CV-371, Letdown Line Containment Isolation valve.
- The remaining valves on the tag series are indicated by unlabeled valve symbols on the survey map.
- Radiation Protection (RP) has placed a dose limit of 50mR to perform the entire tag series.
- RP request you stay as far away from 1CV-371 as possible to minimize the dose.

INITIATING CUES (IF APPLICABLE):

- It took you 5 minutes to hang the tag on 1CV-371 (you were able to hang the tag from arm's length).
- Determine the **MAXIMUM** time (in minutes) that can be spent tagging **ALL OTHER** valves indicated on the survey map without exceeding the dose limit for this task. Radiation levels of **ALL OTHER** valves are at general area.
- Assume the time for access and egress of the room is negligible.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator upon completion of the JPM.

JPM PERFORMANCE INFORMATION

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).

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.

Performance Step: 1 **Critical Y**	**Determine total dose received closing the valve in the HRA (360mR/hr field).**
Standard:	**The total dose received to close the first valve is determined to be 30mR.** **(360mR/hr X 5 min) ÷ 60 min/hr = 30 mR**
Performance:	**SATISFACTORY ____ UNSATISFACTORY ___**
Comments:	_____

Performance Step: 2 **Critical Y**	**Available dose for hanging tags in the General Areas is determined.**
Standard:	**Dose available for hanging tags in the General Areas is determined to be 20mR.** **50 mR – 30 mR = 20 mR**
Performance:	**SATISFACTORY ____ UNSATISFACTORY ___**
Comments:	_____

Performance Step: 3 Critical Y	**Determine maximum time to hang tags in the General Area.**
Standard:	**Maximum time to be spent in the General Area is determined to be 30 minutes.** **(20 mR ÷ 40 mR/hr) X 60 min/hr = 30 min**
Performance:	**SATISFACTORY ____ UNSATISFACTORY ___**
Comments:	_____

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

NOTE: **Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

Stop Time: _____

POINT BEACH NUCLEAR PLANT RADIOLOGICAL SURVEY

Location : Unit 1 Non-Regenerative Heagt Cubicle

Survey # : 8675309

Date : Today Time : 0800

Purpose : ☑ Daily Survey ☐ Other

RPT (print/initial) : Ye S Iam / YSI

Instrument : R020 / RM-14

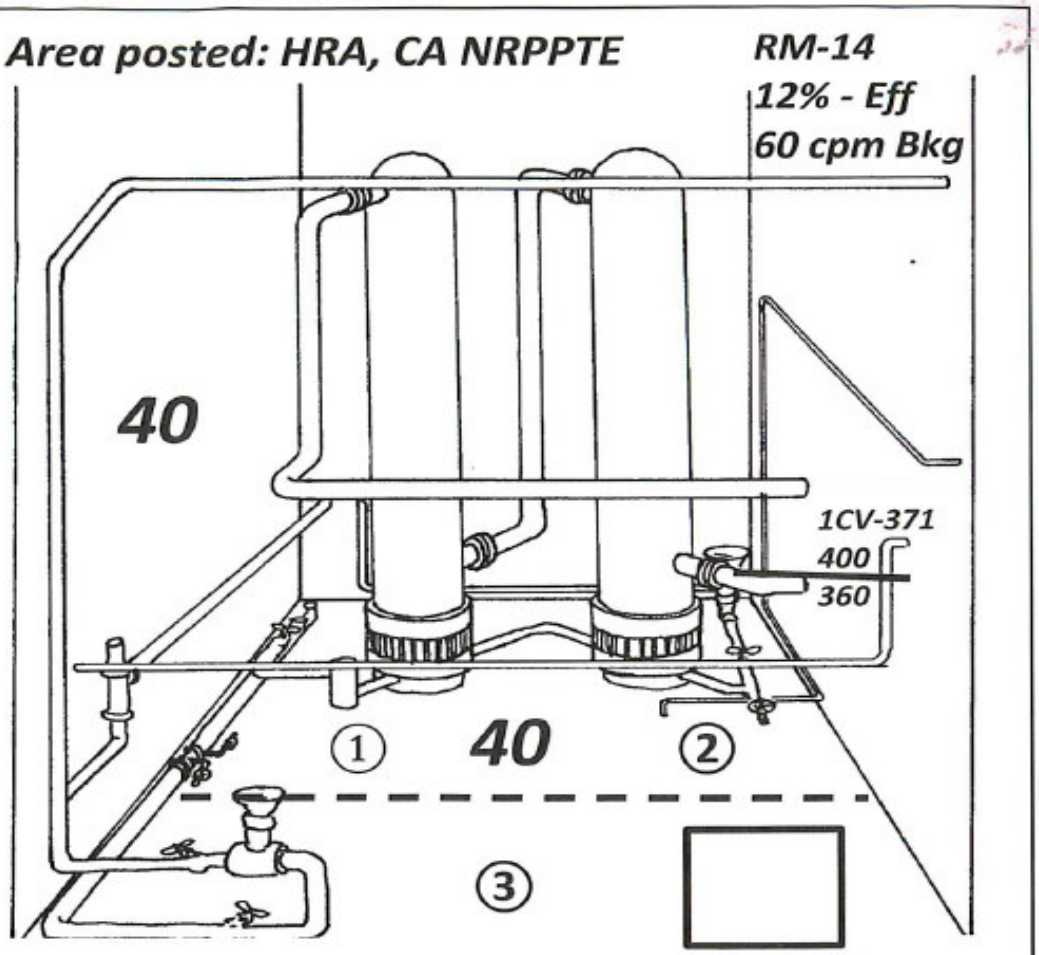
Serial # : 7486 / A006

MDA values (dpm) : β _____ α _____ ☐ N/A

Frisker bkg : 60 cpm ☐ N/A

Reviewed by : RP Supervisor Date : Today

Smear #	βγ dpm/ 100 cm^2 Note 1	α dpm/ 100 cm2	βγ:α Ratio	Remarks
1	6000			Floor
2	2050			Floor
3	≤ 215			Floor
		N A		



Comments:

Area # 5A-1

PBF-4021
Revision 3 01/22/13

NOTE 1: Large area smear units are ncpm

Reference: HP 3.1

JPM TITLE: Complete a Technical Specification and Administrative Action Condition Logsheet PBF-9133

JPM NUMBER: PBN P119.203.SRO **REV.** 2

TASK NUMBER(S) / TASK TITLE(S): P119.203.SRO
Maintain Required Logs and Records

K/A NUMBERS: 2.2.23 **K/A VALUE:** 3.1/4.6

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☐ **RO** ☒ **SRO** ☐ **STA** ☐ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** _____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [X] Other: [X]
Lab: [ ]

Time for Completion: 20 Minutes Time Critical: No

Alternate Path [NRC]: No
Alternate Path [INPO]: No

Developed by:	Jeffrey Hinze Instructor/Developer	Date
Reviewed by:	Andrew Zommers Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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 in Mode 3.
- Current work week number is 1508.
- 1P-53 Motor Driven Auxiliary Feedwater pump was removed from service **4 hours ago** for testing IAW IT 400, Test Of 1P-53 Motor-Driven Auxiliary Feed Pumps And Valves.
- During the testing of 1P-53 Motor Driven Auxiliary Feedwater pump it was determined that the motor vibrations were above the acceptable limits.
- It has been determined the pump will not be returned to service for approximately 48 hours. AR01234567, 1P-53 failed surveillance testing, was written to document the failure and WO76543210 was generated to repair the motor.
- No other equipment is currently out of service.

INITIATING CUES (IF APPLICABLE):

- The Shift Manager has directed you to document LCO tracking in accordance with NP 10.1.1, Tech Spec and Administrative LCO Action Condition Entry and Tacking.

NOTE: Evaluator Note: Only provide a copy of NP 10.1.1 and <u>NOT</u> PBF-9133 until requested by examinee.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

JPM PERFORMANCE INFORMATION

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).

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.

Performance Step: 1 Critical N	Reference NP 10.1.1 and start at Step 4.1
Standard:	Obtain current revision of procedure and determine steps 4.1.1 and 4.1.2 are not applicable to 1P-53 and start with step 4.1.3 to start tracking with PBF-9133.
Evaluator Note:	A completed PBF-9133 Answer Key is attached.
Evaluator Cue:	Provide NP 10.1.1 and a blank PBF-9133 as requested by examinee or examinee references how to get current revision. Examinee may also request NP 10.3.8 at this time. **Any time in this process the examinee may ask if LCO 3.0.6 will be invoked. The Shift Manager has determined NOT to invoke LCO 3.0.6.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical N**	Assigns next Action Condition Index Number to form PBF-9133 and documents in Index PBF-9133e.
Standard:	Obtains next Action Condition Index number from PBF-9133e located in TSAC Tracking binder and record on form per step 4.1.3.
Evaluator Note:	Examinee should determine note applies due to AR being written for failed testing.
Evaluator Cue:	Provide examinee the next index number of 01-15-006 and tell them the Shift Manager will complete the PBF-9133e index.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical Y**	Indicate Action Condition Status (active or potential).
Standard:	Records Condition status as ACTIVE on PBF-9133.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical Y**	Record the applicable document reference.
Standard:	Examinee obtains a copy of Technical Specifications and Bases to determine that LCO 3.7.5 is applicable.
Evaluator Note:	As a minimum, examinee satisfies critical step performance by indicating LCO 3.7.5 is applicable in either the Document references OR the Condition and Reason for OOS block. Other information may be provided.
Evaluator Cue:	Provide examinee a copy of Technical Specifications and Bases as requested.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical N**	Record the work week number for which the activity is scheduled.
Standard:	Examinee records current work week due to short TSAC time.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 Critical Y	Records Date and Time entered.
Standard:	Examinee records current date and time of approximately 4 hours from JPM start.
Evaluator Note:	**The Examinee should determine the current record started 4 hours ago, and may estimate additional time for the paperwork in this estimate.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 Critical N	Record present Mode for applicable unit/units.
Standard:	Examinee records Mode 3 for Unit 1.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 Critical N	Record Operational Condition Applicability (mode or other specified condition) for the Action Condition.
Standard:	Examinee records Modes 1, 2, 3, and 4 when SG relied upon for heat removal in Applicability block per LCO 3.7.5.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 Critical Y	Determine if a Mode change is allowed per TS 3.0.4 with this condition.
Standard:	Examinee determines that TS 3.0.4 is NOT applicable.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 Critical N	Record the equipment description.
Standard:	Examinee records 1P-53 MDAFW Pump (or equivalent wording) in Equipment Name/ID Block.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 Critical N	Record any other applicable references.
Standard:	Determine no other applicable references required or list 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.
Standard:	TSAC 3.7.5.B required actions for listed TSAC and completion time/clock time for TSAC.
Evaluator Note:	Recorded information wording may vary from key provided the correct TSAC, Required Actions, and Completion times are correctly recorded for Condition B.
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.
Standard:	Examinee determines there are not any required compensatory actions required and leaves this section blank.
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 N**	If any LCO is **NOT** met then perform a SFDP Screening using NP 10.3.8, Safety Function Determination Program.
Standard:	Records a Y in any LCO not met block and determines a SFDP screening is required using NP 10.3.8.
Evaluator Cue:	Provide examinee with copy of NP 10.3.8 when they describe how a current revision of the procedure would be obtained. Any time in this process the examinee may ask if LCO 3.0.6 will be invoked. The Shift Manager has determined NOT to invoke LCO 3.0.6.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical N**	Performs SFDP screening using NP 10.3.8
Standard:	Examinee performs SFDP Screening and determines that no Loss of Safety Function evaluation is required.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 Critical N	Current LOSF evaluation exists
Standard:	Reviews other equipment out of service and determines no current LOSF exists.
Evaluator Cue:	**If asked, there is no other equipment currently out of service as stated in the initial conditions**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 Critical N	Condition or Inoperable SSC affects on-line Safety Monitor.
Standard:	Determines or asks STA if this equipment affects the on-line Safety Monitor and request review using NP 10.3.7, indicating a Y in this block.
Evaluator Cue:	The Shift Technical Advisor will conduct an on-line safety assessment per NP 10.3.7.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 **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 indicates the LCO being not met is involuntary and notifications are required.
Evaluator Note:	**An AR was previously submitted per the Initial Conditions**
Evaluator Cue:	Inform examinee that the Shift Manager has informed the DCS and NRC Resident of the situation.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 19 **Critical N**	Determine if Fire Rounds are required per OM 3.27
Standard:	Examinee indicates that fire rounds are not required per OM 3.27.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 20 **Critical Y**	Ensure that all applicable Work Orders, ARs, Tag Series, Plant Modifications, overdue Technical Specification surveillances, overdue equipment PMs, etc are entered on the Work Order and Clearance Addendum.
Standard:	Examinee lists the AR and WO on the addendum sheet.
Evaluator Note:	**Responsible group is not critical**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 21 Critical N	The 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 reports that the PBF-9133 is completed and ready for the AFW pump.
Evaluator Cue:	This completes the JPM.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues:

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

Stop Time: _____

ANSWER KEY DO NOT HAND OUT TO EXAMINEE

Index Number:	**01-15-006**	**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:	**1508**	**Date/Time Entered:**	**Today/4 hrs ago**		
Present Mode:	**3**	**Applicability:**	**Mode 1, 2, 3, and 4 and when S/G relied on for DHR**	**TS 3.0.4 Applicable:**	**N**
Equipment Name/ID:	**1P-53 MDAFW Pump**			**Other Applicable References:**	**None**

SUMMARY DESCRIPTION

Condition and Reason for OOS	Required Action	Completion Time/ Clock Time	Special Testing/ Reportability
1P-53 high motor vibes TSAC 3.7.5.B. One AFW pump system inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	B. 1 Restore AFW pump system to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the 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 an 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**

WORK ORDER AND CLEARANCE ADDENDUM

WO/AR/ CLEARANCE/ OTHER REFERENCE #	DESCRIPTION	SYSTEM	RESP. DEPT/ GROUP	COMPLETE (✓)
AR01234567	1P-53 MDAFW Pump motor	AFW	OPS	
WO76543210	1P-53 MDAFW Pump motor	AFW	EM	

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**

JPM TITLE: REVIEW RELEASE PERMIT

JPM NUMBER: PBN JPM P119.212.SRO **REV.** 2

TASK NUMBER(S) / TASK TITLE(S): P119.212.SRO/Approve Radioactive Waste Discharge Permits

K/A NUMBERS: 2.3.6 **K/A VALUE:** 2.0/3.8

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY:
☐ **RO** ☒ **SRO** ☐ **STA** ☐ **Non-Lic** ☐ **SRO CERT** ☐ **OTHER:** _____

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☒
Lab: ☐

Time for Completion: 15 Minutes Time Critical: No

Alternate Path [NRC]: No
Alternate Path [INPO]: No

Developed by:	Jeffrey Hinze Instructor/Developer	Date
Reviewed by:	Andrew Zommers Instructor (Instructional Review)	Date
Validated by:	Jeff Baugniet SME (Technical Review)	Date
Approved by:	Randy Amundson Training Supervision	Date
Approved by:	Tom Larson Training Program Owner	Date

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:

- Both Units are at rated thermal power with no equipment out of service.
- Unit 2 started a forced vent yesterday 2/22/15 at 1800.
- The forced vent was interrupted this morning 2/23/15 at 0500 due to RP testing.
- 2RE-211 and 2RE-212 have remained in operation throughout the testing evolution.

INITIATING CUES (IF APPLICABLE):

- You are OS2 today and it is 0900 with the RP testing completed.
- All other RMS monitors have been in service for the past 24 hours.
- The Shift Manager has requested that you approve a restart of the forced vent on Unit 2.
- Additionally, the following data is provided:

RAD MONITOR	STEADY STATE READINGS	CHECK SOURCE READINGS
2RE-211 (Cont Air Part)	1.98 E-3	3.20 E-2
2RE-212 (Cont Gas)	7.45 E-6	2.80 E-4

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

JPM PERFORMANCE INFORMATION

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).

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.

Performance Step: 1 **Critical N**	Review provided procedure and release permit
Standard:	Review provided procedures
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical N**	**ENSURE** 2RE-211 (DAM 2-2) and 2RE-212 (DAM 2-3) have been in operation for at least ten minutes.
Standard:	Ensure RE-211 and RE-212 have been in operation for ten minutes.
Evaluator Note:	**Per initial conditions, RE-211 and RE-212 have been in operation the last 4 hours.**
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 3 **Critical Y**	**OBTAIN** and **RECORD** SS data values from the following RMS monitors: • RE-211 (DAM 2-2) • RE-212 (DAM 2-3)
Standard:	Record values for RE-211 and RE-212 given in initial conditions/initiating cues.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 4 **Critical Y**	**OBTAIN** and **RECORD** source check readings from the following RMS monitors: • RE-211 (DAM 2-2) • RE-212 (DAM 2-3)
Standard:	Record values for RE-211 and RE-212 given in initial conditions/initiating cues.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 5 **Critical N**	**CHECK** a positive rise over the initial data value is indicated during the source check of the following RMS monitors: • RE-211 (DAM 2-2) • RE-212 (DAM 2-3)
Standard:	Determine positive rise in value from information given in initial conditions/initiating cues.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 6 **Critical N**	**CHECK** SS data values have returned to initial values for the following RMS monitors to **ENSURE** source did **NOT** stick: • RE-211 (DAM 2-2) • RE-212 (DAM 2-3)
Standard:	Check values for RE-211 and RE-212 returned to normal.
Evaluator Cue:	**Values for RE-211 and RE-212 have returned to the values given in initial conditions.**
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	_____

Performance Step: 7 **Critical N**	Compare the RE-211 (DAM 2-2) and RE-212 (DAM 2-3) readings taken in Step 5.1.4.b with the readings for RE-211 and RE-212 in Step 5.1.1.h.
Standard:	Compare readings in steps 5.1.4.b with 5.1.1.h and determine the difference in readings.
Performance:	**SATISFACTORY _____ UNSATISFACTORY _____**
Comments:	_____

Performance Step: 8 **Critical Y**	**IF** any reading in Step 5.1.4.b is greater than 125% of associated reading in Step 5.1.1.h, **THEN TERMINATE** U2 vent per section 5.1.2 **AND** N/A Steps 5.1.4.h through 5.1.4.l.
Standard:	Take action to terminate forced vent per Step 5.1.2 and N/A Steps 5.1.4.h through 5.1.4.l.
Evaluator Note:	If examinee does not identify readings >125%, he/she will: • Direct the AO/RP to start the air sampler pump and record sampler rate on permit • Direct the RO to open 2RM-3200N, Forced Vent Pump Suction • Direct the RO to start the forced vent blower • Direct the RO to record the vent flow rate on the forced vent permit At that point the JPM can be terminated.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 9 **Critical N**	Inform Shift Manager of the need to secure the forced vent on Unit 2.
Standard:	Shift Manager informed if need to secure forced vent.
Evaluator Cue:	Acknowledge report.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: Evolution complete

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

Stop Time: _____