



# JOB PERFORMANCE MEASURE

**JPM TITLE:** Review a RCS Leak Rate Determination

**JPM NUMBER:** PBN JPM P119.223e.SRO **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** PBN P119.223.SRO / Review completed procedures

**K/A NUMBERS:** 2.1.7 **K/A VALUE:** 4.4 / 4.7

**Justification (FOR K/A VALUES <3.0):**

**TASK APPLICABILITY:**

RO  SRO  STA  Non-Lic  SRO CERT  OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough:  Perform:

**EVALUATION LOCATION:** In-Plant:  Control Room:   
Simulator:  Other:   
Lab:

Time for Completion: 15 Minutes Time Critical:  Yes  No

Alternate Path [NRC]:  Yes  No

Alternate Path [INPO]:  Yes  No

<b>Developed by:</b> _____	Instructor/Developer	_____	Date
<b>Reviewed by:</b> _____	Instructor (Instructional Review)	_____	Date
<b>Validated by:</b> _____	SME (Technical Review)	_____	Date
<b>Approved by:</b> _____	Training Supervision	_____	Date
<b>Approved by:</b> _____	Training Program Owner	_____	Date



**JOB PERFORMANCE MEASURE VALIDATION CHECKLIST**

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

<b>REVIEW STATEMENTS</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
1. Are all items on the signature page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001}



**PBN JPM P119.223e.SRO, Review a RCS Leak Rate Determination, Rev. 0**

**JPM**  
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**UPDATE LOG:** Indicate in the following table any minor changes or major revisions (as defined in TR-AA-230-1003) made to the material after initial approval. Or use separate Update Log form TR-AA-230-1003-F16.

#	DESCRIPTION OF CHANGE	REASON FOR CHANGE	AR/TWR#	PREPARER	DATE
				REVIEWER	DATE
Rev. 0	Developed for the 2017 NRC ILT Exam.				

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

Simulator Setup Instructions:

- 1.
- 2.

SIMULATOR MALFUNCTIONS:

SIMULATOR OVERRIDES:

SIMULATOR REMOTE FUNCTIONS:

**Required Materials:**

1. OI-55, Primary Leak Rate Calculation (Procedure marked up as completed through step 5.5.8 and Attachment A completed through step 5.0)

2. Calculator

**General References:**

1. OI-55, Primary Leak Rate Calculation
2. Technical Specifications

**Task Standards:** Review and identify errors associated with OI 55 Primary Leak Rate Calculation and determine TSAC impact per OI-55.

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 OS2.
- Unit 1 is operating at stable full reactor power with indications of a primary leak.
- The Letdown Gas Stripper (LDGS) is bypassed per OI 17, Letdown Gas Stripper Operation.
- AOP-1A Unit 1 Reactor Coolant Leak was entered and is currently in progress.
- The PAB AO has reported the following Charging Pumps seal leak rates:
  - 1P-2A = 20 cc/min
  - 1P-2B = 15 cc/min
  - 1P-2C = 25 cc/min
- Steam Generator Tube Leakage (SGTL )  $LR_{SGTL} = 0$
- Reactor Component Leak Rate  $LR_{RC} = 0$
- Non RCPB Leakage  $LR_{P3} = 0$ 
  - The following plant parameters were observed at time 0400:
    - RCS Tavg 575.6 °F
    - RCS T(Terr) 0 °F
    - PZR Level 46.0 %
    - VCT Level 45.0 %
    - U1 PRT level 74.7%
    - U1 RCDT Level 52 %
  - The following plant parameters were observed at time 0420:
    - RCS Tavg 575.6 °F
    - RCS T(Terr) 0 °F
    - PZR Level 45.7%
    - VCT Level 43.8 %
    - U1 PRT level 74.7%
    - U1 RCDT Level 52.5 %
- No borations, dilutions or diverts to HUT took place.
- There is no Chemistry sampling in progress.
- C04 has completed OI 55 through Attachment A, Primary Leak Rate Worksheet, up to Step 6.0 and has presented it to you for your review.

**INITIATING CUES (IF APPLICABLE):**

- Review the Primary Leak Rate Worksheet
- Complete remaining steps of OI 55, Primary Leak Rate Calculation, starting at Step 5.6.

**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** Attachment A  
**Critical N** 2.0 **RECORD** the following data:  
**RCS LEAK RATE DATA**

**Standard:** The examinee checks data accurately entered from the initial conditions and calculates the results.

- Time change 20 minutes
- RC T<sub>error</sub> (Terr) change is 0°F
- PZR Level change is 0.3 % = 19.47 gal.
- VCT Level change is 1.2 % = 15.168 gal.

**Performance:**            **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 2** Attachment A  
**Critical N** 2.0 **RECORD** the following data:  
**RMW AND BA ADDITIONS**

**Standard:** The examinee verifies that this step does not apply

**Evaluator Note:** Per the initial conditions, no RMW or acid additions occurred.

**Performance:**            **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 3**  
**Critical N**

Attachment A  
2.0 **RECORD** the following data:  
**DIVERT**

**Standard:** The examinee verifies that this step does not apply

**Evaluator Note:** Per the initial conditions, no diverts occurred.

**Performance:** **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 4**  
**Critical Y**

Attachment A  
3.0 Calculate RCS leak rate:  
**CALCUALTED RCS LEAK RATE**

**Standard:** The examinee calculates RCS leak rate of 1.732 gpm (1.725 to 1.735 gpm) and determines that recorded RCS leak rate is in error.

**Evaluator Note:** First error  
Time change of 30 min vice 20 min was used to calculate  $LR_{RCS}$ .

**Performance:** **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 5**  
**Critical N**

Attachment A

4.0 **CALCULATE** RCS Unidentified Leak Rate as follows:

4.1 **CALCULATE** Identified RCS Leak Rate:

**IDENTIFIED RCS LEAK RATE DATA**

**Standard:**

The examinee checks data accurately entered from the initial conditions and calculates the results.

- Time change 20 minutes
- PRT Level change 0 gpm
- The examinee calculates RCDT Level change of 0.088 gpm.
- SG Tube Leakage (LR<sub>SGTL</sub>) 0 gpm
- Reactor Component Leak Rate (LR<sub>RC</sub>) 0 gpm

**Performance:**

**SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:**

\_\_\_\_\_

**Performance Step: 6**  
**Critical Y**

Attachment A

4.0 **CALCULATE** RCS Unidentified Leak Rate as follows:

4.2 **CALCULATE** Non Reactor Coolant Pressure Boundary :

**Non Reactor Coolant Pressure Boundary**

**Standard:**

- The examinee calculates Charging Pump Seals (LR<sub>P2</sub>) of 0.016 gpm and determines the recorded value is in error.
- Non RCPB Leakage (LR<sub>P3</sub>) 0 gpm

**Evaluator Note:**

Second error

Charging pump seal leakage was miscalculated by a factor of 10.

**Performance:**

**SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:**

\_\_\_\_\_



<p><b>Performance Step: 7</b> <b>Critical Y</b></p>	<p>Attachment A 4.0 <b>CALCULATE</b> RCS Unidentified Leak Rate as follows: 4.3 <b>CALCULATE</b> RCS Unidentified leakage: <b>UNIDENTIFIED RCS LEAK RATE</b></p>
<p><b>Standard:</b></p>	<p>Based on corrected values, the examinee recalculates Unidentified Leak Rate (LR<sub>UID</sub>) to be 1.628 gpm (1.625 to 1.635 gpm) rather than the original value of 0.909 gpm. (errors carried forward)</p>
<p><b>Performance:</b></p>	<p><b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____</p>
<p><b>Comments:</b></p>	<p>_____</p>

<p><b>Performance Step: 8</b> <b>Critical N</b></p>	<p>5.6 <b>IF</b> the Unit is in Mode 5, <b>THEN</b> perform Attachment B, Cold Shutdown Primary Leak Rate Worksheet as follows:</p>
<p><b>Standard:</b></p>	<p>The examinee verifies that this step is not applicable.</p>
<p><b>Performance:</b></p>	<p><b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____</p>
<p><b>Comments:</b></p>	<p>_____</p>

<p><b>Performance Step: 9</b> <b>Critical N</b></p>	<p>5.7 <b>IF</b> the plant is in Mode 1 through 4, <b>AND</b> Pressure Boundary leakage is detected, <b>THEN ENTER</b> Technical Specification LCO 3.4.13 Action Condition B.</p>
<p><b>Standard:</b></p>	<p>The examinee verifies that the action condition entry is not required at this time.</p>
<p><b>Evaluator Cue:</b></p>	<p>Relief crew is preparing for a containment entry to inspect for pressure boundary leakage.</p>
<p><b>Performance:</b></p>	<p><b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____</p>
<p><b>Comments:</b></p>	<p>_____</p>

**Performance Step: 10**    5.8 **IF** RCS Unidentified Leakage shows a significantly increasing trend, **OR** reaches 0.15 gpm, **THEN** PERFORM the following actions:

**Critical N**

5.8.1 **INFORM** the Shift Manager and Duty Station Manager.

5.8.2 **CHECK** the following at least once per hour:

- a. Containment particulate monitor (RE 211) high and low values.
- b. Containment radiogas monitor (RE 212) high and low values.
- c. Containment humidity.

5.8.3 **PERFORM** the RCS leakrate calculation of Section 5.5 or 5.6 as applicable at least once per shift.

5.8.4 **OBTAIN** a sump A sample and have Chemistry analyze to aid in determining the source of leakage.

5.8.5 **DIRECT** Chemistry to sample and analyze Containment atmosphere for hydrogen content and **REPORT** the results to the SM.

5.8.6 **NOTIFY** Engineering to review Containment Air Cooler performance and cleaning frequencies to determine if an adverse long term trend exists.

5.8.7 **IF** a containment inspection is warranted to localize the source of leakage, **THEN** the inspection should consist of the following:

- a. Evidence of steam in containment.
- b. Wetness on the floor.
- c. Boric Acid deposits.
- d. Abnormal packing or gasket leakage.

**Note: A thorough examination should be performed of the reactor vessel head using binoculars or other methods allowed by RP.**

- e. Reactor vessel head locations as permitted by Health Physics.

**Evaluator Cue:** Shift Manager will have OS2 address actions contained in step 5.8

**Standard:** The examinee identifies actions required as listed by procedure

**Performance:**                    **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 11** 5.9 **IF** the RCS leak rate approaches 0.20 gpm and the cause is known, **THEN** the priority of the work order associated with the contributor SHALL be increased.  
**Critical N**

**Standard:** The examinee verifies that this step is not applicable because the cause of the leakage is unknown.

**Performance:** **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 12** 5.10 **IF** the plant is in Mode 1 through 4, **AND** Unidentified Leakage exceeds one gpm, **THEN ENTER** Technical Specification LCO 3.4.13 Action Condition.  
**Critical Y**

**Standard:** The examinee identifies RCS unidentified leakage >1 gpm is in excess of limit for Technical Specifications LCO 3.4.13.

**Performance:** **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Performance Step: 13** 5.11 **IF** Unidentified Leakage is greater than 1.0 gpm **OR** Identified Leakage is greater than 10 gpm, **THEN INITIATE** AOP 1A, Reactor Coolant Leak.  
**Critical N**

**Standard:** The examinee identifies that AOP 1A is already in effect, per initial conditions.

**Performance:** **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_



**Performance Step: 14** 5.12 **IF** the plant is in Mode 1 through 4, **AND** Identified Leakage **Critical N** exceeds 10 gpm, **THEN ENTER** Technical Specification LCO 3.4.13 Action Condition.

**Standard:** The examinee identifies RCS identified leakage is less than 10 gpm.

**Performance:** **SATISFACTORY** \_\_\_\_\_ **UNSATISFACTORY** \_\_\_\_\_

**Comments:** \_\_\_\_\_

**Terminating Cues:** JPM is complete.

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

**Stop Time:** \_\_\_\_\_



Examinee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

RO  SRO  STA  Non-Lic  SRO CERT Date: \_\_\_\_\_

LOIT RO  LOIT SRO

PERFORMANCE RESULTS: SAT:  UNSAT:

Remediation required: YES  NO

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


**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.**

**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.*

**TURNOVER SHEET****INITIAL CONDITIONS:**

- You are OS2.
- Unit 1 is operating at stable full reactor power with indications of a primary leak.
- The Letdown Gas Stripper (LDGS) is bypassed per OI 17, Letdown Gas Stripper Operation.
- AOP-1A Unit 1 Reactor Coolant Leak was entered and is currently in progress.
- The PAB AO has reported the following Charging Pumps seal leak rates:
  - 1P-2A = 20 cc/min
  - 1P-2B = 15 cc/min
  - 1P-2C = 25 cc/min
- Steam Generator Tube Leakage (SGTL )  $LR_{SGTL} = 0$
- Reactor Component Leak Rate  $LR_{RC} = 0$
- Non RCPB Leakage  $LR_{P3} = 0$ 
  - The following plant parameters were observed at time 0400:
    - RCS Tavg 575.6 °F
    - RCS T(Terr) 0 °F
    - PZR Level 46.0 %
    - VCT Level 45.0 %
    - U1 PRT level 74.7%
    - U1 RCDT Level 52 %
  - The following plant parameters were observed at time 0420:
    - RCS Tavg 575.6 °F
    - RCS T(Terr) 0 °F
    - PZR Level 45.7%
    - VCT Level 43.8 %
    - U1 PRT level 74.7%
    - U1 RCDT Level 52.5 %
- No borations, dilutions or diverts to HUT took place.
- There is no Chemistry sampling in progress.
- C04 has completed OI 55 through Attachment A, Primary Leak Rate Worksheet up to Step 6.0 and has presented it to you for your review.

**INITIATING CUES (IF APPLICABLE):**

- Review the Primary Leak Rate Worksheet
- Complete remaining steps of OI 55, Primary Leak Rate Calculation, starting at Step 5.6.

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



# JOB PERFORMANCE MEASURE

JPM

Page 1 of 11

**JPM TITLE:** Complete a Calculation Review of TS 32

**JPM NUMBER:** PBN P119.203d.SRO **REV.** 1

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

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

**Justification (FOR K/A VALUES <3.0):** N/A

**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: 20 Minutes Time Critical: NO

Alternate Path [NRC]: No

Alternate Path [INPO]: No

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

**JOB PERFORMANCE MEASURE VALIDATION CHECKLIST**

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

<b>REVIEW STATEMENTS</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
1. Are all items on the signature page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)  
{C001}





**UPDATE LOG:** Indicate in the following table any minor changes or major revisions (as defined in TR-AA-230-1003) made to the material after initial approval. Or use separate Update Log form TR-AA-230-1003-F16.

#	DESCRIPTION OF CHANGE	REASON FOR CHANGE	AR/TWR #	PREPARER	DATE
				SUPERVISOR	DATE
Rev. 0	New JPM				
Rev. 1	Updated for the 2017 NRC ILT Exam.				

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

SIMULATOR SETUP INSTRUCTIONS:

SIMULATOR MALFUNCTIONS:

SIMULATOR OVERRIDES:

SIMULATOR REMOTE FUNCTIONS:

**Required Materials:** TS 32, Miscellaneous Equipment Checks (Monthly) Unit 1  
Calculator  
Steam Tables

**General References:** TS 32, Miscellaneous Equipment Checks (Monthly) Unit 1

**Task Standards:** Identify discrepancies (two) not properly noted by the Control Operator, and determine that test results for CET based subcooling margin are NOT within acceptance criteria.

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 power.
- UNIT 1 PPCS Yellow Core Exit Thermocouple indications were acting erratically and have since been repaired.
- PPCS is available.
- CO3 just completed a partial TS 32, Miscellaneous Equipment Checks (Monthly) Unit 1, Attachment B, Calculations.
- CO3 has just requested that you conduct the SRO review for the completed TS 32, Attachment B.

**INITIATING CUES:**

- You are directed you to perform the SRO review of TS 32, Attachment B.

**Evaluator Note:** This JPM requires supplying a copy of TS 32 filled out up to the applicable steps of the procedure and Attachment A and B. Provide a calculator and steam tables if the JPM is not conducted in the simulator or control room.

**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:** Will need to provide the student with a copy of TS 32 completed through steps to conduct attachment A and B for the Yellow Subcooling channel on tan paper; and a calculator if one is not readily available.

<b>Performance Step: 1</b> <b>Critical <u>N</u></b>	Reviews Procedure and Attachments
<b>Standard:</b>	The examinee reviews TS 32 prior to beginning calculation verification
<b>Evaluator Note:</b>	Provide a copy of TS 32 with required steps and Attachments A and B for Yellow Subcooling monitor being completed
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 2</b> <b>Critical <u>N</u></b>	Reviews Attachment B calculations prior to signing that review is complete.
<b>Standard:</b>	Reviews Attachment B calculations and determines that errors exist
<b>Evaluator Note:</b>	The next three JPM steps list the errors that are in the attachment, it is not critical that the errors be discovered in the order listed in the JPM, but all three must be identified.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 3</b> <b>Critical <u>Y</u></b>	Reviews procedure step: 2.0 DETERMINE average Core Exit Thermocouple temperature for each channel: b. T/C Yellow Channel.
<b>Standard:</b>	The examinee determines that "T/C Avg" was calculated incorrectly. The examinee calculates a correct value for "T/C Avg" of 604.4°F, and corrects the error carried forward to Steps 3.b. and 5.e. based on this result.
<b>Evaluator Cue:</b>	If notified of error in calculation then acknowledge report and ask student to continue with performance of the procedure. The error may not be reported until review is completed.
<b>Evaluator Note:</b>	For Step 2.b the acceptable range =603.7 to 604.8°F For Step 3.b and 5.e: °F <sub>SUBCOOLED</sub> = 49.7°F (Acceptable range = 49.3 to 50.4°F)
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 4</b> <b>Critical <u>Y</u></b>	Review procedure step: 5.0 PERFORM a channel check for Core Exit Thermocouple based subcooling margin:
<b>Standard:</b>	The examinee determines that at Step 5.g. the wrong value was entered, and enters the correct value of 40.9°F from Table 2.
<b>Evaluator Cue:</b>	If notified of error, then acknowledge report and ask student to continue with performance of the procedure. The error may not be reported until review is completed.
<b>Evaluator Note:</b>	The incorrect value of 47.8 was taken from “Subcooling Monitor (RTD)” vice “Subcooling Monitor(T/C)” on Table 2.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

<b>Performance Step: 5</b> <b>Critical <u>Y</u></b>	Review procedure step: 5.0 PERFORM a channel check for Core Exit Thermocouple based subcooling margin: h. The difference between all three Yellow Channel values is less than or equal to 7.9°F ( <b>CIRCLE</b> one) SAT / UNSAT
<b>Standard:</b>	The examinee determines that the difference between Yellow Channel values is <b>greater than</b> 7.9°F , and that the step is “UNSAT.”
<b>Evaluator Cue:</b>	If notified of error in calculation then acknowledge report and ask student to continue with performance of the procedure. The error may not be reported until review is completed.
<b>Evaluator Note:</b>	Once errors have been corrected for values at steps 5.e and 5.g, the examinee should identify a difference of 8.8°F.
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____



<b>Performance Step: 6</b> <b>Critical <u>N</u></b>	Reports errors in calculations and asks for CO to review data and does not sign for calculation verification
<b>Standard:</b>	The examinee does not sign calculation verification until deficiencies are resolved
<b>Evaluator Cue:</b>	Acknowledge report
<b>Performance:</b>	<b>SATISFACTORY</b> <input type="checkbox"/> <b>UNSATISFACTORY</b> <input type="checkbox"/>
<b>Comments:</b>	_____

**Terminating Cues:** That completes this JPM.

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

**Stop Time:** \_\_\_\_\_



Examinee:

- RO    SRO    STA    Non-Lic    SRO CERT  
 LOIT RO    LOIT SRO

Evaluator: \_\_\_\_\_

Date: \_\_\_\_\_

PERFORMANCE RESULTS:

SAT:

UNSAT:

Remediation required:

YES

NO

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

**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.**

**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.*



**TURNOVER SHEET**

**INITIAL CONDITIONS:**

- Both Units are at rated power.
- UNIT 1 PPCS Yellow Core Exit Thermocouple indications were acting erratically and have since been repaired.
- PPCS is available.
- CO3 just completed a partial TS 32, Miscellaneous Equipment Checks (Monthly) Unit 1, Attachment B, Calculations.
- CO3 has just requested that you conduct the SRO review for the completed TS 32, Attachment B.

**INITIATING CUES:**

- You are directed you to perform the SRO review of TS 32, Attachment B.

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



# JOB PERFORMANCE MEASURE

**JPM TITLE:** Review IT 90 TRAIN B, Atmospheric Steam Dump Valve Train B Unit 1

**JPM NUMBER:** PBN JPM P119.231.SRO **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** PBN P119.231.SRO / Perform surveillances per the Plant Inspection Program

**K/A NUMBERS:** 2.2.12 **K/A VALUE:** 3.7 / 4.1

**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

<b>Developed by:</b> _____	Instructor/Developer	_____	Date
<b>Reviewed by:</b> _____	Instructor (Instructional Review)	_____	Date
<b>Validated by:</b> _____	SME (Technical Review)	_____	Date
<b>Approved by:</b> _____	Training Supervision	_____	Date
<b>Approved by:</b> _____	Training Program Owner	_____	Date

**JOB PERFORMANCE MEASURE VALIDATION CHECKLIST**

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

<b>REVIEW STATEMENTS</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
1. Are all items on the signature page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001}



**PBN JPM P119.231.SRO, Review Atmospheric Steam Dump Valve  
Train B Unit 1, Rev. 0**

**JPM**  
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**UPDATE LOG:** Indicate in the following table any minor changes or major revisions (as defined in TR-AA-230-1003) made to the material after initial approval. Or use separate Update Log form TR-AA-230-1003-F16.

#	DESCRIPTION OF CHANGE	REASON FOR CHANGE	AR/TWR#	PREPARER	DATE
				SUPERVISOR	DATE
Rev. 0	Developed for the 2017 NRC ILT Exam.				

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

None

**SIMULATOR SETUP INSTRUCTIONS:**

None

**SIMULATOR MALFUNCTIONS:**

None

**SIMULATOR OVERRIDES:**

None

**SIMULATOR REMOTE FUNCTIONS:**

None

**Required Materials:** Marked up copy (with errors) of IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1

**General References:** IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1

**Task Standards:** Identify the two inserted deficiencies during supervisory review of IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1.  
Assess test results to identify that the ADV is OPERABLE, but does not meet IST acceptance criteria, and initiate required actions.

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 OS1.
- The third license just completed IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1 and has requested that you perform the supervisory review prior to exiting TSAC 3.7.4.A.1.

**INITIATING CUES (IF APPLICABLE):**

- Complete the supervisory review for IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1.

**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.

<b>Performance Step: 1</b> <b>Critical N</b>	Review the cover page for accuracy and completeness: <ul style="list-style-type: none"> <li>• Verified Current Copy</li> <li>• List pages used for Partial Performance</li> <li>• Controlling Work Document Numbers</li> </ul>
<b>Standard:</b>	The examinee reviews the cover page and determines it is accurate and complete: <ul style="list-style-type: none"> <li>• Verified Current Copy</li> <li>• List pages used for Partial Performance</li> <li>• Controlling Work Document Numbers</li> </ul>
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>• Verified Current Copy (Signature / Date / Time correctly filled in)</li> <li>• List pages used for Partial Performance (None)</li> <li>• Controlling Work Document Numbers (as noted)</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	



<b>Performance Step: 2 Critical N</b>	Review <u>Step 2.1</u> stopwatch data for accuracy and completeness: <ul style="list-style-type: none"> <li>• ID No.</li> <li>• Calibration Due Date</li> </ul>
<b>Standard:</b>	The examinee checks stopwatch data and notes that ID No. is filled in, and Calibration Due Date is NOT past due.
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>• No errors with this step.</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance Step: 3 Critical N</b>	Review <u>Step 4.0</u> , Initial Conditions for accuracy and completeness: <ul style="list-style-type: none"> <li>• 4.1 This test is being done to satisfy:</li> <li>• IST Coordinator availability</li> <li>• Permission to Perform Test</li> </ul>
<b>Standard:</b>	The examinee reviews <u>Step 4.0</u> , Initial Conditions and notes that it is complete and accurate. <ul style="list-style-type: none"> <li>• 4.1 This test is being done to satisfy:</li> <li>• 4.2 IST Coordinator availability</li> <li>• 4.3 Permission to Perform Test</li> </ul>
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>• No errors in this section.</li> <li>• 4.1 This test is being done to satisfy: (Checked and includes Task Sheet No.)</li> <li>• 4.2 IST Coordinator: N/A (not PMT)</li> <li>• 4.3 Permission to Perform Test (Signature / Date / Time)</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	





<b>Performance Step: 4 Critical N</b>	Review Steps 5.1.1 through 5.1.6 for accuracy and completeness: <ul style="list-style-type: none"> <li>• Date / time</li> <li>• Pressures</li> <li>• Initials</li> <li>• IV initial</li> </ul>
<b>Standard:</b>	The examinee reviews Steps 5.1.1 through 5.1.6 and notes they are accurate and complete.
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>• No errors this section.</li> <li>• 5.1.1 Date / Time</li> <li>• 5.1.3 Value should be 800 psig</li> <li>• 5.1.4 b Value should be 1050 psig</li> <li>• 5.1.5 i Should be marked N/A</li> <li>• 5.1.5 j Should be marked N/A</li> <li>• 5.1.6 b Value should be 800 psig</li> <li>• 5.1.6 d Value should be 1050 psig</li> <li>• 5.1.6 m Should be marked N/A</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance Step: 5 Critical N</b>	Review Step 5.1.7 through 5.1.9 for accuracy and completeness: <ul style="list-style-type: none"> <li>• Date / Time</li> <li>• Initials</li> <li>• IV initials</li> </ul>
<b>Standard:</b>	The examinee reviews Step 5.1.7 through 5.1.9 and notes they are accurate and complete.
<b>Evaluator Note:</b>	5.1.9 Date / Time
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<p><b>Performance Step: 6 Critical N</b></p>	<p>Review Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.5 b</p> <ul style="list-style-type: none"> <li>• Control Room Time to OPEN</li> <li>• Local Positon Indication</li> <li>• Control Room Position Indication</li> </ul>
<p><b>Standard:</b></p>	<p>The examinee reviews Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.5 b and determines it is accurate and complete.</p> <ul style="list-style-type: none"> <li>• Control Room Time to OPEN</li> <li>• Local Positon Indication</li> <li>• Control Room Position Indication</li> </ul>
<p><b>Evaluator Note:</b></p>	<ul style="list-style-type: none"> <li>• Control Room Time to OPEN (11.77)</li> <li>• Local Positon Indication (OPEN)</li> <li>• Control Room Position Indication (ON / OFF)</li> </ul>
<p><b>Performance:</b></p>	<p><b>SATISFACTORY _____ UNSATISFACTORY _____</b></p>
<p><b>Comments:</b></p>	



**PBN JPM P119.231.SRO, Review Atmospheric Steam Dump Valve  
Train B Unit 1, Rev. 0**

<b>Performance Step: 7 Critical N</b>	Review Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.5 e. <ul style="list-style-type: none"> <li>• Control Room Time to SHUT</li> <li>• Local Positon Indication</li> <li>• Control Room Position Indication</li> </ul>
<b>Standard:</b>	The examinee reviews Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.5 e and determines it is accurate and complete. <ul style="list-style-type: none"> <li>• Control Room Time to SHUT</li> <li>• Local Positon Indication</li> <li>• Control Room Position Indication</li> </ul>
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>• Control Room Time to SHUT (34.56)</li> <li>• Local Positon Indication (SHUT)</li> <li>• Control Room Position Indication (OFF / ON)</li> <li>• The examinee may identify that "Time to SHUT" does not meet IST acceptance criteria. This will be critical for JPM Step 11.</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 8 Critical Y</b>	Review Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.6 g <ul style="list-style-type: none"> <li>Control Room Time to OPEN</li> <li>Local Positon Indication</li> <li>Control Room Position Indication</li> </ul>
<b>Standard:</b>	The examinee identifies the Step 5.1.6 g transposition error (entered value of OFF / ON rather than the required value of ON / OFF).
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>Control Room Time to OPEN (11.78)</li> <li>Local Positon Indication (OPEN)</li> <li>Control Room Position Indication (OFF / ON), (First of two inserted errors.)</li> </ul>
<b>Evaluator Cue:</b>	If the examinee questions the CO about the incorrect valve position indication, report that the actual indication was "Red Light ON and Green Light OFF."
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance Step: 9 Critical N</b>	Review Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.6 i <ul style="list-style-type: none"> <li>Control Room Time to SHUT</li> <li>Local Positon Indication</li> <li>Control Room Position Indication</li> </ul>
<b>Standard:</b>	The examinee reviews Attachment A, 1MS-2015 Valve Stroke Verification data recorded in the table for Steps 5.1.6 i and determines it is accurate and complete. <ul style="list-style-type: none"> <li>Control Room Time to SHUT</li> <li>Local Positon Indication</li> <li>Control Room Position Indication</li> </ul>
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>No errors this section.</li> <li>Control Room Time to SHUT (34.48)</li> <li>Local Positon Indication (SHUT)</li> <li>Control Room Position Indication (OFF / ON)</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	



<b>Performance Step: 10</b> <b>Critical Y</b>	Review Attachment A, 1MS-2015 Valve Stroke Verification data recorded after the table for: <ul style="list-style-type: none"> <li>• LVFST Satisfied for all tested valves in Attachment A: (SAT / UNSAT)</li> <li>• IST Data Satisfied for all tested valves in Attachment A: (SAT / UNSAT)</li> <li>• Performer, Date / Time</li> <li>• Remarks</li> </ul>
<b>Standard:</b>	The examinee identifies that SAT was circled in error for the <i>'IST Data Satisfied for all tested valves in Attachment A.'</i>
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>• LVFST Satisfied for all tested valves in Attachment A: (SAT circled)</li> <li>• IST Data Satisfied for all tested valves in Attachment A: (SAT circled) (Second of two inserted errors.)</li> <li>• Performer, Date / Time (Signature / Date / Time)</li> <li>• Remarks (Comment addressing IST out-of-spec for step 5.1.5 e)</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



<b>Performance Step: 11 Critical Y</b>	Completes Step 6.1: Operations Analysis
<b>Standard:</b>	The examinee: <ul style="list-style-type: none"> <li>• Completes Step 6.1.1 – signature / date / time</li> <li>• Step 6.1.2 – marks step as N/A</li> <li>• Step 6.1.3 – marks step as N/A</li> <li>• Completes Step 6.1.4 – actions request submittal and IST Engineer notification</li> </ul>
<b>Evaluator Cue:</b>	When the step is addressed, notify the SRO that the CO has written an AR. AR # 1234567 When the step is addressed, notify the SRO that the IST Engineer has been informed of his required review.
<b>Evaluator Note:</b>	The examinee should: <ul style="list-style-type: none"> <li>• Identify “Time to SHUT” does not meet IST acceptance criteria, requiring performance of Step 6.1.4.</li> <li>• Give direction to generate an AR and</li> <li>• Notify the IST Engineer.</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

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

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

**Stop Time:** \_\_\_\_\_



Examinee: \_\_\_\_\_

Evaluator: \_\_\_\_\_

[ ] RO [ ] SRO [ ] STA [ ] Non-Lic [ ] SRO CERT

Date: \_\_\_\_\_

[ ] LOIT RO [ ] LOIT SRO

PERFORMANCE RESULTS:

SAT: [ ]

UNSAT: [ ]

Remediation required:

YES [ ]

NO [ ]

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

EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.

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.

## **TURNOVER SHEET**

### **INITIAL CONDITIONS:**

- You are OS1.
- The third license just completed IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1 and has requested that you perform the supervisory review prior to exiting TSAC 3.7.4.A.1.

### **INITIATING CUES (IF APPLICABLE):**

- Complete the supervisory review for IT 90 Train B, Atmospheric Steam Dump Valve Train B Unit 1.

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





# JOB PERFORMANCE MEASURE

**JPM TITLE:** Review a Discharge Calculation (OI 140B)

**JPM NUMBER:** PBN JPM P119.223d.SRO **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** PBN P119.223.SRO / Review completed procedures

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

**EVALUATION LOCATION:** In-Plant:  Control Room:

Simulator:  Other:

Lab:

Time for Completion: 15 Minutes Time Critical: No

Alternate Path [NRC]: No

Alternate Path [INPO]: N0

<b>Developed by:</b> _____	Instructor/Developer	_____	Date
<b>Reviewed by:</b> _____	Instructor (Instructional Review)	_____	Date
<b>Validated by:</b> _____	SME (Technical Review)	_____	Date
<b>Approved by:</b> _____	Training Supervision	_____	Date
<b>Approved by:</b> _____	Training Program Owner	_____	Date



**JOB PERFORMANCE MEASURE VALIDATION CHECKLIST**

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

<b>REVIEW STATEMENTS</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
1. Are all items on the signature page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)



**UPDATE LOG:** Indicate in the following table any minor changes or major revisions (as defined in TR-AA-230-1003) made to the material after initial approval. Or use separate Update Log form TR-AA-230-1003-F16.

#	DESCRIPTION OF CHANGE	REASON FOR CHANGE	AR/TWR#	PREPARER	DATE
				SUPERVISOR	DATE
Rev. 0	Developed for the 2017 NRC ILT Exam.				

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

SIMULATOR SETUP INSTRUCTIONS:

None

SIMULATOR MALFUNCTIONS:

None

SIMULATOR OVERRIDES:

None

SIMULATOR REMOTE FUNCTIONS:

None

**Required Materials:** OI 140B, Standard Radioactive Batch Liquid Release – Waste Distillate Tanks  
PBNP Liquid Waste Discharge Permit for the “A” Waste Distillate Tank  
CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water  
OI-38, Circulating Water System Operation  
TLB 23, Waste Distillate Tank T-104 A/B

**General References:** OI 140B, Standard Radioactive Batch Liquid Release – Waste Distillate Tanks  
PBNP Liquid Waste Discharge Permit for the “A” Waste Distillate Tank  
CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water

**Task Standards:** Review and identify the three errors on CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water associated with the discharge of the “A” Waste Distillate Tank.

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 Shift Manager on mids
- A “A” Waste Distillate Tank discharge was recently completed on your shift and the paperwork was routed to you for review and approval.

**INITIATING CUES (IF APPLICABLE):**

Complete the “Permit review by Shift Manager” section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the “A” Waste Distillate Tank prior to routing to the Chemistry Manager.

**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.

<b>Performance Step: 1</b> <b>Critical N</b>	Review “Completed Prior to Discharge” section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>• Initials for actual dilution flow</li> <li>• Initials for number of Circulating Water pumps operating (2)</li> <li>• Initials and Date/Time for Shift Manager Review/Approval to Start Discharge</li> </ul>
<b>Standard:</b>	The examinee reviews the “Completed Prior to Discharge” section for accuracy and completeness: <ul style="list-style-type: none"> <li>• Initials for actual dilution flow</li> <li>• Initials for number of Circulating Water pumps operating (2)</li> <li>• Initials and Date/Time for Shift Manager Review/Approval to Start Discharge</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	



**PBN JPM P119.223d.SRO, Review a Discharge Calculation  
(OI 140C), Rev. 0**

<b>Performance Step: 2 Critical N</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>• The two Notes</li> <li>• Ensure flow response option circled</li> <li>• The initial flow calculation / data recorded in the box</li> <li>• The final flow calculation / data recorded in the box.</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for accuracy and completeness for the following: <ul style="list-style-type: none"> <li>• The two Notes (circle / slashed)</li> <li>• Ensure flow response option (circled) – LW-15</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 3 Critical N</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>• Discharge START Date/Time and initials</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>• Discharge START Date/Time and initials</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 4 Critical N</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>• Discharge START Level and initials</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>• Discharge START Levels and initials – 78%</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



**PBN JPM P119.223d.SRO, Review a Discharge Calculation  
(OI 140C), Rev. 0**

<b>Performance Step: 5 Critical N</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>• Discharge STOP Date/Time and initials</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>• Discharge STOP Date/Time and initials</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 6 Critical N</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>• Discharge STOP Level and initials</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>• Discharge STOP Level and initials</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



<b>Performance Step: 7 Critical Y</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>Actual Discharge Volume (gal)</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>Actual Discharge Volume (gal)</li> <li><b>Determines that the recorded volume of 7410 gal is incorrect. The correct volume is 8610 gal.</b></li> </ul>
<b>Evaluator Note:</b>	<ul style="list-style-type: none"> <li>The recorded volume of 7410 gal does not account for 1200 gal in the tank below the 0% level indication. See TLB 23 and OI-140B P&amp;L 3.15. The actual volume discharged is 8610 gal.</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 8 Critical Y</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>Actual Discharge Rate (gpm)</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>Actual Discharge Rate (gpm)</li> <li><b><u>AND</u> Determines that the discharge rate calculation is NOT accurate.</b></li> </ul>
<b>Evaluator Note:</b>	The values used for both discharged volume and time are incorrect. Using the corrected value for volume discharged (JPM Step 7) and the correct time of 2 hr, 32 min (152 min) the Actual Discharge Rate is 56.6 gpm. [8610 gal / 152 min = 56.6 gpm]
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



**PBN JPM P119.223d.SRO, Review a Discharge Calculation  
(OI 140C), Rev. 0**

<b>Performance Step: 9 Critical Y</b>	Review "Completed During Discharge" section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the following: <ul style="list-style-type: none"> <li>Actual Discharge Rate (gpm)</li> </ul>
<b>Standard:</b>	The examinee reviews the "Completed During Discharge" section for the following: <ul style="list-style-type: none"> <li>Actual Discharge Rate (gpm)</li> </ul> <p align="center"><b><u>AND</u></b></p> <p><b>Determines that the corrected Actual Discharge Rate exceeds the Maximum Release Rate as specified on the Discharge Permit.</b></p>
<b>Evaluator Note:</b>	The corrected value for "Actual Discharge Rate" is 56.6 gpm is greater than the Maximum Release Rate of 50 gpm as specified on the Discharge Permit.
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

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

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

**Stop Time:** \_\_\_\_\_

Examinee: \_\_\_\_\_ Evaluator: \_\_\_\_\_

RO  SRO  STA  Non-Lic  SRO CERT Date: \_\_\_\_\_

LOIT RO  LOIT SRO

PERFORMANCE RESULTS: SAT:  UNSAT:

Remediation required: YES  NO

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


**EXAMINER NOTE:** ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.

**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.*

## **TURNOVER SHEET**

### **INITIAL CONDITIONS:**

- You are the Shift Manager on mids
- A “A” Waste Distillate Tank discharge was recently completed on your shift and the paperwork was routed to you for review and approval.

### **INITIATING CUES (IF APPLICABLE):**

Complete the “Permit review by Shift Manager” section of CAMP 031, Data Sheet 1 – Permits for Batch Discharge of Liquid Radioactive Water for the “A” Waste Distillate Tank prior to routing to the Chemistry Manager.

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

**SRO Admin JPM 5 (Emergency Plan)**

**PERFORM REQUIRED NOTIFICATIONS**

(Facility JPM Number: PBN JPM P119.214c.SRO)

**Exam material withheld from public disclosure due to proprietary content.**