

**Catawba Nuclear Station  
Admin. JPM A.1-1  
May 2015 NRC Exam**

**JPM A.1-1**

**RO / SRO**

# Catawba Nuclear Station

## Admin. JPM A.1-1

### May 2015 NRC Exam

**EVALUATION SHEET**

**Task:** Calculate Reactor Vessel Head Venting Time

**Alternate Path:** N/A

**Facility JPM #:** CSF-003

**Safety Function:** N/A

**K/A** G 2.1.25 Ability to interpret reference materials, such as graphs, curves, tables, etc.

**Importance:** 3.9 / 4.2      **CFR:** 41.10 / 43.5 / 45.12

**Preferred Evaluation Location:**

**Preferred Evaluation Method:**

Simulator \_\_\_\_\_ Classroom  Perform  Simulate \_\_\_\_\_

**References:** EP/1/A/5000/FR-I.3 Response to Voids in Reactor Vessel, Enclosure 5 (rev 17) and images of control room gauges needed to perform head vent calculation.

**Task Standard:** Reactor vessel head maximum allowable vent time calculated as between 3.4 minutes and 5.2 minutes.

**Validation Time:** 15 minutes      **Time Critical:** Yes \_\_\_\_\_ No

**Applicant:** NAME \_\_\_\_\_ Docket # \_\_\_\_\_ Time Start: \_\_\_\_\_  
 Time Finish: \_\_\_\_\_

**Performance Rating:** Performance Time \_\_\_\_\_

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

**Examiner:** \_\_\_\_\_ / \_\_\_\_\_  
 NAME SIGNATURE DATE

**COMMENTS**

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# Catawba Nuclear Station

## Admin. JPM A.1-1

### May 2015 NRC Exam

#### SIMULATOR OPERATOR INSTRUCTIONS:

1. ENSURE NRC Examination Security has been established.
2. Insert the following malfunctions:

✓	Instructor Action	Final	Delay	Ramp	Delete In	Event
	XMT-VV010 (TVV_5090 LOWER CNT AIR TEMP A MTR)	140				
	XMT-VV011 (TVV_5110 LOWER CNT AIR TEMP B MTR)	140				
	XMT-VV014 (TVV_5170 LOWER CNT AIR TEMP C MTR)	140				
	XMT-VV015 (TVV_5190 LOWER CNT AIR TEMP D MTR)	140				
	XMT-VX003 (XMI_5320 CNT TRN A H2 ANAL MTR)	1.5				
	XMT-VX004 (XMI_5330 CNT TRN B H2 ANAL MTR)	1.5				
	XMT-CNT009 (PNS_5090 CNT PRESS MTR (PI-937))	3.0				
	XMT-CNT008 (PNS_5060 CNT PRESS MTR (PI-936))	3.0				
	XMT-CNT007 (PNS_5050 CNT PRESS MTR (PI-935))	3.0				
	XMT-CNT006 (PNS_5040 CNT PRESS MTR (PI-934))	3.0				
	XMT-CNT011 (PNS_5380 CNT TRN B PRESS MTR)	3.0				
	XMT-CNT010 (PNS_5370 CNT TRN A PRESS MTR)	3.0				
	IND-NC023 (PNC_5120 LOOP B HOT LEG W/R PRESS MTR (PI-405))	1000				
	IND-NC024 (PNC_5140 LOOP C HOT LEG W/R PRESS MTR (PI-403))	1000				

3. Take digital photographs of the gauges listed above or provide control board mimics from the instructor station.

**NOTE TO EVALUATOR:** These have been provided as part of the JPM package for each applicant.

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**READ TO APPLICANT**

**DIRECTION TO APPLICANT:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

**INITIAL CONDITIONS:**

- A LOCA is in progress on Unit 1.

**INITIATING CUES:**

- The CRS directs you to calculate and record the maximum reactor vessel head venting time per EP/1/A/5000/FR-I.3 (Response to Voids in Reactor Vessel) Enclosure 5 (Allowable Hydrogen Venting Time).

**EXAMINER NOTE:** Each applicant should receive a copy of FR-I.3 Enclosure 5 as well as 4 pictures of control room gauges for:

- H2 Analyzers
- Containment Pressure
- Lower Containment Air Temperatures
- Loop B and C Hot Leg W/R Pressure

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<b>STEP / STANDARD</b>	<b>SAT / UNSAT</b>
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**START TIME:** \_\_\_\_\_

<p><u>STEP 1:</u> Enclosure 5 Step 1</p> <p><b>Calculate A</b> where <math>A = 9500 \times \frac{(P + 14.7)}{14.7} \times \frac{492}{(T+460)}</math></p> <p><b>Where:</b> P = Containment pressure (PSIG) T = Lower Containment temperature (°F)</p> <p><u>STANDARD:</u></p> <p><u>Calculate A:</u></p> <p>Determine containment pressure as 2.9 psig to 3.1 psig. Determine Lower Containment Temperature as 135°F - 145°F.</p> <p>Using 2.9, 135 <math>A = 9500 \times \frac{(2.9 + 14.7)}{14.7} \times \frac{492}{(135+460)} = 9405.18</math></p> <p>Using 2.9, 145 <math>A = 9500 \times \frac{(2.9 + 14.7)}{14.7} \times \frac{492}{(145+460)} = 9249.68</math></p> <p>Using 3.1, 135 <math>A = 9500 \times \frac{(3.1 + 14.7)}{14.7} \times \frac{492}{(135+460)} = 9513.07</math></p> <p>Using 3.1, 145 <math>A = 9500 \times \frac{(3.1 + 14.7)}{14.7} \times \frac{492}{(145+460)} = 9354.76</math></p> <p><b>NOTE TO EXAMINER:</b> Acceptable band for value of A is 9249 – 9513.</p> <p><b>This step is critical to properly perform this task and to meet the JPM standard to calculate the maximum head vent time for the conditions given.</b></p> <p><u>COMMENTS:</u></p>	<p><b>CRITICAL STEP</b></p> <p>___ SAT</p> <p>___ UNSAT</p>
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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 2:</u> Enclosure 5 Step 2</p> <p><b><u>Calculate B</u> where <math>B = (3 - H) \times A</math></b></p> <p><b>Where H = Containment Hydrogen Concentration (%)</b></p> <p><u>STANDARD:</u></p> <div style="background-color: #f0f0f0; padding: 5px;"> <p>Determine H<sub>2</sub> concentration as between 1.25% and 1.75%.</p> <p>Using bounding values of A (9249 to 9513):</p> <p><math>B = (3 - 1.25) \times 9249 = 16185.8</math></p> <p><math>B = (3 - 1.25) \times 9513 = 16647.8</math></p> <p><math>B = (3 - 1.75) \times 9249 = 11561.3</math></p> <p><math>B = (3 - 1.75) \times 9513 = 11891.3</math></p> </div> <p><b>NOTE TO EXAMINER: Acceptable range for value of B is 11561 – 16648.</b></p> <p><b>This step is critical to properly perform this task and to meet the JPM standard to calculate the maximum head vent time for the conditions given.</b></p> <p><u>COMMENTS:</u></p>	<p><b>CRITICAL STEP</b></p> <p>___ SAT</p> <p>___ UNSAT</p>

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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 3:</u> Enclosure 5 Step 3</p> <p><b><u>Determine C</u> from the curve for the current NC system pressure.</b></p> <p><u>STANDARD:</u></p> <p>Determines NC pressure from pictures as <b>975</b> psig to <b>1025</b> psig.</p> <p>Determines C (hydrogen flow rate) as between <b>3,200 - 3400</b> SCFM.</p> <p><b>This step is critical to properly perform this task and to meet the JPM standard to calculate the maximum head vent time for the conditions given.</b></p> <p><u>COMMENTS:</u></p>	<p><b>CRITICAL STEP</b></p> <p>___ SAT</p> <p>___ UNSAT</p>

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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 4</u>    Enclosure 5 Step 4</p> <p><b><u>Calculate T:</u></b></p> <p><b>T = B / C = Venting time in minutes</b></p> <p><b><u>STANDARD:</u></b></p> <div style="background-color: #e0e0e0; padding: 5px; margin: 5px 0;"> <p>Using bounding values for B and C:</p> <p>T = 11561 / 3200 = <b>3.61</b> minutes</p> <p>T = 11561 / 3400 = <b>3.40</b> minutes</p> <p>T = 16648 / 3200 = <b>5.20</b> minutes</p> <p>T = 16648 / 3400 = <b>4.90</b> minutes</p> </div> <p><b>NOTE TO EXAMINER: Maximum allowable venting time acceptable band is 3.4 – 5.2 minutes (3 minutes 24 seconds to 5 minutes 12 seconds).</b></p> <p><b>This step is critical to properly perform this task and to meet the JPM standard to calculate the maximum head vent time for the conditions given.</b></p> <p><u>COMMENTS:</u></p> <p style="text-align: center; margin-top: 20px;"><b>END OF TASK</b></p>	<p><b>CRITICAL STEP</b></p> <p>___ SAT</p> <p>___ UNSAT</p>

**STOP TIME** \_\_\_\_\_



# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## INITIAL CONDITIONS:

- A LOCA is in progress on Unit 1.

## INITIATING CUES:

- The CRS directs you to calculate and record the maximum reactor vessel head venting time per EP/1/A/5000/FR-I.3 (Response to Voids in Reactor Vessel) Enclosure 5 (Allowable Hydrogen Venting Time).

**Catawba Nuclear Station  
Admin. JPM A.1-2R  
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**JPM A.1-2R**

**RO**

# Catawba Nuclear Station

## Admin. JPM A.1-2R

### May 2015 NRC Exam

#### EVALUATION SHEET

**Task:** Perform a Manual NC System Leakage Calculation

**Alternate Path:** N/A

**Facility JPM #:** NC-094 Modified

**Safety Function:** N/A

**K/A** G 2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

**Importance:** 4.4 / 4.7      **CFR:** 41.5 / 43.5 / 45.12 / 45.13

**Preferred Evaluation Location:**

**Preferred Evaluation Method:**

Simulator \_\_\_\_\_ Classroom  Perform  Simulate \_\_\_\_\_

**References:** PT/1/A/4150/001 D (NC System Leakage Calculation) rev 81

**Task Standard:** A manual NC System Leakage Calculation is performed per PT/1/A/4150/001 D (NC System Leakage Calculation) and the following results reported: Unidentified Leakage 10.6 – 10.7 gpm, Identified Leakage 0.2 – 0.3 gpm, Total Accumulated Leakage 21.8 – 21.9 gpm. Box is checked for > 20 gpm total leakage on Enclosure 13.3.2.

**Validation Time:** 30 minutes      **Time Critical:** Yes \_\_\_\_\_ No

**Applicant:** NAME \_\_\_\_\_ Docket # \_\_\_\_\_ Time Start: \_\_\_\_\_  
Time Finish: \_\_\_\_\_

**Performance Rating:** Performance Time \_\_\_\_\_

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

**Examiner:** \_\_\_\_\_ / \_\_\_\_\_  
NAME SIGNATURE DATE

#### COMMENTS

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# Catawba Nuclear Station

## Admin. JPM A.1-2R

### May 2015 NRC Exam

#### READ TO APPLICANT

#### DIRECTION TO APPLICANT:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

#### INITIAL CONDITIONS:

- Unit 1 is in Mode 1 at 100% power.
- The OAC is out of service due to emergent system failures and will not be returned to service for 24 hours.
- Other operators are performing PT/1/A/4600/009 (Loss of Operator Aid Computer) and OP/1/A/6700/003 (Operation With the Operator Aid Computer Out of Service).

#### INITIATING CUES:

- The CRS directs you to perform an NC System Leakage Calculation per PT/1/A/4150/001 D (NC System Leakage Calculation).
- Steps are complete through 12.11.
- You are to perform step 12.12.
- The Open Item Summary has been updated. The background leakage is .077 gpm (Orbisphere flow reported by Primary Chemistry).
- Using the attached Data Sheet and PT/1/A/4150/001 D, calculate and report the following information back to the CRS:

Unidentified Leakage \_\_\_\_\_ gpm

Identified Leakage \_\_\_\_\_ gpm

Total Accumulated Leakage \_\_\_\_\_ gpm

**EXAMINER NOTE:** Each applicant should receive a copy of attached Data Sheets and a copy of PT/1/A/4150/001 D rev 81 body signed off through step 12.11 and Enclosure 13.3.

# Catawba Nuclear Station

## Admin. JPM A.1-2R

### May 2015 NRC Exam

STEP / STANDARD	SAT / UNSAT
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START TIME: \_\_\_\_\_

<p><b>STEP 1</b> 12.12 <b>IF</b> the OAC is partially or wholly unavailable <b>OR</b> Unit 1 is <b>NOT</b> at or near normal operating temperature and pressure (i.e. <math>T_{avg} \leq 550^{\circ}\text{F}</math> and W/R pressure <math>\leq 2200</math> psig), perform Enclosure 13.3 (Manual Leakage Calculation).</p> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0;">Applicant determines that this step is applicable and goes to Enclosure 13.3 for a manual leakage calculation.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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<p><b>STEP 2</b> Enclosure 13.3 step 1.1 Verify the following valves are closed:</p> <ul style="list-style-type: none"> <li>• 1NC-56B (RMW Pump Disch Cont Isol)</li> <li>• 1NV-181A (B/A Blender Otlt to VCT)</li> <li>• 1NV-186A (B/A Blender Otlt to VCT Outlet)</li> <li>• 1NV-236B (Boric Acid to NV Pumps Suct)</li> <li>• 1NV-252A (NV Pumps Suct From FWST)</li> <li>• 1NV-253B (NV Pumps Suct From FWST)</li> <li>• 1NI-9A (NV Pump C/L Inj Isol)</li> <li>• 1NI-10B (NV Pump C/L Inj Isol)</li> </ul> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0;">Applicant determines from the data sheet provided that all of the listed valves are closed.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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**Catawba Nuclear Station**  
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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 3</u> 1.2 Record "Initial Data" on Enclosure 13.3.1 (Manual Leakage Data) using Control Room indications or OAC (if available).</p> <p><u>STANDARD:</u></p> <p>Applicant records initial data on Enclosure 13.3.1 using the provided data sheet.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>NOTE:</b> Calculation accuracy improves as the time between initial and final data increases.</p>	
<p><u>STEP 4</u> 1.3 Wait at least 60 minutes prior to obtaining final data.</p> <p><u>STANDARD:</u></p> <p>Applicant is given data for 61 minutes after initial data.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5</u> 1.4 Record "Final Data" on Enclosure 13.3.1 (Manual Leakage Data) using Control Room indications or OAC (if available).</p> <p><u>STANDARD:</u></p> <p>Applicant records final data on Enclosure 13.3.1 using the provided data sheet.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

# Catawba Nuclear Station

## Admin. JPM A.1-2R

### May 2015 NRC Exam

STEP / STANDARD	SAT / UNSAT
<p><b>STEP 6</b> 1.5 Using data from Enclosure 13.3.1 (Manual Leakage Data), calculate change in T-Avg:</p> $\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ } ^\circ\text{F}$ <p style="text-align: center; margin-left: 100px;">NC Average temp initial    NC Average temp final</p> <p><b>STANDARD:</b></p> <p style="background-color: #e0e0e0; padding: 2px;">Applicant calculates change in T-Avg to be <b>.2°F</b>.</p> <p><b>COMMENTS:</b></p>	<p>___ SAT</p> <p>___ UNSAT</p>

**NOTE:** Procedure may continue while performing the following step. If change in T-Avg is greater than 0.25°F (0.1°F if using OAC), calculation is invalid and must be repeated.

<p><b>STEP 7</b> 1.6 <b>IF</b> change in T-Avg is less than or equal to 0.25°F (0.1°F if using OAC), perform all calculations on Enclosure 13.3.2 (Manual Calculation).</p> <p><b>STANDARD:</b></p> <p style="background-color: #e0e0e0; padding: 2px;">Applicant determines from previous step that T-Avg is 0.2°F and performs calculations from Enclosure 13.3.2.</p> <p><b>COMMENTS:</b></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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**Catawba Nuclear Station  
Admin. JPM A.1-2R  
May 2015 NRC Exam**

STEP / STANDARD	SAT / UNSAT
<p><u>STEP 8</u> Enclosure 13.3.2 (Manual Calculation)</p> <p><u>STANDARD:</u></p> <p>Applicant performs the required calculations and comes up with the following results:</p> <p>VCT Leakage Rate = 10.96 gpm (Allowable range 10.9 – 11.0 gpm)  PZR Leakage Rate = 0 gpm  Total Leakage = 10.96 gpm (Allowable range 10.9 – 11.0 gpm)  NCDT Leakage Rate = .184 gpm (Allowable range 0.1 – 0.2 gpm)  PRT Leakage Rate = 0 gpm  <b>Identified Leakage = .261 gpm (Allowable range 0.2 – 0.3 gpm)</b>  <b>Unidentified Leakage = 10.699 gpm (Allowable range 10.6 – 10.7 gpm)</b>  <b>Total Accumulated Leakage = 21.89 gpm (Allowable range 21.8 – 21.9 gpm)</b></p> <p><b>These steps are critical to ensure accurate leakage values will be used to determine compliance with Technical Specifications/Selected License Commitments for NC system leakage.</b></p> <p><u>COMMENTS:</u></p>	<p><b>CRITICAL STEP</b></p> <p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p>
<p><u>STEP 9</u> Ensure box is checked on Enclosure 13.3.2 for &gt; 20 gpm.</p> <p><u>STANDARD:</u></p> <p>Applicant determines that total accumulated leakage is &gt; 20 gpm, and check the box indicating this on Enclosure 13.3.2.</p> <p><b>This step is critical to meet the task and JPM standard.</b></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;"><b>END OF TASK</b></p>	<p><b>CRITICAL STEP</b></p> <p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p>

**STOP TIME** \_\_\_\_\_



# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## INITIAL CONDITIONS:

- Unit 1 is in Mode 1 at 100% power.
- The OAC is out of service due to emergent system failures and will not be returned to service for 24 hours.
- Other operators are performing PT/1/A/4600/009 (Loss of Operator Aid Computer) and OP/1/A/6700/003 (Operation With the Operator Aid Computer Out of Service).

## INITIATING CUES:

- The CRS directs you to perform an NC System Leakage Calculation per PT/1/A/4150/001 D (NC System Leakage Calculation).
- Steps are complete through 12.11.
- You are to perform step 12.12.
- The Open Item Summary has been updated. The background leakage is .077 gpm (Orbisphere flow reported by Primary Chemistry).
- Using the attached Data Sheet and PT/1/A/4150/001 D, calculate and report the following information back to the CRS:

Unidentified Leakage \_\_\_\_\_ gpm

Identified Leakage \_\_\_\_\_ gpm

Total Accumulated Leakage \_\_\_\_\_ gpm

# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## DATA SHEET

The following valves are closed:

- 1NC-56B (RMW Pump Disch Cont Isol)
- 1NV-181A (B/A Blender Otlit to VCT)
- 1NV-186A (B/A Blender Otlit to VCT Outlet)
- 1NV-236B (Boric Acid to NV Pumps Suct)
- 1NV-252A (NV Pumps Suct From FWST)
- 1NV-253B (NV Pumps Suct From FWST)
- 1NI-9A (NV Pump C/L Inj Isol)
- 1NI-10B (NV Pump C/L Inj Isol)

Parameter	Instrument	2000 hours Data	2101 hours Data
NC Avg. Temp.	1NCCR5421	584.5 °F	584.3 °F
VCT Level	1NVP5761	65%	30%
PZR Level	1NCP5164	55%	55%
NCDT Level	1WLP5630	48%	51%
PRT Level	1NCP5131	68%	68%

1A NC Pump #1 Seal Leakoff Flow	2.50 GPM
1B NC Pump #1 Seal Leakoff Flow	2.87 GPM
1C NC Pump #1 Seal Leakoff Flow	2.77 GPM
1D NC Pump #1 Seal Leakoff Flow	2.79 GPM

1EMF-71 Leakage	75 GPD
1EMF-72 Leakage	80 GPD
1EMF-73 Leakage	1 GPD
1EMF-74 Leakage	1 GPD

Background leakage - .077 gpm (Orbisphere flow)

**Catawba Nuclear Station  
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**JPM A.1-2S**

**SRO**

# Catawba Nuclear Station

## Admin. JPM A.1-2S

### May 2015 NRC Exam

#### EVALUATION SHEET

**Task:** Perform a Manual NC System Leakage Calculation

**Alternate Path:** N/A

**Facility JPM #:** NC-094 Modified

**Safety Function:** N/A

**K/A** G 2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

**Importance:** 4.4 / 4.7 **CFR:** 41.5 / 43.5 / 45.12 / 45.13

**Preferred Evaluation Location:**

**Preferred Evaluation Method:**

Simulator \_\_\_\_\_ Classroom  Perform  Simulate \_\_\_\_\_

**References:** PT/1/A/4150/001 D (NC System Leakage Calculation) rev 81

**Task Standard:** A manual NC System Leakage Calculation is performed per PT/1/A/4150/001 D (NC System Leakage Calculation) and the following results reported: Unidentified Leakage 10.6 – 10.7 gpm, Identified Leakage 0.2 – 0.3 gpm, Total Accumulated Leakage 21.8 – 21.9 gpm. Determines that T.S. 3.4.13 Condition A and SLC 16.7-9 Condition B are applicable.

**Validation Time:** 30 minutes **Time Critical:** Yes \_\_\_\_\_ No

**Applicant:** NAME \_\_\_\_\_ Docket # \_\_\_\_\_ Time Start: \_\_\_\_\_  
Time Finish: \_\_\_\_\_

**Performance Rating:** Performance Time \_\_\_\_\_

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

**Examiner:** \_\_\_\_\_ / \_\_\_\_\_  
NAME SIGNATURE DATE

#### COMMENTS

# Catawba Nuclear Station

## Admin. JPM A.1-2S

### May 2015 NRC Exam

#### READ TO APPLICANT

#### DIRECTION TO APPLICANT:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

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- The OAC is out of service due to emergent system failures and will not be returned to service for 24 hours.
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#### INITIATING CUES:

- The CRS directs you to perform an NC System Leakage Calculation per PT/1/A/4150/001 D (NC System Leakage Calculation).
- Steps are complete through 12.11.
- You are to perform step 12.12.
- The Open Item Summary has been updated. The background leakage is .077 gpm (Orbisphere flow reported by Primary Chemistry).
- Using the attached Data Sheet and PT/1/A/4150/001 D, calculate and report the following information back to the CRS:

Unidentified Leakage \_\_\_\_\_ gpm

Identified Leakage \_\_\_\_\_ gpm

Total Accumulated Leakage \_\_\_\_\_ gpm

Applicable Tech Specs or SLCs:

**EXAMINER NOTE:** Each applicant should receive a copy of attached Data Sheets and a copy of PT/1/A/4150/001 D rev 81 body signed off through step 12.11 and Enclosure 13.3.

# Catawba Nuclear Station

## Admin. JPM A.1-2S

### May 2015 NRC Exam

STEP / STANDARD	SAT / UNSAT
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START TIME: \_\_\_\_\_

<p><b>STEP 1</b> 12.12 <b>IF</b> the OAC is partially or wholly unavailable <b>OR</b> Unit 1 is <b>NOT</b> at or near normal operating temperature and pressure (i.e. <math>T_{avg} \leq 550^{\circ}\text{F}</math> and W/R pressure <math>\leq 2200</math> psig), perform Enclosure 13.3 (Manual Leakage Calculation).</p> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0;">Applicant determines that this step is applicable and goes to Enclosure 13.3 for a manual leakage calculation.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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<p><b>STEP 2</b> Enclosure 13.3 step 1.1 Verify the following valves are closed:</p> <ul style="list-style-type: none"> <li>• 1NC-56B (RMW Pump Disch Cont Isol)</li> <li>• 1NV-181A (B/A Blender Otlit to VCT)</li> <li>• 1NV-186A (B/A Blender Otlit to VCT Outlet)</li> <li>• 1NV-236B (Boric Acid to NV Pumps Suct)</li> <li>• 1NV-252A (NV Pumps Suct From FWST)</li> <li>• 1NV-253B (NV Pumps Suct From FWST)</li> <li>• 1NI-9A (NV Pump C/L Inj Isol)</li> <li>• 1NI-10B (NV Pump C/L Inj Isol)</li> </ul> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0;">Applicant determines from the data sheet provided that all of the listed valves are closed.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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**Catawba Nuclear Station**  
**Admin. JPM A.1-2S**  
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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 3</u> 1.2 Record "Initial Data" on Enclosure 13.3.1 (Manual Leakage Data) using Control Room indications or OAC (if available).</p> <p><u>STANDARD:</u></p> <p>Applicant records initial data on Enclosure 13.3.1 using the provided data sheet.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>NOTE:</b> Calculation accuracy improves as the time between initial and final data increases.</p>	
<p><u>STEP 4</u> 1.3 Wait at least 60 minutes prior to obtaining final data.</p> <p><u>STANDARD:</u></p> <p>Applicant is given data for 61 minutes after initial data.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5</u> 1.4 Record "Final Data" on Enclosure 13.3.1 (Manual Leakage Data) using Control Room indications or OAC (if available).</p> <p><u>STANDARD:</u></p> <p>Applicant records final data on Enclosure 13.3.1 using the provided data sheet.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

# Catawba Nuclear Station

## Admin. JPM A.1-2S

### May 2015 NRC Exam

STEP / STANDARD	SAT / UNSAT
<p><b>STEP 6</b> 1.5 Using data from Enclosure 13.3.1 (Manual Leakage Data), calculate change in T-Avg:</p> <p style="text-align: center;"> <math display="block">\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ } ^\circ\text{F}</math>           NC Average temp initial    NC Average temp final         </p> <p><b>STANDARD:</b></p> <p style="background-color: #e0e0e0; padding: 2px;">Applicant calculates change in T-Avg to be <b>.2°F</b>.</p> <p><b>COMMENTS:</b></p>	<p>___ SAT</p> <p>___ UNSAT</p>

**NOTE:** Procedure may continue while performing the following step. If change in T-Avg is greater than 0.25°F (0.1°F if using OAC), calculation is invalid and must be repeated.

<p><b>STEP 7</b> 1.6 <b>IF</b> change in T-Avg is less than or equal to 0.25°F (0.1°F if using OAC), perform all calculations on Enclosure 13.3.2 (Manual Calculation).</p> <p><b>STANDARD:</b></p> <p style="background-color: #e0e0e0; padding: 2px;">Applicant determines from previous step that T-Avg is 0.2°F and performs calculations from Enclosure 13.3.2.</p> <p><b>COMMENTS:</b></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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**Catawba Nuclear Station  
Admin. JPM A.1-2S  
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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 8</u> Enclosure 13.3.2 (Manual Calculation)</p> <p><u>STANDARD:</u></p> <p>Applicant performs the required calculations and comes up with the following results:</p> <p>VCT Leakage Rate = 10.96 gpm (Allowable range 10.9 – 11.0 gpm)  PZR Leakage Rate = 0 gpm  Total Leakage = 10.96 gpm (Allowable range 10.9 – 11.0 gpm)  NCDT Leakage Rate = .184 gpm (Allowable range 0.1 – 0.2 gpm)  PRT Leakage Rate = 0 gpm  <b>Identified Leakage = .261 gpm (Allowable range 0.2 – 0.3 gpm)</b>  <b>Unidentified Leakage = 10.699 gpm (Allowable range 10.6 – 10.7 gpm)</b>  <b>Total Accumulated Leakage = 21.89 gpm (Allowable range 21.8 – 21.9 gpm)</b></p> <p><b>These steps are critical to ensure accurate leakage values will be used to determine compliance with Technical Specifications/Selected License Commitments for NC system leakage.</b></p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;"><b>CRITICAL STEP</b></p> <p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>

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STEP / STANDARD	SAT / UNSAT
<p><u>STEP 9</u> Determine applicable Tech Specs/SLCs.</p> <p><u>STANDARD:</u></p> <p>Applicant determines that T.S. LCO 3.4.13 is not met for unidentified leakage being &gt; 1 gpm and that Condition A needs to be entered. Even though total primary to secondary leakage is &gt; 150 gpd, the T.S. requirement is for primary to secondary leakage to any 1 S/G &gt; 150 gpd, so Condition B is not applicable. Due to total accumulated leakage being &gt; 20 gpm, SLC 16.7-9 Condition B should also be entered. SLC 16.7-9 condition B will have the applicants enter Condition A immediately.</p> <p><b>This step is critical to meet the task and standard of this JPM.</b></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;"><b>END OF TASK</b></p>	<p><b>CRITICAL STEP</b></p> <p><input type="checkbox"/> <b>SAT</b></p> <p><input type="checkbox"/> <b>UNSAT</b></p>

**STOP TIME** \_\_\_\_\_

# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## READ TO APPLICANT

### DIRECTION TO APPLICANT:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

### INITIAL CONDITIONS:

- Unit 1 is in Mode 1 at 100% power.
- The OAC is out of service due to emergent system failures and will not be returned to service for 24 hours.
- Other operators are performing PT/1/A/4600/009 (Loss of Operator Aid Computer) and OP/1/A/6700/003 (Operation With the Operator Aid Computer Out of Service).

### INITIATING CUES:

- The CRS directs you to perform an NC System Leakage Calculation per PT/1/A/4150/001 D (NC System Leakage Calculation).
- Steps are complete through 12.11.
- You are to perform step 12.12.
- The Open Item Summary has been updated. The background leakage is .077 gpm (Orbisphere flow reported by Primary Chemistry).
- Using the attached Data Sheet and PT/1/A/4150/001 D, calculate and report the following information back to the CRS:

Unidentified Leakage \_\_\_\_\_ gpm

Identified Leakage \_\_\_\_\_ gpm

Total Accumulated Leakage \_\_\_\_\_ gpm

Applicable Tech Specs or SLCs:

# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## DATA SHEET

The following valves are closed:

- 1NC-56B (RMW Pump Disch Cont Isol)
- 1NV-181A (B/A Blender Otlit to VCT)
- 1NV-186A (B/A Blender Otlit to VCT Outlet)
- 1NV-236B (Boric Acid to NV Pumps Suct)
- 1NV-252A (NV Pumps Suct From FWST)
- 1NV-253B (NV Pumps Suct From FWST)
- 1NI-9A (NV Pump C/L Inj Isol)
- 1NI-10B (NV Pump C/L Inj Isol)

Parameter	Instrument	2000 hours Data	2101 hours Data
NC Avg. Temp.	1NCCR5421	584.5 °F	584.3 °F
VCT Level	1NVP5761	65%	30%
PZR Level	1NCP5164	55%	55%
NCDT Level	1WLP5630	48%	51%
PRT Level	1NCP5131	68%	68%

1A NC Pump #1 Seal Leakoff Flow	2.50 GPM
1B NC Pump #1 Seal Leakoff Flow	2.87 GPM
1C NC Pump #1 Seal Leakoff Flow	2.77 GPM
1D NC Pump #1 Seal Leakoff Flow	2.79 GPM

1EMF-71 Leakage	75 GPD
1EMF-72 Leakage	80 GPD
1EMF-73 Leakage	1 GPD
1EMF-74 Leakage	1 GPD

Background leakage - .077 gpm (Orbisphere flow)

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**JPM A.2**

**RO / SRO**



**Catawba Nuclear Station  
Admin. JPM A.2  
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**READ TO APPLICANT**

**DIRECTION TO APPLICANT:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

**INITIAL CONDITIONS:**

- A loss of both Unit 1 and Unit 2 OACs occurred 12 hours ago.

**INITIATING CUES:**

- The CRS directs you to perform PT/0/A/4250/011 (RL Temperature And Discharge Flow Determination) Enclosure 13.6 (RL System Heat Rise ( $\Delta T$ ) Calculation).
- RL discharge flows from Enclosure 13.2 were determined to be the following:
  - 'A' train RL discharge flow (RLAF) = 21,355 gpm
  - 'B' train RL discharge flow (RLBF) = 24,560 gpm

Record below the RL Heat Rise  $\Delta T$  and whether NPDES permit requirements are met for today's date.

RL Heat Rise  $\Delta T$  \_\_\_\_\_

A Plant heat load reduction is / is NOT required. Circle the correct answer.

**EXAMINER NOTE:** Each applicant should receive a copy of PT/0/A/4250/011 Enclosures 13.4, 13.5, and 13.6 (step 1.1 complete).

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START TIME: \_\_\_\_\_

<p><u>STEP 1</u>    1.2 Calculate RL System Heat Rise.</p> <p>                  1.2.1 Record RL Discharge Temperatures from Enclosure 13.5 (RL Discharge Temperature Determination)</p> <p>                  A Train <u>83.7</u> °F (RLADT)                   B Train <u>85.3</u> °F (RLBDT)</p> <p><u>STANDARD:</u></p> <p>Applicant records values from Enclosure 13.5.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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<p><u>STEP 2</u>    1.2.2 Record RL Discharge Flows from Enclosure 13.2 (Total Discharge Flow Calculation Sheet).</p> <p>                  A Train <u>21,355</u> gpm (RLAF)                   B Train <u>24,560</u> gpm (RLBF)</p> <p><u>STANDARD:</u></p> <p>Applicant records values given in the cue for RL discharge flows.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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<p><b>STEP 3</b> 1.2.3 Record RL Intake Temperature from Enclosure 13.4 (RL Intake Temperature Determination).</p> <p style="text-align: center;"><u>73</u> °F (RLIT)</p> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0; padding: 2px;">Applicant records value from Enclosure 13.4.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>
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<p><b>STEP 4</b> 1.2.4 Calculate RL Heat Rise (<math>\Delta T</math>).</p> $\frac{(\underbrace{83.7}_{RLADT} \times \underbrace{21,355}_{RLAF}) + (\underbrace{85.3}_{RLBDT} \times \underbrace{24,560}_{RLBF})}{(\underbrace{21,355}_{RLAF} + \underbrace{24,560}_{RLBF})} - \underbrace{73}_{RLIT} = \frac{11.6}{RL \text{ Heat Rise } (\Delta T)} \text{ } ^\circ\text{F}$ <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0; padding: 2px;"><math>\Delta T</math> Calculated to be 11.6°F. No, NPDES permit requirements are not met since it is May.</p> <p><b>This step is critical to come up with the correct <math>\Delta T</math> required by the JPM standard.</b></p> <p><b>NOTE TO EXAMINER:</b> Allowable range is 11-12°F based on how the applicant rounded the answer. Both of these values are above the NPDES permit requirements for the Apr. 1 – Sep. 30 timeframe.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;"><b>CRITICAL STEP</b></p> <p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>
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# Catawba Nuclear Station

## Admin. JPM A.2

### May 2015 NRC Exam

<p><b>STEP 5</b> 1.3 Determine whether RL Heat Rise (<math>\Delta T</math>) Step 1.2.4 is less than limits listed:</p> <p style="text-align: center;"> <math>RL\ Heat\ Rise\ (\Delta T) \leq 10.0^{\circ}F</math> (Apr. 1 – Sep. 30)  <math>\leq 14.0^{\circ}F</math> (Oct. 1 – Mar. 31)         </p> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0; padding: 5px;">Applicant determines that the RL Heat Rise of 11.6°F is &gt; the limit of 10°F required from Apr. 1 through Sep. 30.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
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<p><b>STEP 6</b> 1.4 <b>IF</b> the RL Heat Rise (<math>\Delta T</math>) is greater than the limits of Step 1.3 (NPDES Permit), notify the Operations Shift Manager that a plant heat load reduction on the RL system is required.</p> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0; padding: 5px;">Applicant determines that this step needs to be performed.</p> <p><b>This step is critical to meet the task and JPM standard.</b></p> <p><u>COMMENTS:</u></p> <p style="text-align: center; margin-top: 20px;"><b>END OF TASK</b></p>	<p><b>CRITICAL STEP</b></p> <p>___ SAT</p> <p>___ UNSAT</p>
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**STOP TIME** \_\_\_\_\_

# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## INITIAL CONDITIONS:

- A loss of both Unit 1 and Unit 2 OACs occurred 12 hours ago.

## INITIATING CUES:

- The CRS directs you to perform PT/0/A/4250/011 (RL Temperature And Discharge Flow Determination) Enclosure 13.6 (RL System Heat Rise ( $\Delta T$ ) Calculation).
- RL discharge flows from Enclosure 13.2 were determined to be the following:
  - 'A' train RL discharge flow (RLAF) = 21,355 gpm
  - 'B' train RL discharge flow (RLBF) = 24,560 gpm

Record below the RL Heat Rise  $\Delta T$  and whether NPDES permit requirements are met for today's date.

RL Heat Rise  $\Delta T$  \_\_\_\_\_

A Plant heat load reduction is / is NOT required. Circle the correct answer.

**Catawba Nuclear Station  
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**JPM A.3**

**RO / SRO**

**Catawba Nuclear Station  
Admin. JPM A.3  
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**EVALUATION SHEET**

**Task:** Determine Radiation Protection Requirements for an activity

**Alternate Path:** N/A

**Facility JPM #:** 2005 Admin JPM R03/SRO4 Modified

**Safety Function:** N/A

**K/A** G 2.3.7 Ability to comply with radiation work permit requirements during normal or abnormal conditions.

**Importance:** 3.5 / 3.6      **CFR:** 41.12 / 45.10

**Preferred Evaluation Location:**

**Preferred Evaluation Method:**

Simulator \_\_\_\_\_ Classroom   X   Perform   X   Simulate \_\_\_\_\_

**References:** Radiation Work Permit # 5021, Room 105 (ND Pump 1A) Survey Map

**Task Standard:** Correctly determine that total dose received for the job is 15 mR and maximum time to complete venting without exceeding RWP dose limits is 0854 hrs.

**Validation Time:** 14 minutes      **Time Critical:** Yes \_\_\_\_\_ No   X  

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**Applicant:** NAME \_\_\_\_\_ Docket # \_\_\_\_\_ Time Start: \_\_\_\_\_  
Time Finish: \_\_\_\_\_

**Performance Rating:** Performance Time \_\_\_\_\_

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

**Examiner:** \_\_\_\_\_ / \_\_\_\_\_  
NAME SIGNATURE DATE

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**COMMENTS**

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# Catawba Nuclear Station

## Admin. JPM A.3

### May 2015 NRC Exam

#### READ TO APPLICANT

#### DIRECTION TO APPLICANT:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

#### INITIAL CONDITIONS:

- Unit 1 is in AP/1/A/5500/019 (Loss of Residual Heat Removal)
- The CRS has dispatched you to 1A ND pump room to vent the 1A ND pump casing when directed.
- You are to stage yourself where you can minimize your dose while waiting.
- The following is the timeline for the venting evolution:

0800 – You enter room 105

0830 – You are directed to vent using 1ND-88 (1A ND Pump Seal Water Hx Inlet Vent).

0842 – Venting is complete. You immediately exit the room and report back to the Control Room.

#### INITIATING CUES:

Based on the time line, RWP # 5021, and Room 105 Survey Map provided:

1. State the amount of dose that was received for the duration of the task.

Amount of dose received - \_\_\_\_\_ mR

2. Assuming you entered the room and began venting at the stated times, determine the latest clock time that venting could complete without exceeding a limit imposed by the RWP.

Latest clock time for venting without exceeding the MAXIMUM Dose listed on RWP 5021 - \_\_\_\_\_

**EXAMINER NOTE:** Each applicant should receive a copy of RWP # 5021 and the Room Survey for room 105.

**Catawba Nuclear Station**  
**Admin. JPM A.3**  
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**START TIME:** \_\_\_\_\_

<p><b><u>STEP 1</u></b> Determine dose received for the venting evolution:</p> <p>Applicant is to stage themselves at the Low Exposure Waiting Area (LEWA) where they wait for 30 minutes (.5 hours)</p> <p>LEWA dose: <b>10 mR/hr X .5 hr = 5 mR</b></p> <p>Venting time is 12 minutes (.2 hours)</p> <p>Area dose: <b>40 mR/hr X .2 hr = 8 mR</b></p> <p>Total amount of dose received = <b>5 mR + 8 mR = <u>13 mR</u></b></p> <p><b><u>STANDARD:</u></b></p> <p>Applicant determines the total amount of dose received for the evolution to be 13 mR.</p> <p><b>This step is critical to meet the task requirements and standard for this JPM to determine the total amount of dose received.</b></p> <p><b><u>COMMENTS:</u></b></p>	<p><b>CRITICAL STEP</b></p> <p><b>___ SAT</b></p> <p><b>___ UNSAT</b></p>
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**Catawba Nuclear Station  
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STEP 2 Determine the latest clock time that venting could complete without exceeding RWP dose requirements:

The RWP limits total exposure to 25 mR

**25 mR – 5 mR (LEWA dose) = 20 mR left for venting**

**20 mR ÷ 40 mR/hr = .5 hr (30 minutes)**

**0830 + 30 = 0900**

STANDARD:

Applicant determines the latest time that venting could complete to meet the RWP dose requirement is 0900.

**This step is critical to meet the task requirements and standard for this JPM to determine the latest time that venting could complete without exceeding RWP dose requirements.**

COMMENTS:

**END OF TASK**

**CRITICAL  
STEP**

    **SAT**

    **UNSAT**

**STOP TIME \_\_\_\_\_**



# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## INITIAL CONDITIONS:

- Unit 1 is in AP/1/A/5500/019 (Loss of Residual Heat Removal)
- The CRS has dispatched you to 1A ND pump room to vent the 1A ND pump casing when directed.
- You are to stage yourself where you can minimize your dose while waiting.
- The following is the timeline for the venting evolution:

0800 – You enter room 105

0830 – You are directed to vent using 1ND-88 (1A ND Pump Seal Water Hx Inlet Vent).

0842 – Venting is complete. You immediately exit the room and report back to the Control Room.

## INITIATING CUES:

Based on the time line, RWP # 5021, and Room 105 Survey Map provided:

1. State the amount of dose that was received for the duration of the task.

Amount of dose received - \_\_\_\_\_ mR

2. Assuming you entered the room and began venting at the stated times, determine the latest clock time that venting could complete without exceeding a limit imposed by the RWP.

Latest clock time for venting without exceeding the MAXIMUM Dose listed on RWP 5021 - \_\_\_\_\_

**Catawba Nuclear Station  
Admin. JPM A.4  
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**JPM A.4**

**SRO**

**Catawba Nuclear Station**  
**Admin. JPM A.4**  
**May 2015 NRC Exam**

**EVALUATION SHEET**

**Task:** Determine Reporting Per RP/0/B/5000/013 (NRC Notification Requirements)

**Alternate Path:** N/A

**Facility JPM #:** SEP-025

**Safety Function:** N/A

**K/A** G 2.4.40 Knowledge of SRO responsibilities in emergency plan implementation.

**Importance:** 2.7 / 4.5      **CFR:** 41.10 / 43.5 / 45.11

**Preferred Evaluation Location:**

**Preferred Evaluation Method:**

Simulator \_\_\_\_\_ Classroom  Perform  Simulate \_\_\_\_\_

**References:** RP/0/B/5000/013 (NRC Notification Requirements) rev 37

**Task Standard:** Determines that 4 hour and 8 hour notifications are required per parts 10CFR50.72(b)(2)(xi) and 10CFR50.72(b)(3)(xii) respectively.

**Validation Time:** 10 minutes      **Time Critical:** Yes \_\_\_\_\_ No

**Applicant:** NAME \_\_\_\_\_ Docket # \_\_\_\_\_ Time Start: \_\_\_\_\_  
Time Finish: \_\_\_\_\_

**Performance Rating:** Performance Time \_\_\_\_\_

SAT \_\_\_\_\_ UNSAT \_\_\_\_\_

**Examiner:** \_\_\_\_\_ / \_\_\_\_\_  
NAME SIGNATURE DATE

**COMMENTS**

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# Catawba Nuclear Station

## Admin. JPM A.4

### May 2015 NRC Exam

#### READ TO APPLICANT

#### DIRECTION TO APPLICANT:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

#### INITIAL CONDITIONS:

- A vendor was performing work activities in the S/G bowl area during No Mode.
- The latest RP survey of the S/G bowl area indicated removable surface contamination was 42,000 dpm/100 square cm.
- The vendor was overcome with heat exhaustion and fell into the S/G bowl area.
- The fall caused a compound fracture on his right leg that pierced his bubble suit.
- Due to congested conditions and other delays in lifesaving activities, the injured individual received an estimated exposure of 16 Rem.
- Due to the nature of his injury, he was immediately transferred via ambulance to Piedmont Medical Center.
- A news van is parked at the access road and site personnel are preparing a press release for immediate delivery to the media.

#### INITIATING CUES:

You are the CRS. Determine ALL applicable NRC notifications of 24 hours or less. Record your answers on the attached page.

# Catawba Nuclear Station

## Admin. JPM A.4

### May 2015 NRC Exam

START TIME: \_\_\_\_\_

<p><b>STEP 1</b> Determine the appropriate NRC notifications from the following sources:</p> <ul style="list-style-type: none"> <li>• Enclosure 4.1, "Events Requiring Immediate NRC Notification"</li> <li>• Enclosure 4.2, "Events Requiring 1-Hour NRC Notification"</li> <li>• <b>Enclosure 4.3, "Events Requiring 4-Hour NRC Notification"</b></li> <li>• <b>Enclosure 4.4, "Events Requiring 8-Hour NRC Notification"</b></li> <li>• Enclosure 4.5, "Events Requiring 24-Hour NRC Notification"</li> <li>• Enclosure 4.6, "Events Requiring 30 Day NRC Notification"</li> <li>• Enclosure 4.7, "Events Requiring 60 Day NRC Notification"</li> <li>• Enclosure 4.8, "List of System (ESF) Actuations for Catawba"</li> <li>• AD-LS-ALL-006, "Notification/Reportability Evaluation"</li> </ul> <p><u>STANDARD:</u></p> <p style="background-color: #e0e0e0; padding: 5px;">Both of the following notifications are required and critical items:</p> <p><b><u>4 hour notification</u></b>  <b>*10CFR50.72(b)(2)(xi) Offsite Notification (News Release)</b>  Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an on-site fatality, transport of an injured or ill employee to a hospital by ambulance, or an inadvertent release of radioactively contaminated materials.</p> <p><b><u>8 hour notification</u></b>  <b>*10CFR50.72(b)(3)(xii) Offsite Medical (Contaminated Injury)</b>  Any event requiring the transport of a radioactively contaminated person to an off-site medical facility for treatment.</p> <p><b>This step is critical to meet the task requirements and standard for this JPM to determine all applicable NRC notifications of 24 hours or less</b></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;"><b>END OF TASK</b></p>	<p><b>CRITICAL STEP</b></p> <p>___ SAT</p> <p>___ UNSAT</p>
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STOP TIME \_\_\_\_\_

# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

## INITIAL CONDITIONS:

- A vendor was performing work activities in the S/G bowl area during No Mode.
- The latest RP survey of the S/G bowl area indicated removable surface contamination was 42,000 dpm/100 square cm.
- The vendor was overcome with heat exhaustion and fell into the S/G bowl area.
- The fall caused a compound fracture on his right leg that pierced his bubble suit.
- Due to congested conditions and other delays in lifesaving activities, the injured individual received an estimated exposure of 16 Rem.
- Due to the nature of his injury, he was immediately transferred via ambulance to Piedmont Medical Center.
- A news van is parked at the access road and site personnel are preparing a press release for immediate delivery to the media.

## INITIATING CUES:

You are the CRS. Determine ALL applicable NRC notifications of 24 hours or less. Record your answers on the attached page.

# APPLICANT CUE SHEET

(RETURN TO EXAMINER UPON COMPLETION OF TASK)

CANDIDATE NAME: \_\_\_\_\_

IMMEDIATE NOTIFICATION(S)

1 HOUR NOTIFICATION(S)

4 HOUR NOTIFICATION(S)

8 HOUR NOTIFICATION(S)

24 HOUR NOTIFICATION(S)