

## Final Submittal

### **SEQUOYAH JUNE 2004 EXAM 50-327 & 328/2004-301**

**JUNE 7 - 16, 2004**

1. Administrative Questions/JPMs
2. In-plant JPMs
3. Control Room JPMs (simulator JPMs)

Facility: <u>Sequoyah</u>		Date of Examination: <u>6-7-04</u>
Examination Level (circle one): RO		Operating Test Number: _____
Administrative Topic	Describe activity to be performed:	
Conduct of Operations		
Conduct of Operations	New JPM Perform Shift Log (SI-2) – RWST Level	
Equipment Control	JPM #168 Remove Annunciator From Service	
Radiation Control	JPM #179 Evaluate Worker Exposure	
Emergency Plan	JPM #220R Control Room Actions of AOP-N.08 for Fire U1 EI. 669 General Area	
NOTE: A items (5 total) are required for SRO's. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.		

Facility: <u>Sequoyah</u>		Date of Examination: <u>6-7-04</u>
Examination Level (circle one): SRO		Operating Test Number: _____
Administrative Topic	Describe activity to be performed:	
Conduct of Operations	New JPM Reactivity Balance Calculation	
Conduct of Operations	New JPM Perform Shift Log (SI-2) – RWST	
Equipment Control	JPM #168 Remove Annunciator From Service	
Radiation Control	JPM #180 2 'A' RHR Heat Exchanger Radiological Work Permit Evaluation And Survey Map Data Review	
Emergency Plan	JPM #018AP1 Classify the REP Prim Sys Leakage	
NOTE: A items (5 total) are required for SRO's. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.		

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 190

### Reactivity Balance Calculation

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ **Date/** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

<b>NUCLEAR TRAINING</b>					
<b>REVISION/USAGE LOG</b>					
<b>REVISION NUMBER</b>	<b>DESCRIPTION OF REVISION</b>	<b>V</b>	<b>DATE</b>	<b>PAGES AFFECTED</b>	<b>PREPARED/ REVISED BY:</b>
0	Initial Issue	Y	3/17/04	ALL	G.S. Poteet
Pen/ink	Made corrections resulting from validation	N	5/12/04	2, 4-7	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Critical steps identified by CRITICAL STEP in **BOLD**.
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR. 35 min Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed**

1. Cycle Nuclear Design Report (NDR)
2. 0-SO-62-7 Boron Concentration Control

**References:**

	Reference	Title	Rev No.
A.	0-SO-62-7	Boron Concentration Control	31
B.	TI-44	Boron Tables	11

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Unit 1 is currently stable at 20 %.
2. Control rod Bank D is at 160 steps.
3. RCS boron concentration is 1400 ppm.
4. Core burnup is 600 MWD/MTU.
5. Reactor Engineering has provided following Xenon data:
  - XE<sub>1</sub> = -2430 pcm
  - XE<sub>2</sub> = -2250 pcm

**INITIATING CUES:**

In preparation for a dilution you are to calculate the boric acid concentration change required to bring reactor power to 70% with Control bank D rods at 228 steps, using a 3%/hour power increase rate.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> Operator obtains a copy of 0-SO-62-7 Boron Concentration Control, Appendix E Reactivity Balance Calculation</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;">Start Time ____</p>	
<p><u>STEP 2.:</u> [1] CALCULATE target boron concentration by performing the following:</p> <p style="padding-left: 40px;">Current RCS Boron</p> <p><u>Cue:</u> <i>If operator contacts Chem Lab, state that RCS boron concentration is 1400 ppm</i></p> <p><u>STANDARD:</u> Operator enters 1400 pm from INITIAL CONDITIONS</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP 3.:</u> Core Burnup</p> <p><u>Cue:</u> <i>If ICS computer is not available inform operator that computer point 1U0981 reads 600 MWD/MTU</i></p> <p><u>STANDARD:</u> Operator locates computer point 1U0981 and enters 500 MWD/MTU on Appendix E.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP 4.:</u> Current Reactor Power</p> <p><u>Cue:</u> <i>Current reactor power is 20%, as given in the initial conditions.</i></p> <p><u>STANDARD:</u> Operator enters 20% per initial Conditions</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP 5.:</u> Final Reactor Power</p> <p><u>Cue:</u> <i>Final reactor power is 70%, as given in the initial conditions.</i></p> <p><u>STANDARD:</u> Operator enters 70% per Initial Conditions</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP 6.:</u> Total Reactor Power Change</p> <p><u>STANDARD:</u> Operator determines power change to be 50%.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP *7.:</u>      Number of hours to change power</p> <p><u>STANDARD:</u> Operator enters 16 2/3 hours per Initial Conditions</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP *8.:</u>      Current Rod Position</p> <p><u>STANDARD:</u> Operator enters 160 steps per Initial Conditions</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP *9.:</u>      Final Rod Position</p> <p><u>STANDARD:</u> Operator enters 228 steps per Initial Conditions</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP *10.:</u>    <math>\Delta\rho_{\text{POWER DEFECT}} = \text{_____ pcm PD}_2 - \text{_____ pcm PD}_1 = \text{_____ pcm}</math></p> <p><u>NOTE:</u>          Use "eye-ball" interpolation between closest parameter lines. Band accuracy 1/2 increment presented on figure.</p> <p><u>STANDARD:</u> Operator uses proper curve Figure 1, 1400 ppm line to enter data. For 20% operator should enter 350 pcm. For 70%, operator should enter 1050 pcm.</p> <p><math>\Delta\rho_{\text{POWER DEFECT}} = 1100 \text{ pcm}(\pm 25 \text{ pcm})\text{PD}_2 - 350 \text{ pcm} (\pm 25 \text{ pcm}) \text{PD}_1 = 750 \text{ pcm}</math></p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP *11.:</u>    <math>\Delta\rho_{\text{XENON}} = \text{_____ pcm XE}_2 - \text{_____ pcm XE}_1 = \text{_____ pcm}</math></p> <p><u>STANDARD:</u> Operator enters Xenon values and calculates the change in reactivity due to Xenon.</p> <p><math>\Delta\rho_{\text{XENON}} = -2250 \text{ pcm XE}_2 - (-2430 \text{ pcm}) \text{XE}_1 = 180 \text{ pcm}</math></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP *12.:</u>    <math>\Delta\rho_{\text{RODS}} = \text{_____ pcm Rods}_2 - \text{_____ pcm Rods}_1 = \text{_____ pcm}</math></p> <p><u>NOTE:</u>          Use "eye-ball" interpolation between closest parameter lines. Band accuracy 1/2 increment presented on figure.</p> <p><u>STANDARD:</u> Operator uses proper curve Figure 4, BOL solid line to enter data. For 160 steps operator should enter -325 (<math>\pm 50</math>) pcm. For 228 steps, operator should enter 0 pcm.</p> <p><math>\Delta\rho_{\text{RODS}} = 0 \text{ pcm Rods}_2 - (-325) (\pm 50) \text{ pcm Rods}_1 = 325 \text{ pcm}</math></p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 13.:</b> <math>\Delta\rho_{BORON} = \text{_____ ppm Boron X } \text{_____ pcm/ppm Boron} = \text{_____ pcm}</math>  (CURRENT)</p> <p><b>NOTE:</b> Use "eye-ball" interpolation between closest parameter lines. Band accuracy 1/2 increment presented on figure.</p> <p><b>STANDARD:</b> Operator enters 1400 ppm for current boron concentration. Operator utilizes Figure 5 to determine differential boron concentration for BOL 1400 ppm as -6.25 pcm/ppm <math>\pm</math> 0.02 pcm/ppm.</p> <p><math>\Delta\rho_{BORON} = 1400 \text{ ppm Boron X } -6.25 (\pm 0.02) \text{ pcm/ppm Boron} = -8750 \text{ pcm}</math></p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 14.:</b> <math>\text{_____ pcm } \Delta\rho_{POWER DEFECT} - \text{_____ pcm } \Delta\rho_{XENON} - \text{_____ } \Delta\rho_{RODS} + \text{_____ } \Delta\rho_{BORON} = \text{_____ pcm BORON}_2</math></p> <p><b>STANDARD:</b> Operator determines value for BORON<sub>2</sub> using data previously entered.</p> <p><math>750 \text{ pcm} - (180 \text{ pcm}) - (325 \text{ pcm}) + (-8750 \text{ pcm}) = -8505 \text{ pcm } (\pm 128 \text{ pcm})</math></p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 15.:</b> <math>(\text{_____ pcm Boron } 2) \div (\text{_____ pcm/ppm Boron Worth}) = \text{_____ Target ppm}</math></p> <p><b>STANDARD:</b> Operator determines Target ppm using data previously entered.</p> <p><math>-8505 \text{ pcm} / -6.25 \text{ ppm/ppm} = 1361 \text{ ppm } (\pm 50 \text{ ppm})</math></p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 16.:</b> ENSURE independently verified by SRO per Appendix J.</p> <p><b>Cue:</b> <i>Unit Supervisor has performed independent verification of calculation.</i></p> <p><b>STANDARD:</b> Operator requests independent verification by SRO.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time _____</p>

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 402

### Perform Shift Log (SI-2) – RWST Level

**PREPARED/  
REVISED BY:** \_\_\_\_\_ Date/ \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ Date/ \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
0	Initial Issue	Y	3/29/04	All	G.S. Poteet
Pen/ink	Incorporated validation comments, corrected typo's.	N	5/12/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

Task	JA/TA task #
Know the conditions and limitations in the facility license	0001100301 (RO)
Know the conditions and limitations in the facility license	0001100302 (SRO)
Implement TS Requirements	0001430302 (SRO)
Implement the requirements of SPP-8.1 for test directors	0001760301 (RO)
Implement the requirements of SPP-8.1 for test directors	0001760302 (SRO)
Implement Technical Specification requirements	1190150301 (RO)
Perform specific system and integrated plant procedures during all modes of plant operations	3410140301 (RO)

**K/A Ratings:**

2.1.10 (2.7/3.9)	2.1.12 (2.9/4.0)	2.1.23 (3.9/4.0)
2.2.12 (3.0/3.4)	2.2.22 (3.4/4.1)	

**Task Standard:**

Properly evaluate RWST level channels per 1-SI-OPS-000-002.0, document deviations, and evaluate associated Tech Specs.

Evaluation Method: Simulator  In-Plant

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Performer: \_\_\_\_\_  
NAME Start time \_\_\_\_\_

Performance Rating: SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish time \_\_\_\_\_

Evaluator: \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

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**COMMENTS**

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**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. A **Critical step** is identified in bold type in the SAT/UNSAT column.
2. Sequenced steps identified by an "s"
3. Any **UNSAT** requires comments
4. Reset the Simulator to 100% BOL IC-16.
5. Use Override **ZAOLI6353**, available via the menu path **/O OVRD/ANALOG OUTPUT** to create an obvious 6-7% Level Deviation between RWST Level Channels.
6. Task should begin at the Simulator.
7. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR 25 min Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

**1-SI-OPS-000-002.0 with Appendix A only.** Complete SI, as required, and Appendix A through page 12 of Appendix A.

Copy of SPP-8.1 available for reference and a **blank copy of a Chronological Test Log (CTL)** to provide to the JPM performer.

Copy of Unit 1 Tech Specs available for reference.

**REFERENCES:**

	Reference	Title	Rev No.
A.	1-SI-OPS-000-002.0	Shift Log	68
B.	TECH SPEC	Tech Spec Unit 1	191
C.	SPP-8.1	Conduct of Testing	2

Task Number	Task Title	Cont TRN
0001100301	Know the conditions and limitations in the facility license	N
0001100302	Know the conditions and limitations in the facility license	
0001430302	Implement TS Requirements	
0001760301	Implement the requirements of SPP-8.1 for test directors	
0001760302	Implement the requirements of SPP-8.1 for test directors	
1190150301	Implement Technical Specification requirements	Y
3410140301	Perform specific system and integrated plant procedures during all modes of plant operations	

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be **Performed** for this task. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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 at 100% Power with no equipment out of service.

**INITIATING CUES:**

You are the Unit 1 CRO and have been designated as the Test Director for the day shift (0630-1830) performance of 1-SI-OPS-000-002.0 (Shift Log) by the Unit 1 Unit Supervisor. The SI is already in progress and Appendix A is complete through page 12 with no discrepancies to this point. You are to complete page 13 of Appendix A. The OATC will then complete the rest of Appendix A.

The Unit Supervisor has requested that if any deviations are encountered, you are to log them in an SPP-8.1 Chronological Test Log (CTL), and evaluate any associated Technical Specification, Technical Requirements Manual (TRM), or Offsite Dose Calculation Manual (ODCM) requirements then advise him of any LCOs or other requirements that need to be addressed.

When you have finished performing page 13 of Appendix A, and addressed any deviations as requested, notify the Unit Supervisor that you have completed your task.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 1:</b> Obtain copy of 1-SI-OPS-000-002.0 in progress.</p> <p><b>STANDARD:</b> Operator Obtains copy of 1-SI-OPS-000-002.0 Appendix A already in progress from the Evaluator.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>
<p><b>STEP 2:</b> Check position of 1-FCV-63-1A and 1-FCV-63-22A in the OPEN position.</p> <p><b>STANDARD:</b> Operator enters a check mark in Appendix A for 1-FCV-63-1A and for 1-FCV-63-22A. Operator continues to next instruments.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 3:</b> Record RWST Level (1-LI-63-50, 1-LI-63-51, 1-LI-63-52, 1-LI-63-53 ) Instrument Readings in Appendix A.</p> <p><b>Cue:</b> <i>If operator informs the Unit Supervisor of the 1-LI-63-53 deviation at this point, role play as Unit Supervisor and request him to complete the CTL and evaluate Tech Specs, TRM, or ODCM as appropriate. If Operator addresses preparing a WO and PER ask him to complete the requirements evaluation and SPP-8.1 CTL first, then you will assign him or someone else to prepare a WO and PER.</i></p> <p><b>STANDARD:</b> Operator records RWST level instrument readings in Appendix A and identifies that deviation the between 1-LI-63-53 and the other RWST level channels does not meet the 5% deviation requirement in Note 39 (<b>Critical</b>). Operator <u>should</u> inform SRO of the discrepancy, also, Operator may not Initial at bottom of column since Note 39 was not satisfied (Not Critical).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 4:</b> Evaluates Technical Specification LCOs.</p> <p><b>Cue:</b> <i>If operator address making LCO Tracking Log entry or eSOMS Log Entry cue that the Unit Supervisor will make these entries.</i></p> <p><b>STANDARD:</b> Operator recognizes Tech Spec Requirements and determines the Following LCOs and actions are applicable: <b>LCO 3.3.2.1 Action 18</b> and informs US. Operator may also indicate that based on these Actions associated B/S will have to be bypassed within 6 hours and the minimum channels operable requirement is met.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 5:</b> Operator completes an SPP-8.1 CTL.</p> <p><b>NOTE:</b> <b>Provide Operator blank copy of SPP-8.1 CTL when requested.</b></p> <p><b>STANDARD:</b> Operator properly completes SPP-8.1 CTL. Including as a minimum the Procedure No., Rev, Date/Time, Appropriate Narrative of discrepancy, and their Initials.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 6:</b> Record Containment Sump Level Instrument (1-LI-63-176, 1-LI-63-177, 1-LI-63-178, 1-LI-63-179) Readings in Appendix A.</p> <p><b>STANDARD:</b> Operator records Containment Sump Level Instrument readings in Appendix A. Operator may not Initial at bottom of column since Note 39 was not satisfied.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 7:</b> Record positions of Cold Leg Accumulator Isolation Valves (1-HS-63-118A, 1-HS-63-98A, 1-HS-63-80A, 1-HS-63-67A)</p> <p><b>STANDARD:</b> Operator enters a check mark in Appendix A for 1-HS-63-118A, 1-HS-63-98A, 1-HS-63-80A, and 1-HS-63-67A. Operator may not Initial at bottom of column since Note 39 was not satisfied.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 8:</u> Notify Unit Supervisor that 1-SI-OPS-000-002.0, Appendix A, Page 13 is complete.</p> <p><u>STANDARD:</u> Operator Notifies Unit Supervisor that 1-SI-OPS-000-002.0 Appendix A page 13 is complete and informs him/her of the discrepancy and applicable Tech Specs if not reported earlier.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>

End Of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 168

### Remove Annunciator From Service

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/ \_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/ \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

<b>NUCLEAR TRAINING</b>					
<b>REVISION/USAGE LOG</b>					
<b>REVISION NUMBER</b>	<b>DESCRIPTION OF REVISION</b>	<b>V</b>	<b>DATE</b>	<b>PAGES AFFECTED</b>	<b>PREPARED/REVISED BY:</b>
0	Initial Issue	Y	11/05/03	All	SR Taylor
1	Added Cue	Y	3/29/04	6	G.S. Poteet
2	Revised based on validation comments	Y	5/14/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task:**  
Remove an annunciator from service  
Remove an annunciator from service

**JA/TA task # :**  
0001230301 (RO)  
0001230302 (SRO)

**K/A Ratings:**  
2.2.11 (2.5/3.4)

**Task Standard:**  
SER Point number is 683 has been disabled per 0-SO-55-1, Section 6.1, Step 5 [a] through [d] for Unit 1 only.

**Evaluation Method :** Simulator  In-Plant \_\_\_\_\_

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**Performer:** \_\_\_\_\_  
NAME Start time \_\_\_\_\_

**Performance Rating :** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

=====  
**COMMENTS**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. A **Critical Step** is identified in bold type in the SAT/UNSAT Column.
2. Sequenced steps identified by an "s".
3. Any UNSAT requires comments.
4. Task should begin at the Simulator.
5. Reset the simulator to any 100% IC each time the JPM is to be performed. **Override Annunciator 683 on.**
6. **Ensure** SER Recorder has paper, is powered up, and is working to print status change when SER point is disabled during JPM performance.
7. **ENSURE key is INSERTED in the SER OPERATOR panel.** Key is kept in a lockbox by simulator console operator station. This box is not normally locked but if it is, see Simulator services for key.
8. **Ensure** BETA SER point 683 is **not already disabled**, and ICS Point IDs 1B0683A, and 1B0683B are **not already Deleted from Processing** in the ICS. Resetting the simulator does not Enable a point previously disabled or restore a point to processing on ICS that was previously removed. This will have to be done manually from the Beta SER Operator Panel and ICS terminal (See 0-SO-55-1, Section 6.1 Step 6 for instructions). If status is unknown, check for Disable Point by running the disabled report from BETA SER Operator Panel (Disabled Report P/B then Enter P/B). For ICS, attempt to restore the points to processing. If they were removed a message will be received that they have been restored. Reset the simulator after any changes to ICS to ensure ICS is properly re-initialized. **When Finished administering this JPM ensure Beta System and ICS are returned to normal.**
9. **REMOVE** paper from printer from previous performance or setup for this JPM as applicable.
10. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response

Validation Time: CR 10 min. Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

0-SO-55-1, Section 8.5 Partially completed i.e. Step 1 N/A, Step 2 Complete through 2c.  
0-SO-55-1, Section 6.1, Step 5.  
Paper for SER Printer.

**REFERENCES:**

	Reference	Title	Rev No.
A.	0-SO-55-1	Annunciator System	25
B.	OPDP-4	Annunciator Disablement	1

Task Number	Task Title	Cont TRN
0001230301	Remove an annunciator from service	
0001230302	Remove an annunciator from service	

=====

**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be **PERFORMED** for this task. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Unit 1 is at 100% power.
2. The Temperature switch for the Dirty lube oil tank is malfunctioning and bringing in a Nuisance High temperature alarm on Window B-1,1-XA-55-15B. The SM/US have determined that this is a Nuisance alarm due to an invalid input, and are addressing all OPDP-4 requirements. Maintenance has been initiated and the sensor should be operable prior to the end of this shift.

**INITIATING CUES:**

1. You are the Unit 1 CRO.
2. The Unit 1 Unit Supervisor has performed 0-SO-55-1 Section 8.5 through Step 2c, and has requested you to disable the affected SER Point using 0-SO-55-1, Section 6.1, Steps 5[a] through [d]. The SER Point is to be disabled for Unit 1 only.
3. Notify the Unit 1 US when you have completed Step 5.[d].

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 1:</u> Operator determines SER Point from annunciator response procedure.</p> <p><u>STANDARD:</u> Operator determines point 683 from AR-M15B-B1.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time _____</p> <p><b>Critical Step</b></p>
<p><u>STEP 2:</u> Obtain Copy of required Procedure.</p> <p><b>NOTE:</b> Operator will perform 0-SO-55-1, Section 6.1, Step 5 [a] through [d]</p> <p><u>STANDARD:</u> Obtains Copy of 0-SO-55-1, Section 6.1, Step 5.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> <b>OBTAIN</b> SER Operator Panel key from the SM</p> <p><b>NOTE:</b> Key is normally in the panel.</p> <p><u>STANDARD:</u> Operator determines that SER Operator Panel key is inserted in the panel.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> <b>PLACE NORMAL/ENABLE/DISABLE</b> key switch to the <b>ENABLE/DISABLE</b> position.</p> <p><u>STANDARD:</u> Momentarily Places NORMAL/ENABLE/DISABLE key switch to the <b>ENABLE/DISABLE</b> position on SER Operator Panel</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP 5:</u> <b>ENTER</b> the SER point number</p> <p><u>STANDARD:</u> Operator enters SER point no. 683 using push buttons on SER Operator Panel</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 6:</b>        <b>DEPRESS</b> the <b>ENTER P/B</b>.</p> <p><b>Note:</b> Booth will delete annunciator override when point is disabled.</p> <p><b>STANDARD:</b> Operator DEPRESSES the ENTER P/B on SER Operator Panel.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 7:</b>        <b>VERIFY</b> SER point changed to reflect "DISABLED" status.</p> <p><b>Cue:</b>            <b>SER point number 683 was disabled.</b></p> <p><b>STANDARD:</b> Operator verifies status change is printed by the SER Printer.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 8:</b>        Inform Unit 1 US that SER Point 683 has been disabled in accordance with 0-SO-55-1, Section 6, Step 5 [a] through [d].</p> <p><b>NOTE:</b>        <b>Role Play as Unit 1 Unit Supervisor.</b></p> <p><b>STANDARD:</b> Operator informs Unit 1 US that SER Point 683 has been disabled in accordance with 0-SO-55-1, Section 6, Step 5 [a] through [d].</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 179

### Evaluate Worker Exposure

**PREPARED/  
REVISED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ **Date/** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

<b>NUCLEAR TRAINING</b>					
<b>REVISION/USAGE LOG</b>					
<b>REVISION NUMBER</b>	<b>DESCRIPTION OF REVISION</b>	<b>V</b>	<b>DATE</b>	<b>PAGES AFFECTED</b>	<b>PREPARED/REVISED BY:</b>
0	Initial Issue	Y	12/03/03	All	W. O. Lovelace
Pen/ink	Incorporated validation comments	N	5/14/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task**  
Apply radiation and contamination safety procedures  
Knowledge of 10CFR20 and related facility radiation control requirements

**JA/TA task #**  
1190100301  
3430290302

**K/A Ratings:**  
2.3.1(2.6/3.0)  
2.3.4(2.5/3.1)

**Task Standard:** Trainee will calculate the three workers exposures and determine the required administrative actions.

**Evaluation Method :** Simulator  In-Plant

=====  
**Performer:** \_\_\_\_\_  
NAME Start time \_\_\_\_\_

**Performance Rating :** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

=====  
**COMMENTS**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. A **Critical step** is identified bold type in the SAT/UNSAT column.
2. Sequenced steps identified by an "s"
3. Any **UNSAT** requires comments
4. Task should begin at the Plant, Classroom, or Simulator.
5. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR 20 min Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

- RCI-3
- RCDP-4

**REFERENCES:**

	Reference	Title	Rev No.
A	RCI-3	Personnel Monitoring	47
B	RCDP-4	Personnel Inprocessing and Dosimetry Administrative Processes	4

Task Number	Task Title	Cont TRN
1190100301	Apply radiation and contamination safety procedures	N
3430290302	Knowledge of 10CFR20 and related facility radiation control requirements	N

=====

**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be simulated for this task. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Radiation surveys in the Auxiliary Building are as follows:
  - 1 'A' Charging Pump Room = 40 MR/hr
2. The 1 'A' Charging Pump is OOS for pump shaft replacement.
3. The shaft replacement is expected to take 3 workers 12 hours to complete.
4. Annual exposure for each worker up to this time is as follows:
  - Worker 'A' = 10 MR
  - Worker 'B' = 300 MR
  - Worker 'C' = 720 MR

**INITIATING CUES:**

Assuming all three workers will spend the entire 12 hours in the charging pump room, determine the following:

1. Each workers projected exposures.
2. Any additional approvals required to perform the work, based upon the calculated exposure.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP:</u> Determine projected worker exposure for the job.</p> <p><u>STANDARD:</u> Operator calculates projected exposure of 480 MR for each worker.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP:</u> Determine each workers projected total annual exposure.</p> <p><u>STANDARD:</u> Worker 'A' projected total annual exposure is calculated to be 490 MR.  Worker 'B' projected total annual exposure is calculated to be 780 MR.  Worker 'C' projected total annual exposure is calculated to be 1200 MR.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p>
<p><u>STEP:</u> Determine any additional approvals required to perform the work, based upon the projected total annual exposure.</p> <p><u>STANDARD:</u> Worker 'C' must receive authorization from the Site RAD/CHEM Manager/RSO to exceed an annual TEDE of 1.0 rem.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p><b>Critical Step</b></p>

End Of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 180

### 2 'A' RHR Heat Exchanger Radiological Work Permit Evaluation Data Review

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/\_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/\_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/\_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/\_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.  
\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

**NUCLEAR TRAINING  
REVISION/USAGE LOG**

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISIED BY:
0	Initial Issue	Y	12/10/03	All	W. O. Lovelace
1	Revised to incorporate validation comments.	N	3/25/04	All	G.S. Poteet
2	Revised survey map	N	5/14/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task**  
Apply radiation and contamination safety procedures  
Knowledge of 10CFR20 and related facility radiation control requirements

**JA/TA task #**  
1190100301  
3430290302

**K/A Ratings:**  
2.3.1(2.6/3.0)  
2.3.4(2.5/3.1)

**Task Standard:** Using the RWP and Survey Map provided: the trainee will determine the anti-contamination clothing and dosimetry requirements also dose and dose rate alarm limits. For work specified, calculate the total estimated dose for each worker.

**Evaluation Method :** Simulator  In-Plant

=====

**Performer:** \_\_\_\_\_  
NAME Start time \_\_\_\_\_

**Performance Rating :** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_/\_\_\_\_\_  
SIGNATURE DATE

=====

**COMMENTS**

\_\_\_\_\_  
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\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. A **Critical step** is identified bold type in the SAT/UNSAT column.
2. Sequenced steps identified by an "s"
3. Any **UNSAT** requires comments
4. Task should begin at the Plant, Classroom, or Simulator.
5. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR 20 min Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

RWP 03017031 & Survey #112203-15

**REFERENCES:**

	Reference	Title	Rev No.
A	Permit Number 03317031	Radiological Work Permit	

Task Number	Task Title	Cont TRN
1190100301	Apply radiation and contamination safety procedures	N
3430290302	Knowledge of 10CFR20 and related facility radiation control requirements	N

=====

**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. I will provide initiating cues and reports on other actions when directed by you. All steps shall be simulated for this task. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Utilize RWP 03017031 & Survey #112203-15 for this JPM.
2. Work in a high contamination area is covered.
3. The dosimetry requirements are specified.
4. The settings for the dose alarm and the dose rate alarm setpoints are specified.
5. It is estimated that 2 workers will spend 45 minutes inspecting the insulation on 2A RHR Heat Exchanger.

**INITIATING CUES:**

Determine the following:

1. Determine the anti-contamination clothing requirements if this were a job in a high contamination area.
2. Dosimetry requirements for the area.
3. What are the dose alarm and dose rate alarm setpoints.
4. Assuming both workers will spend the entire 45 minutes in the lower elevation at the RHR Heat Exchanger, determine their exposures.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 1:</u> Determine the anti-contamination clothing requirements of RWP 03017031 if work is to be performed in a high contamination area.</p> <p><u>STANDARD:</u> On the RWP in the Anti-Contamination Clothing Requirements Matrix list every item that has a 4 in its block. The 4 is derived from the Work Steps Matrix</p> <p>The list will include: Booties, Cloth, One Pair; Shoe Covers, One Pair; No Personal Outer Clothing; Gloves, Rubber, Two Pair; Hood; Cloth Inserts; Secure Gloves/Booties; Coveralls, One Pair; Modesty Clothing; and Paper Suit.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP 2:</u> Determine requirements for dosimetry per the RWP.</p> <p><u>STANDARD:</u> As found in RWP Dosimetry Requirements Matrix: Electronic Dosimeter and TLD.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP 3:</u> Determine the dose alarm and the dose rate alarm setpoints per the RWP.</p> <p><u>STANDARD:</u> In the General Description Block of the RWP the Dose Alarm is 50 and the Dose Rate Alarm is 100 (mrem).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP 4:</u> Assuming both workers will spend the entire 45 minutes in the lower elevation at the RHR Heat Exchanger, determine their exposures.</p> <p><u>STANDARD:</u> 45 minutes = .75 hour therefore:</p> <p>.75hr. X 32 mrem/hr. (30 cm dose rate at 2A-A RHR Heat Exchanger) = 24 mrem</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>

End Of JPM

**RADIOLOGICAL WORK PERMIT**  
 FOR ALL NON AIRBORNE AREAS EXCLUDING CONT. & SPENT FUEL POOL  
 BRIEFING REQUIRED QUARTERLY

**GENERAL DESCRIPTION**

Status: SUSPENDED	Start Date: 09-NOV-2003	End Date: 15-DEC-2003
Type: GENERAL	MAP ID:	Outage: Y Name: U2C12
Task: ROUTINE PLANT MAINTENANCE		PSE: N
HP Coverage: INTERMITTENT		Authorization Type: ALL
ALARA Review Number: 2003-67		Primary WorkDoc:
Person-mrem Estimate: 1100	Person-Hrs Estimate: 300	
Dose Alarm: 50	Dose Rate Alarm: 100	
DAC-hrs Tracked: Y		
Work Area Description: Aux Bldg. All Areas		

**DESCRIPTION OF WORK TO BE PERFORMED**

U2 HEAT EXCHANGER ROOMS AND PIPE CHASES (EXCLUDES L/D HX ROOM) - MECHANICAL VALVE MAINTENANCE - INCLUDES: REPLACEMENT; REBUILDING; REPACKING; TESTING; PACKING ADJUSTMENT; DIAPHRAGM AND O-RING REPLACEMENT; AIR ACTUATOR; SOLENOID AND REGULATOR WORK; AND ASSOCIATED WORK IN SUPPORT OF UIC12 REFUELING OUTAGE.
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**ANTI-CONTAMINATION CLOTHING REQUIRMENTS**

1,2,3	GLOVES, RUBBER, ONE PAIR	1,2,3,4	CLOTH INSERTS
2	LAB COAT	2,3	SURGEON'S CAP
2,3,4	BOOTIES, CLOTH, ONE PAIR	2,3,4	SECURE GLOVES/BOOTIES
2,3,4	SHOE COVERS, ONE PAIR	3,4	COVERALLS, ONE PAIR
3,4	NO PERSONAL OUTER CLOTHING	3,4	MODESTY CLOTHING
4	GLOVES, RUBBER, TWO PAIR	4	PAPER SUIT
4	HOOD		

**DOSIMETRY REQUIREMENTS**

ELECTRONIC DOSIMETER	TLD
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**BRIEFING REQUIREMENTS**

PRE-JOB BRIEFING	
------------------	--

**EQUIS**

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**WORK STEPS**

1	HANDS-ONLY ENTRY INTO POSTED CONTAMINATION AREAS
2	ENTRY INTO POSTED CONTAMINATION AREAS <10,000 DPM/100 CM2
3	ENTRY INTO POSTED CONTAMINATION AREAS >10,000 DPM/100CM2
4	ENTRY INTO POSTED HIGH CONTAMINATION AREAS

**RADIOLOGICAL WORK PERMIT**  
FOR ALL NON AIRBORNE AREAS EXCLUDING CONT. & SPENT FUEL POOL  
BRIEFING REQUIRED QUARTERLY

**WORKER INSTRUCTIONS**

1 REVIEW APPLICABLE SURVEY DATA PRIOR TO ENTRY.
2 NOTIFY RADCON OF SPECIFIC WORK TO BE PERFORMED AND LOCATION PRIOR TO EACH ENTRY.
3 NOTIFY RADCON OF ANY UNUSUAL RADIOLOGICAL CONDITIONS ( FOR EXAMPLE: WATER, LEAKS, RADIATION MONITOR ALARMS)
4 PLASTIC OR ESF SUIT REQUIRED WHEN WATER IS PRESENT OR EXPECTED.
5 FACESHIELD TO BE EVALUATED ON A CASE-BY-CASE BASIS.
6 NOTIFY RADCON PRIOR TO ANY GRINDING, WELDING, CLEANING WITH WIRE BRUSHES, USE OF VOLATILE LIQUIDS, AND VALVE DISASSEMBLY.
7 NO KNEELING, CLIMBING, ENTRY INTO CLUTTERED OR CONFINED AREAS IN A LABCOAT DRESSOUT.
8 ACCESS TO THIS RWP INDICATES THE WORKER CAN HEAR THE ED ALARM OR OTHER DOSE WARNING MEASURES HAVE BEEN PROVIDED.

**SPECIAL INSTRUCTIONS**

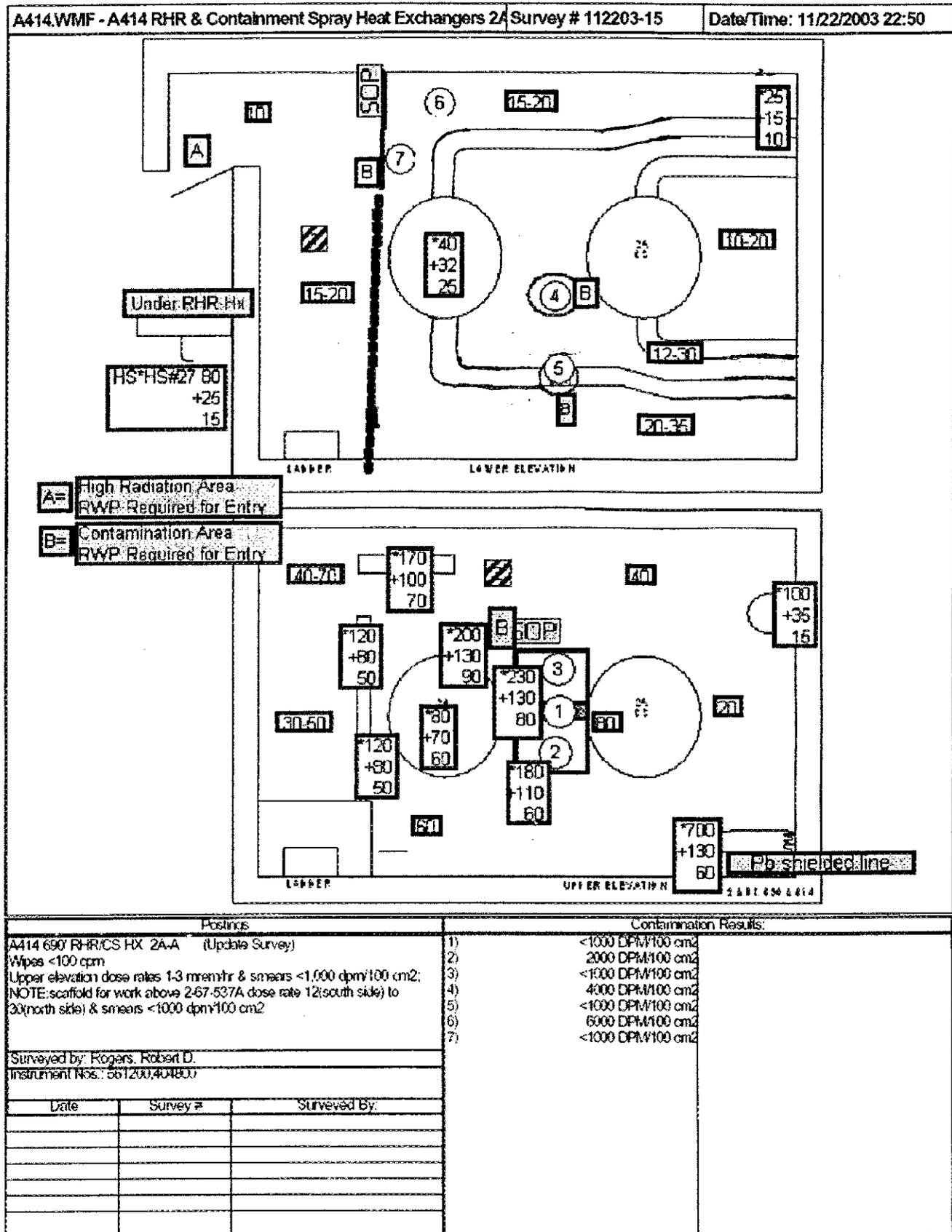
1 RADCON TO BE PRESENT DURING INITIAL CONTAMINATED SYSTEM BREACHES AND REMOVAL OF PACKING, DIAPHRAGMS, AND ALL VALVE INTERNALS FROM CONTAMINATED SYSTEMS. HP Coverage: INTERMITTENT
2 THIS RWP IS NOT VALID FOR ENTRY INTO ANY POSTED LOCKED HIGH RADIATION AREA HP Coverage: None

**APPROVAL**

Prepared By: REEASLEY Approved By: Approved By: Final Approval: CJJORDAN
---

End of RWP

Sequoyah Nuclear Station VSDS Survey Report



# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM 220R

### Control Room Actions of AOP-N.08 for Fire U1 EI. 669 General Area

Original Signatures on File

<b>PREPARED/ REVISED BY:</b>	_____	Date/
<b>VALIDATED BY:</b>	* _____	Date/
<b>APPROVED BY:</b>	_____	Date/
	(Operations Training Manager)	
<b>CONCURRED:</b>	** _____	Date/
	(Operations Representative)	

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.  
\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISION BY:
0	New	Y	10/1/2002	All	GS Poteet
1	Incorporated AOP- N.08 changes	Y	5/20/2004	All	J P Kearney

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Task should begin in the SM office.
4. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time: CR. \_\_\_mins**

**Tools/Equipment/Procedures Needed:**

- AOP-N.01, Step 16
- AOP-N.08, Sections 2.0 and 2.2

**References:**

	Reference	Title	Rev No.
A.	AOP-N.08	Appendix R Fire Safe Shutdown	3
B.	AOP-N.01	Plant Fires	17

=====  
**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Unit 1 is experiencing a Fire U1 el. 669 outside the WGDT Valve Gallery.
2. The operating crew has entered AOP-N.01, section 2.0.
3. The AUO's are in the OFO and have completed all assigned actions to date.
4. Current Plant Conditions:
  - **1B-B CCP is running**
  - **Seal injection flow > 6gpm**
  - **Tavg is 545F and stable**
  - **CST Level is 80%**
  - **LCV-62-135/136 are Closed, LCV-62-132/133 are Open**

**INITIATING CUES:**

1. You are the Unit 1 CRO.
2. You have been directed by the Unit Supervisor to complete step 16 of AOP-N.01.
3. Inform the US when Step 16, b.2 is complete.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 1.:</b> Direct all available AUO's to report to Main Control Room with SCBAs and radio to stand by for AOP-N.08 actions.</p> <p><b>Cue</b> <i><b>AUO's are notified and report to the Control Room</b></i></p> <p>Evaluator Note: Step 16 of AOP-N.01</p> <p><b>STANDARD:</b> CRO directs all available AUOs to report to Main Control Room with SCBAs and radio to stand by for AOP-N.08</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical step</b></p> <p>Time Start:</p> <p>_____</p>	
<p><b>STEP 2.:</b> <b>IDENTIFY</b> applicable section of AOP-N.08 based upon location of fire:</p> <p><b>Cue:</b> <i><b>Steps 1 through 7 of AOP-N.08 are not applicable at this time</b></i></p> <p><b>STANDARD:</b> Operator determines that AOP-N.08 Section 2.2 is applicable</p> <ol style="list-style-type: none"> <li>1) Operator goes to AOP-N.08 Section 2.0 <b>Give Cue Above</b></li> <li>2) At Step 8, AOP-N.08, Oper. determines Step 10 is appropriate</li> <li>3) At Step 10, AOP-N.08, Oper. determines Section 2.2 is appropriate</li> </ol>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 3.:</b> <b>DETERMINE</b> time critical local operator actions in the applicable section:</p> <p><b>Evaluator Info.:</b> <i>The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.2</i></p> <p><b>Cue for #6 below:</b> <i><b>Fire is outside the WGDT Valve Gallery</b></i></p> <ol style="list-style-type: none"> <li>4) Operator goes to Section 2.2, Step 1</li> <li>5) Operator verifies fire is in Aux. Bldg 669-A1 Main Corridor</li> </ol> <p><b>STANDARD:</b> Operator verifies that he/she is in the correct section based on fire location.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 4:</b>      <b>DETERMINE</b> time critical local operator actions in the applicable section:</p> <p><i>Evaluator Info.:</i> The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.2</p> <p>6)    Operator @ Step 2.a, determines App. F.1, Step 2 is required  7)    Operator @ Step 2.b, determines Appendix G is required</p> <p><b>EXAMINER NOTE:</b>    <b>IF OPERATOR SUCCESSFULLY COMPLETES STEP 4, PROVIDE FOLLOWING CUE:</b></p> <p><b>Cue:</b>            <i>Additional operator will complete determination of remaining local time critical local operator actions.</i></p> <p><b>STANDARD:</b>      Operator determines that:</p> <p>Appendix . F.1, Step 2 (This is not a Critical Step)  Appendix G is required and time critical (30 min). (Critical Step)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 18AP1

Classify the Event per the REP  
(Primary System Leakage with Potential Loss of  
Containment)

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/ \_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/ \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING						
REVISION/USAGE LOG						
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:	
0	New	Y	9/5/00	All	J P Kearney	
pen/ink	EPIP-1 and 4 Rev Change only	N	12/21/00	4	W. R. Ramsey	
pen/ink	EPIP-1 and 4 Rev Change only	N	07/31/01	4	W. R. Ramsey	
pen/ink	Minor clarifications for to be consistent with other REP JPMs.	N	12/27/01	All	L. Pauley	
1	Incorporated pen/ink changes; revised to recent EPIP changes; no impact on JPM flow	N	8/16/02	4,6,7,8,9	J P Kearney	
2	Update to latest revision of EIPs	Y	3/25/04	ALL	G.S. Poteet	

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
SRO  
JOB PERFORMANCE MEASURE

**Task:** Classify the Event per the REP (Primary System Leakage with Leakage Outside Containment)

**J/TA task # :** 3440030302 (SRO)  
3440190302 (SRO)

**K/A Ratings:**

2.4.29 (2.6/4.0)	2.4.38 (2.2/4.0)
2.4.30 (2.2/3.6)	2.4.40 (2.3/4.0)
2.4.37 (2.0/3.5)	2.4.41 (2.3/4.1)

**Task Standard:**  
The event is classified as an SAE based on Primary System Leakage exceeding capacity of one charging pump with Leakage Outside Containment. All notifications are made per the EPIP.

**Evaluation Method:** Simulator  X  In-Plant \_\_\_\_\_  
\* This JPM will be simulated

=====

**Performer:** \_\_\_\_\_  
NAME Start Time \_\_\_\_\_

**Performance Rating:** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish Time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

=====

COMMENTS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Critical steps identified by Critical Step in **BOLD**.
2. Sequenced steps identified by an "s"
3. Any **UNSAT** requires comments
4. Initialize the simulator to any IC and leave in FREEZE.
5. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.
5. **Caution: DO NOT LET THE EXAMINEE FAX THE NOTIFICATION FORM**

**Validation Time:** CR. 19 mins Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

EPIP-1 through EPIP-5  
SPP-3.5 Appendix D

**The simulator is NOT representative of the scenario you are about to address.  
Portions of this JPM are TIME CRITICAL.**

**References:**

	Reference	Title	Rev No.
A.	EPIP-1	Emergency Plan Initiating Conditions Matrix	35
B.	EPIP-4	Site Area Emergency	26

**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps of this JPM shall be simulated. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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 was operating at 100% (BOL) when indications of a primary system leak developed. AOP-R.05, "RCS Leak and Source Identification" has been implemented; a second CCP was started due to decreasing Pressurizer level. The operators are attempting to identify the source of the leak. Unit 2 is in MODE 6 with refueling operations in progress (core being unloaded). The SQN Emergency Paging System (EPS) is out-of-service.

**INITIATING CUES:**

The US has informed you, the SED, of the leak. The operators have not identified the leak source but, AOP-R.05 is in progress at this time. Using the following parameters provided to you by the control room operating crew, classify the event according to the EPIPs and perform any required actions.

- PZR level is 58% and stable.
- Charging flow is 140 gpm.
- Letdown flow is 0 gpm.
- Containment pressure is +0.2 psid and steady.
- Containment radiation (RM-90-106 & 112) has not changed since the event began.
- RHR Pipe Break White Lights have just illuminated.
- RM-90-101B is increasing.
- Several Area Radiation Monitors on el. 669 and 690 are in Hi Rad.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.</u> Refers to EPIP-1 to determine level of event.</p> <p><b>NOTE:</b> The leak rate is ~128 gpm (140 - 12 gpm RCP seal leakoff).</p> <p><b>STANDARD:</b> Operator refers to EPIP-1, Section 1, Fission Product Barrier Matrix. Operator determines that they have met the conditions for SITE AREA EMERGENCY based on EAL 1.2.2 Potential LOSS (RCS Leakage/LOCA) AND EAL 1.3.4 Potential LOSS (Containment Bypass).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p> <p><b>Task Start Time</b></p> <p>_____</p>	
<p><u>STEP 2.</u> Implements EPIP-4 SITE AREA EMERGENCY.</p> <p>Enter time Declaration made _____</p> <p>Time from Task Start Time to Declaration: _____</p> <p><b>STANDARD:</b> Operator implements an SITE AREA EMERGENCY utilizing EPIP-4, Section 3.1. Operator should classify the event <b>within 15 minutes</b> of the time the task was accepted. Declaration Time should be consistent with the time the examinee transitions from EPIP-1 to EPIP-4.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Time Critical Step</b></p>	
<p><u>STEP 3.:</u> ANNOUNCE to the operating crew: "A SITE AREA EMERGENCY has been declared based on ((based on Potential LOSS (RCS Leakage/LOCA) AND EAL 1.3.4 Potential LOSS (Containment Bypass) LOCA outside containment.). I will be the Site Emergency Director".</p> <p><b>STANDARD:</b> Operator makes announcement to the crew.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 4.</u> Upon Classifying events as a SITE AREA EMERGENCY the SM/SED shall:</p> <p>[1] IF TCS is operational, (SED transferred to TSC) THEN GO TO Section 3.2 (page 7).</p> <p><b>Cue:</b> <i>If operator requests respond "TSC has not been manned".</i></p> <p><b>STANDARD:</b> Operator should recall that the TSC has not been manned per initiating cues.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<u>STEP 5.</u>	[2] RECORD time of declaration. TIME _____	___ SAT
<u>NOTE:</u>	<b>Operator may have already stated time of declaration, but must enter time properly in EPIP-4 form.</b>	___ UNSAT
<u>STANDARD:</u>	Operator should enter proper time that declaration was made.	
<u>STEP 6.</u>	[3] ACTIVATE Emergency Paging System (EPS) as follows: [a] IF EPS has already been activated, THEN GO TO Step 4.	___ SAT
<u>NOTE:</u>	<b>The SQN EPS is out of service per initial conditions.</b>	___ UNSAT
<u>STANDARD:</u>	Operator continues to implement Step [3] actions.	
<u>STEP 7.</u>	[b] IF ongoing onsite Security events may present risk to the emergency responders, THEN CONSULT with Security to determine is site EPS has already been activated, THEN GO TO Step 4.	___ SAT
<u>NOTE:</u>	<b>There is no indication of an onsite Security event given in the initial conditions.</b>	___ UNSAT
<u>STANDARD:</u>	Operator continues to implement Step [3] actions.	
<u>STEP 8.</u>	[c] IF ongoing events make site access dangerous to the life of emergency responders, THEN SELECT STAGING AREA button on the terminal INSTEAD of the EMERGENCY button.	___ SAT
<u>NOTE:</u>	<b>There is no indication of an onsite event which is making site access dangerous to responders given in the initial conditions.</b>	___ UNSAT
<u>STANDARD:</u>	Operator continues to implement Step [3] actions.	
<u>STEP 9.</u>	[d] ACTIVATE EPS using touch screen terminal. IF EPS fails to activate, THEN continue with Step 4.	___ SAT
<u>NOTE:</u>	<b>The SQN EPS is out of service per initial conditions.</b>	___ UNSAT
<u>STANDARD:</u>	Operator continues with Step [4].	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 10.</u></p> <p><b>STANDARD:</b></p>	<p>[4] COMPLETE Appendix B, TVA Initial Notification for Site Area Emergency.</p> <ol style="list-style-type: none"> <li>1. This is a Drill.</li> <li>2. This is SED [Their name]. Sequoyah has declared a SITE AREA EMERGENCY affecting [Unit 1]</li> <li>3. EAL Designators [Potential LOSS 1.2.2 and Potential LOSS 1.3.4]</li> <li>4. Brief description of incident: [Leak exceeding one CCP capacity AND Unexpected VALID increase in Area or Vent Rad Monitors]</li> <li>5. Radiological Conditions [Airborne Release Offsite] [Release information not known] [Liquid Release Offsite] [Release information not known] or [Minor releases within federally approved limits]</li> <li>6. Event Declared: [Time and Date]</li> <li>7. Protective Action Recommendation: [NONE]</li> <li>8. Ask the ODS to repeat the information he has received to ensure accuracy.</li> <li>9. Time and Date this information was provided. _____ / _____</li> </ol> <p>Operator goes to Appendix B and fills in information required for the form.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP 11.</u></p> <p><b>NOTE:</b></p> <p><b>Cue:</b></p> <p><b>STANDARD:</b></p>	<p>[5] NOTIFY ODS. _____ Initial _____ Time</p> <p>Enter time call is made to the ODS _____</p> <p>Time from Declaration (step 2) to ODS Notification: _____</p> <p>Role play as the ODS to receive call.</p> <p>Operator calls the ODS to notify him of the event within 5 minutes of the event declaration.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Time Critical Step</b></p>
<p><u>STEP 12.</u></p> <p><b>NOTE:</b></p> <p><b>Cue:</b></p> <p><b>STANDARD:</b></p>	<p>[a] IF EPS failed to activate from SQN when attempted THEN DIRECT ODS to activate SQN EPS. IF ODS is unable to activate EPS, THEN continue with Step [5][b].</p> <p>The SQN EPS is out of service per initial conditions.</p> <p>Role play as the ODS, and report that the EPS has been activated as requested.</p> <p>Operator continues to implement Step [5] actions.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 13.</u> [b] READ completed Appendix B to ODS.</p> <ol style="list-style-type: none"> <li>1. This is a Drill</li> <li>2. This is SED (Their name) Sequoyah has declared a SITE AREA EMERGENCY affecting Unit 1</li> <li>3. EAL Designators <b>Potential LOSS 1.2.2 and Potential LOSS 1.3.4</b></li> <li>4. Brief description of incident: <b>[Leak exceeding one CCP capacity AND Unexpected VALID increase in Area or Vent Rad Monitors]</b></li> <li>5. Radiological Conditions <b>[Airborne Release Offsite] [Release information not known] [Liquid Release Offsite] [Release information not known] or [Minor releases within federally approved limits]</b></li> <li>6. Event Declared: <b>[Time and Date]</b></li> <li>7. Protective Action Recommendation: <b>[NONE]</b></li> <li>8. Ask the ODS to repeat the information he has received to ensure accuracy.</li> <li>9. Time and Date this information was provided. _____/_____</li> </ol> <p><b>Cue:</b> <i>Role play as the ODS, and repeat back Appendix B information.</i></p> <p><b>STANDARD:</b> Operator should notify the ODS within 5 minutes after declaration is made giving the above information from Appendix B.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><u>STEP 14.</u> [c] FAX Appendix B to the ODS.</p> <p><b>Cue:</b> <i>The support AUO will send the FAX for you.</i></p> <p><b>STANDARD:</b> Operator addresses Faxing the Notification Form to the ODS.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 15.</u> [d] MONITOR for confirmation call from ODS that State/Local notifications complete: RECORD time State notified. _____</p> <p><b>Cue:</b> <i>After 5 minutes have elapsed, role play as the ODS and report that State/local notifications are complete</i></p> <p><b>STANDARD:</b> Operator records time of notification.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 16.</u> [6] IF ODS CANNOT be contacted within 10 minutes of declaration, THEN</p> <p><b>STANDARD:</b> Operator N/As this step and continues.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<u>STEP 17.</u>	[7] MONITOR Emergency Response Organization (ERO) Responses by viewing touch screen monitor, obtaining copies of the printed report available in the TSC or OSC, or reviewing Call List progress. Delegate these tasks to Operations Clerk, MSS or other available personnel)  <b><u>Cue:</u></b> <i>The Operations Clerk will make appropriate calls to personnel to staff the TSC and OSC.</i>  <b><u>STANDARD:</u></b> Operator performs directs Shift Clerk to make appropriate calls.	___ SAT ___ UNSAT
<u>STEP 18.</u>	[8] PERFORM Appendix A, Notifications and Announcements. (Delegate as needed.)  <b><u>Cue:</u></b> <i>No personnel are available to perform Appendix A.</i>  <b><u>STANDARD:</u></b> Operator performs continues to Appendix A.	___ SAT ___ UNSAT
<b>NOTE:</b>	<b>The following steps are contained in Appendix A, Notifications and Announcements.</b>	
<u>STEP 19.</u>	[1] IF there is a security threat, THEN  <b><u>Cue:</u></b> <i>There have been no reports of an onsite Security event.</i>  <b><u>STANDARD:</u></b> Operator N/As this step and continues.	___ SAT ___ UNSAT
<u>STEP19:</u>	[2] NOTIFY RADCON Shift Supervisor that "A SITE AREA EMERGENCY HAS BEEN DECLARED BASED ON Leak exceeding one CCP capacity AND Unexpected VALID increase in Area or Vent Rad Monitors, AFFECTING UNIT 1". Direct Radcon to implement EPIP-14. Direct Radcon to implement CECC EPIP-9.  <b><u>Cue:</u></b> <i>As the Radcon Shift Supervisor, acknowledge the report.</i>  <b><u>STANDARD:</u></b> Operator makes the notification and directs the Radcon Shift Supervisor to implement EPIP-14 AND CECC EPIP-9.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 20.:</b> [3] NOTIFY Chemistry Shift Supervisor that "A SITE AREA EMERGENCY HAS BEEN DECLARED BASED ON Leak exceeding one CCP capacity AND Unexpected VALID increase in Area or Vent Rad Monitors, AFFECTING UNIT 1".  Direct Chem Lab to implement EPIP-14.</p> <p><b>Cue:</b> <i>As the Chemistry Shift Supervisor, acknowledge the report.</i></p> <p><b>STANDARD:</b> Operator makes the notification and directs the Chemistry Shift Supervisor to implement EPIP-14.</p>	<p>___ SAT  ___ UNSAT</p>
<p><b>STEP 21.:</b> [4] Announce to plant personnel:</p> <p>"ATTENTION PLANT PERSONNEL. ATTENTION PLANT PERSONNEL. A SITE AREA EMERGENCY HAS BEEN DECLARED BASED ON <b>Potential LOSS (RCS Leakage/LOCA) AND Potential LOSS (Containment Bypass).</b> AFFECTING UNIT 1." Repeat the announcement.</p> <p><b>STANDARD:</b> Operator makes the PA announcement.</p>	<p>___ SAT  ___ UNSAT  <b>Critical Step</b></p>
<p><b>STEP 22.:</b> [5] Notify the Plant Management in accordance with SPP-3.5 and Provide SAE information.</p> <p><b>NOTE:</b> Activation of the EPS will make the Plant Management aware of the REP actuation, however administrative procedures require notification.</p> <p><b>Cue:</b> <i>Acknowledge the report as:</i></p> <ul style="list-style-type: none"> <li>• <i>Plant Manager</i></li> <li>• <i>Senior Vice President (SVP), Nuclear Operations</i></li> <li>• <i>Duty Plant Manager</i></li> </ul> <p><b>NOTE:</b> Activation of the EPS will make the Plant Management aware of the REP actuation, however administrative procedures require notification.</p> <p><b>Cue:</b> <i>As plant management, acknowledge the report.</i></p> <p><b>STANDARD:</b> Operator contacts Plant Management and informs them of the REP classification and provides SAE information from Appendix B.</p>	<p>___ SAT  ___ UNSAT  <b>Critical Step</b></p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 23.:</b> [6] Notify the "On-Call" NRC Resident AND PROVIDE SAE Information.</p> <p><b>Cue:</b> <i>As the NRC resident, acknowledge the report.</i></p> <p><b>STANDARD:</b> Operator should notify the "On-Call" NRC Resident and provide SAE Information (Appendix B).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 24.:</b> [7] Notify the NRC of plan activation via ENS phone.</p> <p><b>Cue:</b> <i>As the NRC, acknowledge the report.</i></p> <p><b>STANDARD:</b> Operator should notify the NRC (headquarters) as soon as practicable, but within 1 Hr. of declaration of the event. Operator provides SAE information from Appendix B.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Time Critical Step</b></p> <p><b>Time of Notification:</b></p> <p>_____</p>	
<p><b>STEP 25.:</b> [8] Notify the SM/SED phone that notifications are complete.</p> <p><b>Cue:</b> <i>SM/SED acknowledges.</i></p> <p><b>STANDARD:</b> Notify the SM/SED that the notifications are complete.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>Cue:</b> <i>Inform operator that someone else will complete the notifications.</i></p>	<p>Stop Time_____</p>	

End of JPM

Facility: <u>Sequoyah</u>		Date of Examination: <u>6-7-04</u>
Exam Level (circle one): RO		Operating Test No.: <u>1</u>
Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. 001AP Emerg Boration - Stuck Rods	A, D	1
b. 016 Respond to Reactor Coolant System Leakage	M	2
c. 021-2 Respond to a failure of PRM N-44	D	7
d. 028 Start Up A-A H2 Recombiner	L, M	5
e. 062-1 Transfer 1A-A 6.9KV SD Bd From Alternate to Normal	D	6
f. 115 Respond to ERCW Pump Trup per AOP-M.01	D	4S
g. 058 Faulted S/G Isolation	D	4P
h. 064AP1 Align ECCS & CS Pumps to Ctmt Sump	A, N	3
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. 400 Installation of Temporary Cooling to CCP Oil Coolers	N, R	4S
j. 032AP Local Manual Control of a SG PORV	A, M	4P
k. 189 AP Radiation Monitor 0-RE-90-122 Flushing After Hi Radiation of Release (AP) – After 2 applicants JPM replaced due to Maintenance activity in area.	A, N, R	6
JPM 55-AP1 Local Operation of 1{2} A-A D/G (Idle Start)	A, N	6
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Facility: <u>Sequoyah</u>		Date of Examination: <u>6-7-04</u>
Exam Level (circle one): <u>SRO(I)</u>		Operating Test No.: <u>1</u>
Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. 001AP Emerg Boration - Stuck Rods	A, D	1
b. 016 Respond to Reactor Coolant System Leakage	M	2
c. 021-2 Respond to a failure of PRM N-44	D	7
d. 028 Start Up A-A H2 Recombiner	L, M	5
f. 115 Respond to ERCW Pump Trup per AOP-M.01	D	4S
g. 058 Faulted S/G Isolation	D	4P
h. 064AP1 Align ECCS & CS Pumps to Ctmt Sump	A, N	3
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. 400 Installation of Temporary Cooling to CCP Oil Coolers	N, R	4S
j. 032AP Local Manual Control of a SG PORV	A, M	4P
k. 189 AP Radiation Monitor 0-RE-90-122 Flushing After Hi Radiation of Release (AP) – After 2 applicants JPM replaced due to Maintenance activity in area.	A, N, R	6
JPM 55-AP1 Local Operation of 1{2} A-A D/G (Idle Start)	A, N	6
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Facility: <u>Sequoyah</u>		Date of Examination: <u>6-7-04</u>
Exam Level (circle one): <u>SRO(U)</u>		Operating Test No.: <u>1</u>
Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. 001AP Emerg Boration - Stuck Rods	A, D	1
b. 016 Respond to Reactor Coolant System Leakage	M	2
c.		
d.		
e.		
f.		
g.		
h. 064AP1 Align ECCS & CS Pumps to Ctmt Sump	A, N	3
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. 400 Installation of Temporary Cooling to CCP Oil Coolers	N, R	4S
j.		
k. 189 AP Radiation Monitor 0-RE-90-122 Flushing After Hi Radiation of Release (AP) – After 2 applicants JPM replaced due to Maintenance activity in area.	A, N, R	6
JPM 55-AP1 Local Operation of 1{2} A-A D/G (Idle Start)	A, N	6
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 1-AP

### Emergency Boration (Stuck Rods)

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ **Date/** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

**NUCLEAR TRAINING**  
**REVISION/USAGE LOG**

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
8	Transfer from WP. Minor enhancements.	N	8/12/94	All	HJ Birch
9	Boron Conc. changes	N	9/16/94	All	HJ Birch
10	Chg due to Rev B procedure.	Y	9/9/95	All	HJ Birch
11	Incorp previous pen/inks: which corrected step 10 to continue with procedure instead of transition (JPM performance comment. Moved Tave cue from step 14 to 17 added step to determine fully inserted, 12 steps. Latest EA-68-4 & ES-0.1 Rev Chgd 'rods full out' to 'rods >12 steps', added step to use the computer to verify Rods position	N	1/19/96	6	HJ Birch
12	Major flow change for the start of EA-68-4	Y	2/2/98	All	HJ Birch
13	Revision to ES-0.1 had no impact. Made step 28 a critical step. Revised K/A ratings. Reformatted critical steps.	N	9/23/98	All	JP Kearney
pen/ink	ES-0.1 procedure revision had no impact	N	7/15/99	All	S. R. Taylor
pen/ink	ES-0.1 procedure revision had no impact	N	8/22/00	4	S. R. Taylor
pen/ink	Minor clarification	N	11/27/01	4, 6, 7, 9	L. Pauley
14	Incorporated change to EA-68-4. Change was editorial in nature	N	8/12/02	All	J P Kearney
15	Incorporated REV. 1C changes to ES-0.1 and EA-68-4	Y	9/8/03	All	G S Poteet
16	Incorporated comments	N	3/30/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task:**  
Emergency Boration (Stuck Rods)

**Note: This JPM satisfies Simulator Manipulation "T".**

**JATA task # :** 0000980501 (RO)

**K/A Ratings:**

024AA1.17 (3.9/3.9)	005AK3.01 (4.0/4.3)
024AA1.18 (3.7/3.6)	005AK3.06 (3.9/4.2)
024AA1.15 (3.1/2.9)	005AA2.03 (3.5/4.4)

**Task Standard:**

≥ 5040 gallons of boric acid injected into the reactor coolant system using the normal boration path.

**Evaluation Method :** Simulator  X  In-Plant \_\_\_\_\_

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**Performer:** \_\_\_\_\_  
NAME Start Time \_\_\_\_\_

**Performance Rating :** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish Time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

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**COMMENTS**

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**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize the simulator in IC-162. **Activate MF #RD13A & E**, insert override ZDIHS62138A close.
4. Initiate a reactor trip, Close TDAFW valves and freeze the simulator after you have acknowledged the control board alarms.
5. (May Use IC 55 if available, and add override)
6. The Console operator can be used to acknowledge alarms not associated with the JPM.
7. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time: CR.** 30 mins **Local** \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

1. EA-68-4, ES-0.1

**REFERENCES:**

	Reference	Title	Rev No.
A.	EA-68-4	Emergency Boration	9
B.	ES-0.1	Reactor Trip Response	28

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. The reactor has tripped with no safety injection and the Immediate Actions of E-0, Reactor Trip or Safety Injection, were completed.
2. The transition was made to ES-0.1 "Reactor Trip Response".

**INITIATING CUES:**

1. You are directed to "CHECK if emergency boration is required" per step 4 of ES-0.1.
2. Notify the US/SRO when you have completed the action(s) required and are ready to perform step 5 of ES-0.1.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.:</u> Obtain the appropriate procedure(s).</p> <p><u>STANDARD:</u> Operator obtains a copy of ES-0.1 (and EA-68-4 at step 3 of JPM)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p><b><u>NOTE:</u></b> The next two steps are from ES-0.1.</p> <p><u>STEP 2.</u> 4. CHECK if emergency boration required:</p> <p style="padding-left: 40px;">a. VERIFY all control rods fully inserted</p> <p><u>STANDARD:</u> Check rod bottom lights <u>and</u> rod position indicators for control rod positions, identifies control rods F8 and H14 indicating full out. (RPI high and rod bottom light off.) Enters Step 4.a RNO</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 3.</u> <b>RNO</b> a. IF two or more RPIs indicate greater than 12 steps, THEN EMERGENCY BORATE USING EA-68-4.</p> <p><u>STANDARD:</u> Operator transitions to EA-68-4.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b><u>NOTE:</u></b> The following steps are from EA-68-4, Section 4.1 Section Applicability</p> <p><u>STEP 4.:</u> 1. IF entering this instruction for boration from any of the following.....</p> <p><u>STANDARD:</u> Operator determines that boration is not reason for entry and continues to Step 2.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 5.:</u> 2. IF entering this instruction from ES-0.1 AND one of the following conditions is met.....</p> <p><u>STANDARD:</u> Operator determines that cooldown is not reason for entry and continues to Step 3.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 6:</b> 3. IF entering this instruction from ES-0.1 due to two or more control rods indicating greater than 12 steps, THEN perform the boration using BAT (Section 4.2) or RWST(Section 4.3).</p> <p><b>NOTE:</b> Since Section 4.3 is an acceptable path, if operator chooses this path give the following cue.</p> <p><b>Cue:</b> IF the operator chooses to go to Section 4.3 role play as the US and state that the preferred method is via the BAT.</p> <p><b>STANDARD:</b> Operator selects Section 4.2 Emergency Boration from BAT.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>NOTE:</b> The following steps are from Section 4.2.</p> <p><b>STEP 7:</b> 1. PLACE boric acid transfer pumps to fast speed.</p> <p><b>Cue:</b> IF asked, BAT "A" is aligned to unit 1 via the 1A pump.</p> <p><b>NOTE:</b> Standard 1 and 2 can be done in any order.</p> <p><b>STANDARD:</b> 1) Pump(s) stopped. Green light on HS  2) Speed selector switch placed on "FAST" position  3) Pump(s) restarted, Red light on right comes on for fast speed.  4) (Starting only 1A pump is acceptable)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 8:</b> 2. ADJUST emergency borate valve FCV-62-138 to maintain flow between 35 and 150 gpm on FI-62-137A.</p> <p><b>NOTE:</b> FCV-62-138 will not operate.</p> <p><b>STANDARD:</b> Operator recognizes that FCV-62-138 will not operate. Operator continues with procedure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 9:</b> 3. MONITOR emergency boration flow:  a. CHECK emergency boration flow established on [FI-62-137A].  b. IF boric acid flow less than 35 gpm, THEN CLOSE recirculation valve for the BAT aligned to the blender:  • 1-FCV-62-237 for BAT A.</p> <p><b>NOTE:</b> Since FCV-62-138 will not operate, this step cannot be performed. Operator continues to next step.</p> <p><b>Cue:</b> If asked, BAT A is aligned to unit 1.</p> <p><b>STANDARD:</b> Operator ensures flow is equal to or greater than 35 gpm. (Throttling of 1-FCV-62-237 may be required)</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 10.:</u> 4. <b>IF</b> emergency boration flow NOT established, <b>THEN ALIGN</b> normal boration path:</p> <p style="padding-left: 40px;">a. <b>VERIFY</b> VCT outlet valves LCV-62-132 and LCV-62-133 OPEN</p> <p><u>STANDARD:</u> Control board positions indicator lights for LCV-62-132 and 133 indicate open by red lights.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 11.:</u> b. <b>ALIGN</b> normal boration to VCT outlet:</p> <ul style="list-style-type: none"> <li>• <b>OPEN</b> FCV-62-140.</li> <li>• <b>OPEN</b> FCV-62-144.</li> </ul> <p><u>STANDARD:</u> Operator ensures valves open and verifies control board indicator lights for FCV-62-140 and 144 indicate open by RED lights.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 12.:</u> c. <b>CHECK</b> boration flow greater than 35 gpm on FI-62-139.</p> <p><u>NOTE:</u> Flow should be kept on scale, less than or equal to 50 gpm, to allow calculation of total flow.</p> <p><u>STANDARD:</u> Operator ensures flow rate is greater than 35 gpm</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 13.:</u> 5. <b>IF</b> boration flow NOT established, <b>THEN PERFORM</b> one of the following...</p> <p><u>STANDARD:</u> Operator N/A's this step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 14.:</u> 6. <b>VERIFY</b> charging flow established.</p> <p><u>STANDARD:</u> Operator verifies charging flow established.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 15.:</u> 7. <b>MAINTAIN</b> boric acid flow between 35 and 150 gpm.</p> <p><u>STANDARD:</u> Operator monitors flow and ensures it remains between 35 and 150 gpm.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 16.:</u> 8. <b>Monitor</b> BAT level.</p> <p><u>STANDARD:</u> Operator monitors BAT level.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 17.:</u> 9. <b>IF</b> FR-S.1 ATWS or FR-S.2 Loss of core Shutdown condition exists, <b>THEN....</b></p> <p><u>STANDARD:</u> Operator will N/A this step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 18.:</u> 10. IF emergency boration required for RCS cooldown, Then DETERMINE required boric acid volume based on T-avg and RCP status:</p> <p><u>STANDARD:</u> Operator N/As this step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 19.:</u> 11. IF 2 or more control rods NOT fully inserted, THEN DETERMINE boric acid volume as follows:</p> <p><u>STANDARD:</u> Operator calculates the required boric acid volume using 0-SI-NUC-000-038.0 and TI-44 or uses table and determines that 5040 gallons of boric acid are required.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 20.:</u> 12. CALCULATE time to inject boric acid volume determined in EA-68-4 step 10 or 11 at flow rate established in previous steps:</p> <p><b>NOTE:</b> <math>time = 5040 / (flow\ indicated\ by\ FI-62-139)</math></p> <p><u>STANDARD:</u> Operator determines the time required to inject 5040 gallons of boric acid based on the flow rate they establish.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 21.:</u> 13. WHEN either of the following conditions exists:  Required boric acid volume has been injected,  OR  Emergency boration is no longer required.</p> <p><u>Cue:</u> <i>When the operator determines the time, cue them that the time they calculated (use their number) has expired.</i></p> <p><i>Play US and concur that boration can be terminated and another operator terminate lineup.</i></p> <p><u>STANDARD:</u> Operator notifies the US that boration can be terminated and continues to section 4.4 .</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop  Time_____</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 16

### Respond to Reactor Coolant System Leakage

Original Signatures on File  
Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ *Date/* \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ *Date/* \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ *Date/* \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ *Date/* \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
5	AOP Upgrade. Chgd performance time based on validation	Y	11/6/95	All	HJ Birch
	AOP-R.05 & AR rev updates only	N	3/21/96	4	HJ Birch
	AR Rev chg	N	2/6/97	4	HJ Birch
pen/ink	AOP Rev chg. Chg control pwr level from stabilize to maintain. Add step to evaluate closing FCV-62-83 (no action)	N	5/27/97	4,5,7	HJ Birch
	AOP rev chg to correct typo to chg EA-68-3 to 62-3.	N	8/12/97	4,8	HJ Birch
pen/ink	AOP-R.05 revision had no impact. Revised K/A ratings. Reformatted critical steps	N	9/15/98	All	JP Kearney
pen/ink	1-AR-M5-C Rev chg	N	9/22/99	4	SR Taylor
pen/ink	1-AR-M5-C Rev chg	N	8/16/00	4	SR Taylor
pen/ink	AOP-R.05 Rev chg no change	N	6/18/01	4	WR Ramsey
6	Incorporated pen/ink changes and recent revision to AOP-R.05; No impact on JPM flow	N	8/19/02	All	J P Kearney
7	Incorporated changed to AR and AOP-R.05	Y	9/8/03	All	G S Poteet
8	Modified cue at step 16 of JPM.	Y	5/19/04	2, 8	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task:**  
Respond to Small Reactor Coolant System Leakage

**Note:** This JPM satisfies Simulator Manipulation "G3".

**JATA task # :** 3210050401 (RO)

**K/A Ratings:**

002A2.01 (4.3/4.4)	004A1.04 (3.9/4.1)
002A3.01 (3.7/3.9)	004A4.06 (3.6/3.1)
009EA2.02 (3.4/3.8)	

**Task Standard:**

Identify and isolate leak source on letdown line.

**Evaluation Method:** Simulator  X  In-Plant \_\_\_\_\_

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**Performer:** \_\_\_\_\_  
NAME Start Time \_\_\_\_\_

**Performance Rating:** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish Time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE  
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**COMMENTS**

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**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize in IC #35 or start in IC-110 with all controls in AUTO.
4. Activate **MF #CV03 @ 7.0%** severity ("Letdown Line Rupture" that is isolatable).
5. When Hi Moist Alarm comes in, FREEZE the simulator until the operator has been briefed.
6. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time:** CR. 10 mins      Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**  
AOP-R.05, Section 2.0 & 2.1

**References:**

	Reference	Title	Rev No.
1.	AOP-R.05	RCS Leak and Leak Source Identification	8
2.	1-AR-M5-C	Ventilation	13

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. The plant is at 100% RTP steady state operations.
2. It has been determined that leakage has developed in the RCS.
  - Containment radiation is slowly increasing.
  - Containment pressure is slowly increasing.
  - VCT level slowly dropping.

**INITIATING CUES:**

1. You are the U1 OATC and the US/SRO has instructed you to take the appropriate actions by procedure to try and identify and isolate the leak.
2. Notify the unit SRO when the leak has been identified and the leak is isolated or a determination made that it is not isolatable.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.:</u> Operator determines appropriate procedure to be used.</p> <p><u>STANDARD:</u> Operator has determined that the appropriate procedure for use is AOP-R.05.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p><u>STEP 2.:</u> EVALUATE Tech Specs and the REP.</p> <p><u>Cue:</u> <b><i>SM and STA will evaluate Tech Specs and the REP.</i></b></p> <p><u>STANDARD:</u> Operator ensures Tech Specs and the REP are evaluated.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 3.:</u> Evacuate all personnel from containment.</p> <p><u>STANDARD:</u> Operator makes PA announcement to evacuate containment.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 4.:</u> DIAGNOSE the failure:</p> <p><u>STANDARD:</u> Operator determines he/she should go to section 2.1.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 5.:</u> CONTROL charging flow as necessary to maintain pZR level &gt;10%.</p> <p><u>STANDARD:</u> Operator performs the following <b>as necessary</b> to stabilize or increase pZR level:  STARTS second charging pump - verify red light on,  OPENS FCV-62-93 by placing FIC-62-93 MANUAL, increasing output signal, and verifying flow increasing on FI-62-93.  OPENS FCV-62-89 by dialing FIC-62-89 toward a full open output signal.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 6.:</u> Maintain VCT level greater than 13% using automatic or manual makeup. ENSURE VCT makeup adequate.</p> <p><u>STANDARD:</u> Operator ensures VCT is above 13%, LI-62-129 (or LT-62-130 trend), or AUTO make up has started and is maintaining level.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 7.:</b> MONITOR containment pressure Stable or Dropping.</p> <p><b>STANDARD:</b> Operator checks cntmt press on PDI-30-42, 43, 44, 45 (or PDI-R-30-33)and determines press is increasing. GOES to RNO. Press is not approaching 1.54 psig, Operator goes to next step.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><b>STEP 8.:</b> MONITOR condenser vacuum and S/G radiation monitors NORMAL.</p> <p><b>NOTE:</b> CRO will perform this monitor step for you. Currently all indications are normal.</p> <p><b>STANDARD:</b> Operator addresses monitoring this step.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><b>STEP 9.:</b> MONITOR containment conditions Stable: Temperature, radiation, and Humidity.</p> <p><b>NOTE:</b> The following alarms are on XA-55-5C  Window B-1 "Lower Compt. Temp. Hi"  Window B-3 "Lower Compt. Moist Hi" (LIT)  Window B-4 "Upper Compt. Moist Hi"</p> <p><b>STANDARD:</b> ANY of the following indicators are monitored and it is determined that conditions are NOT STABLE. Operator GOES to RNO  Temperature: XA-55-5C Window B-1 will NOT be LIT (may check TI-30-31 on M-9 to see if it is increasing)  Humidity: XA-55-5C Window B-3 is LIT and/or MR-30-240 &amp; 241 on M-10 is verified increasing.  Humidity: XA-55-5C Window B-4 is DARK and/or MR-30-240 &amp; 241 on M-10 is verified increasing.  Radiation: RMs-90-106 &amp; 112 are increasing. (may look at recorder)</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><b>STEP 10.:</b> PLACE spare upper and lower compartment coolers In Service.</p> <p><b>STANDARD:</b> From step 5 RNO, Operator goes to M-9 and starts the non-running upper and lower compartment coolers.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 11.:</u> CHECK containment radiation RISING.</p> <p><u>STANDARD:</u> Operator determines it is rising from RR-90-112 and 106 and continues to next step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 12.:</u> DETERMINE leakage source: ISOLATE letdown:  CLOSE letdown orifice valves:  FCV-62-72  FCV-62-73  FCV-62-74</p> <p><u>STANDARD:</u> Operator closes the open FCV and endures the others are closed by GREEN light LIT on HSs.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 13.:</u> CLOSE letdown isolation valves:  FCV-62-69  FCV-62-70  FCV-62-77</p> <p><u>STANDARD:</u> Operator closes all three FCVs and verifies closed by GREEN light LIT on HSs</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 14.:</u> Evaluate need to CLOSE FCV-62-83, RHR Letdown Isolation.</p> <p><u>STANDARD:</u> Operator should N/A this step since RHR is not in service.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 15.:</u> NOTIFY Chem Shift Supervisor to ENSURE all primary side sample points in HOT Sample Room CLOSED.</p> <p><u>Cue:</u> <i>As Chem Shift Supervisor: I was just in the hot sample room and all sample connections are isolated.</i></p> <p><u>STANDARD:</u> Operator contacts Chem Shift Supervisor to ensure they are not sampling.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 16.:</b> CHECK leak IDENTIFIED and ISOLATED.</p> <p><b>NOTE:</b> Operator should take some time at this step to see if the previous actions stopped the leak. They should then proceed to next step.</p> <p><b>STANDARD:</b> Operator monitors Pzr level increasing, Cntmt radiation decreasing, and Cntmt pressure stabilizing or decreasing and determines that the leak is isolated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>NOTE:</b> The following steps are not required to meet the initiating cues and may not be performed.</p> <p><b>STEP 17.:</b> EVALUATE placing excess letdown inservice:</p> <p><b>Cue:</b> <i>The CRO will perform EA-62-3.</i></p> <p><b>STANDARD:</b> Operator addresses placing excess letdown in service since normal letdown is OOS.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 18.:</b> INITIATE leak repairs.</p> <p><b>Cue:</b> <i>The MSS has been notified and a WR has already been carried to planning.</i></p> <p><b>STANDARD:</b> Operator ensures repairs are initiated.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 19.:</b> Inform the SRO that the leak is on the letdown line and that it has been isolated.</p> <p><b>STANDARD:</b> Operator informs the SRO that the leak is on the letdown line and that it has been isolated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time ___</p>	

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 21-2

### Respond to a Failure of PRM N-44

Original Signatures on File

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/ \_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/ \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
0	New, copied from JPM 21, changed to N-44. Validation N/A based on JPM 21.	Y	7/7/00	All	JL Epperson
1	Incorporated comments, updated to latest revision of AR-M6-A, AOP-I.01. Modified power level from 57% to 75%.	N	3/31/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s".
2. Any UNSAT requires comments.
3. Acknowledge any associated alarms.
4. Initialize simulator in IC #14 (75%, BOL).
5. ENSURE NR45 selector switch is NOT selected to the N-44 (P-4) position.
6. Approximately 1 minute after operator assumes shift, Activate MF # NI07D @ 0%.
7. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR. 10 mins Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

AOP-I.01, Section 2.0 & 2.3  
AR-M6-A

**References:**

	Reference	Title	Rev No.
1.	AOP-I.01	Nuclear Instrument Malfunction	4
2.	1-AR-M6-A	Reactor Protection and Safeguards	12

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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 operating at 75% reactor power, all controls are in AUTOMATIC.

**INITIATING CUES:**

1. You are the OATC and are to monitor the control board and respond per licensed duties to operating conditions.
2. The Unit 1 US is currently assisting in tagging unit 1 125V spare charger.
3. You will be required to respond, as a reader/doer, to any abnormality that occurs.
4. When any required actions/procedures have been completed notify the SM.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1:</u> Respond to alarm on XA-M6-A window B-1 AND:</p> <p style="padding-left: 40px;">IF no reactor trip, PLACE rod control in Man.  Checks for dropped rod (rod bottom lights LIT or RPIs on bottom.  Checks 1XX-55-5 trip status panel for tripped bistables.</p> <p><u>STANDARD:</u> Operator responds to alarm, places rod control in Man, checks for dropped rods, checks bistable trip status and GO TO AOP-I.01.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>	
<p><u>STEP 2:</u> Obtains a copy of AOP-I.01 and implements Section 2.0.</p> <p><u>STANDARD:</u> Operator obtains a copy of AOP-I.01 implements Section 2.0</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>NOTE:</b> The following are steps contained in AOP-I.01 Section 2.0.</p> <p><u>STEP 3:</u> [1] EVALUATE the following Tech Specs for applicability:</p> <p><u>Cue:</u> SM will evaluate Tech Specs.</p> <p><u>STANDARD:</u> Operator requests SM to evaluate Tech Specs</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 4:</u> [2] DIAGNOSE the failure.</p> <p><u>STANDARD:</u> Operator determines Section 2.3 is applicable to PR failure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>NOTE:</b> The following are steps contained in AOP-I.01 Section 2.3.</p> <p><u>STEP 5:</u> [1] Place rod control in Man.</p> <p><b>NOTE:</b> The rods may have been placed in manual in Step 1.</p> <p><u>STANDARD:</u> Operator place HS-85-5110 to manual.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 6:</u> [2] STABILIZE reactor power at current level.</p> <p><u>STANDARD:</u> Operator checks other power range instruments and determines that reactor is stable.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 7:</u> [3] PLACE following switches located on Detector Current Comparator Drawer [M-13, N50] in position corresponding to failed Power Range Channel:</p> <ul style="list-style-type: none"> <li>PLACE "UPPER SECTION" switch to failed detector, panel M-13 (Upper Detector current comparator defeat switch). (XX-92-5037)</li> </ul> <p><u>STANDARD:</u> Detector Current comparator "Upper Section" switch in the PRN-44 position. Channel defeat light on.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 8:</u></p> <ul style="list-style-type: none"> <li>PLACE "LOWER SECTION" switch to failed detector, panel M-13 (Lower detector current comparator defeat switch). (XX-92-5037)</li> </ul> <p><u>STANDARD:</u> Detector Current comparator "Lower Section" switch in the PRN-44 position. Channel defeat light on.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 9:</u></p> <ul style="list-style-type: none"> <li>PLACE ROD STOP BYPASS switch to failed detector, panel M-13 (C-2 interlock defeat switch) (XX-92-5037)</li> </ul> <p><u>STANDARD:</u> Rod Stop Bypass switch in "BYPASS PRN-44" position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 10:</u></p> <ul style="list-style-type: none"> <li>PLACE Power Mismatch Bypass switch to failed detector, Panel M-13 (automatic rod control input defeat switch) (XX-92-5037)</li> </ul> <p><u>STANDARD:</u> Power Mismatch Bypass switch in the "Bypass PRN-44" position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 11:</u> [4] DEFEAT failed Power Range channel Using Comparator Channel defeat switch, Panel M-13 (Comparator and Rate Drawer) (XX-92-5041)</p> <p><u>STANDARD:</u> Comparator Channel Defeat switch in the N-44 position. Comparator defeat light on.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 12:</u> [5] RESTORE T-avg to T-ref.</p> <p><u>STANDARD:</u> Operator compares T-avg to T-ref at TR-68-2B verifies <u>NO</u> difference (&lt; 1.5°F).</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 13:</u> [6] ENSURE OPERABLE Power Range channel selected:</p> <ul style="list-style-type: none"> <li>Nuclear Power Recorder, NR-45, to operable channel.</li> </ul> <p><u>STANDARD:</u> Operator checks position of Hand Switches, 1-HS-92-5009 and 1-HS-5010. Ensures neither of these is selected for N-44 (P-4).</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 14:</u>      •      RCS Temp ΔT Recorder – (green pen).</p> <p><u>STANDARD:</u> Operator checks position of XS-68-2B. Ensures it is <u>NOT</u> selected for LOOP 4.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 15:</u>      [7]    RETURN rod control to AUTO if desired.</p> <p><u>Cue:</u>            <i>SM would like the rods placed back in AUTO.</i></p> <p><u>STANDARD:</u> Operator places HS-85-5110 to AUTO.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 16:</u>      [8]    CHECK reactor power greater than 75%.</p> <p><u>STANDARD:</u> Operator verifies power greater than 75% and continues next step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 17:</u>      [9]    NOTIFY Reactor Engineering to PERFORM 0-SI-NUC-000-011.0 Moveable Detector determination of Quadrant Power Tilt Ratio.</p> <p><u>Cue:</u>            <i>The SM will notify Reactor Engineering.</i></p> <p><u>STANDARD:</u> Operator verifies power greater than 75% and continues next step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 18:</u>      [10]    NOTIFY IM to remove failed power range channel from service using Appendix "D" of AOP-I.01.</p> <p><u>Cue:</u>            <i>Role play as MSS or IM, inform operator that a crew will be to the MCR within the hour to perform Appendix "D" of AOP-I.01.</i></p> <p><u>STANDARD:</u> Operator communicates with IMs or MSS to request performance of Appendix "D" of AOP-I.01 for removal of N-44 from service.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 19:</u>      [11]    GO TO appropriate plant procedure.</p> <p><u>STANDARD:</u> Notify SM that N-44 failed, its control functions have been defeated, Rx Eng and IMs have been notified to remove it from service.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 28

### Start up of A-A Hydrogen Recombiner

Original Signatures on File

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/ \_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/ \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
9	Transfer from WP. Changed JPM to perform on the simulator.	Y	8/16/94	All	HJ Birch
10	Incorporate Rev B changes. Add EA-268-1. Some JPM steps rearranged, but performance remained basically the same.	N	9/21/95	All	HJ Birch
11	Revised for EA-269-1 Rev. 3 and removed reference to pen/ink changes already incorporated.	Y	1/28/01	4, 5, 8	L. Pauley
12	Revised for EA-269-1 Rev. 4; No impact on JPM flow	N	8/19/02	4	J P Kearney
13	Incorporated comments	Y	9/9/03	All	G S Poteet
Pen&ink	Incorporated comments	N	4/5/04	All	G S Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize Simulator in IC: #16.
4. Ensure the controllers for both Hydrogen Recombiners are set to Zero (0) after simulator initialization.
5. Insert overrides to establish 5 psig on Containment Pressure Indicators CH01A 5psig, CH01B 5 psig, CH01C 5 psig, CH01D 5 psig.
6. Put **Containment Hydrogen Analyzer Fans A and B In service** by placing 1-HS- 43-200A and - 210A in ANALYZE. ENSURE white lights (1-XI-43-200 and 210 located on M-10) are NOT LIT indicating normal flow through the Hydrogen Analyzers.
7. **The reference power value used in step 8 must be verified correct prior to JPM performance.**
8. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct Unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR 20 minutes Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

1. EA-268-1, including appendix A
2. Calculator

**References:**

	Reference	Title	Rev No.
1.	EA-268-1	Placing Hydrogen Recombiner in Service	4

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Unit 1 has experienced a LOCA. Operators are following E-1, "Loss of Reactor or Secondary Coolant."
2. Containment pressure from PDI-30-44 is 5 psig.
3. The Hydrogen Analyzers have been in service for > 30 minutes.
4. The current Containment Hydrogen concentration is 2.2% as indicated on 1-H<sub>2</sub>I-43-200 and 210. (This reading is to be simulated; the indicators **will not** read 2.2%).
5. (NOTE: The simulator **will not** be representative of LOCA conditions.)

**INITIATING CUES:**

1. The crew has progressed to the step in E-1 that requires the Hydrogen Recombiners to be placed in service.
2. You are the CRO and the US directs you to place "A-A" Hydrogen recombinder in service per EA-268-1.
3. Inform the US when the "A-A" hydrogen recombinder is in service.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.:</u> Operator obtains a copy of the procedure and determines the appropriate section to perform.</p> <p><b>NOTE:</b> After operator retrieves a copy, supply him/her with the procedure.</p> <p><u>STANDARD:</u> Operator obtains a copy of EA-268-1 and determines that section 4.2 is the appropriate section.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p><u>STEP 2.:</u> SELECT applicable Unit and train of recombiner to be placed in service.</p> <p><u>STANDARD:</u> Operator checks/initials Unit 1 and Train A.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 3.:</u> RECORD Containment pressure from one of the following instruments on M-6: PDI-30-45, 44, 43, OR 42.</p> <p><b>NOTE:</b> The operator may obtain this pressure from indicator on M-6 or simply record the value given in the initial conditions.</p> <p><b>Cue:</b> IF the operator checks CNTMT press on M-6, state that it is 5 psig.</p> <p><u>STANDARD:</u> The operator records cntmt press from one of the PAM instruments (or uses data given in the initial conditions from PDI-30-44</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 4.:</u> IF a LOSS OF OFFSITE POWER has occurred, THEN PERFORM the following to restore power to the Hydrogen Recombiner.</p> <p><u>STANDARD:</u> Operator N/As this step since a loss of offsite poser has not occurred.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 5.:</u> CHECK POWER AVAILABLE light LIT (labeled "PWR On Available").</p> <p><u>STANDARD:</u> Operator verifies "PWR On Available" white light is lit on "A-A" Recombiner on M-10.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 6.:</u> ENSURE Power Adjust potentiometer set at "000" (XS-83-5003).</p> <p><u>STANDARD:</u> "A-A" Hydrogen Recombiner power adjust potentiometer dialed to "000."</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 7.:</u> PLACE POWER OUT SWITCH in "up" position (on) and CHECK the red light on switch plate LIT.</p> <p><u>STANDARD:</u> "A-A" Recombiner "PWR OUT SW" in "UP" (on) position with red light lit.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 8:</b> DETERMINE Pressure Factor USING Appendix A, Ice Condenser Containments Recombiner Power Correction Factor Vs. Containment Pressure, and RECORD below:</p> <p><b>STANDARD:</b> Using the curve referenced, the operator determines the correction factor to be <math>\sim 1.41 \pm 0.05</math>. (1.36 – 1.46)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 9:</b> Record reference power from the Hydrogen Recombiner Reference Power data plate (Ref Power): [M-10].</p> <p><b>Cue:</b> <i>If data not shown on plate, Cue Reference power is 46.98 kW.</i></p> <p><b>STANDARD:</b> The correct value of reference power is obtained. (46.98 kW -obtained from current placard)</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 10:</b> CALCULATE required hydrogen recombiner power setting by multiplying the reference power by pressure factor.</p> <p><b>STANDARD:</b> The correct required setting is calculated as 63.8 to 68.6 kW.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 11:</b> RECORD above calculated power setting in Step 11 (of procedure) in the 25 Minute Table in the KW READING column.</p> <p><b>STANDARD:</b> Operator records power setting in the 25 minute KW reading column.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 12:</b> ADJUST selected POWER ADJUST potentiometer (XS-83-5003) to obtain 5 KW on XI-83-5003. Hold for 10 minutes.</p> <p><b>Cue:</b> <i>After the step is performed, cue the operator that 10 minutes have elapsed.</i></p> <p><b>STANDARD:</b> "A-A" recombiner meter indicates 5 KW.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 13:</b> ADJUST selected POWER ADJUST potentiometer (XS-83-5003) to obtain 10 KW on XI-83-5003. Hold for 10 minutes.</p> <p><b>Cue:</b> <i>After the step is performed, cue the operator that 10 additional minutes have elapsed.</i></p> <p><b>STANDARD:</b> "A-A" recombiner meter indicates 10 KW.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 14.:</b> ADJUST selected POWER ADJUST potentiometer (XS-83-5003) to obtain 20 KW on XI-83-5003. Hold for 5 minutes.</p> <p><b>Cue:</b> <i>After the step is performed, cue the operator that 5 additional minutes have elapsed.</i></p> <p><b>STANDARD:</b> "A-A" recombiner meter indicates 20 KW.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 15.:</b> ADJUST selected POWER ADJUST potentiometer (XS-83-5003) to obtain power 63.8-68.6 KW (or power recorded earlier if reference power changed) on XI-83-5003.</p> <p><b>STANDARD:</b> "A-A" recombiner meter indicates 63.8-68.6 KW (or power recorded earlier if reference power changed).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 16.:</b> MONITOR and MAINTAIN KW reading as indicated on POWER out meter.</p> <p><b>STANDARD:</b> Operator addresses maintaining current KW setting.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 17.:</b> SELECT one of three thermocouples USING TEMP Channel SELECTOR switch and RECORD present reading:</p> <p><b>Cue:</b> <i>The indicated temperature is 500°F and increasing.</i></p> <p><b>STANDARD:</b> Operator selects a thermocouple and records reading for A Recombiner.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 18.:</b> MONITOR hydrogen recombiner temperature as indicated on TEMP READOUT meter.</p> <p><b>Cue:</b> <i>Another operator will monitor the hydrogen recombiner temperatures</i></p> <p><b>STANDARD:</b> Operator addresses that he/she will monitor recombiner Temperature on TI-83-5001.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time  _____</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 62-1

Transfer 1A-A 6.9 KV SD Bd  
From Alternate to Normal Supply

Original Signatures on File

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/ \_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/ \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
4	Chgd steps 12 &14 based on validation comments from JPM 62-2. Return auto/man sw to auto and cue no equip tagged. Chg initiate cue to cmplt JPM when SDBD is norm.	N	12/9/95	6,7	HJ Birch
pen/ink	Update Rev. Correct step 4 standard switch nomenclature.	N	3/5/96	4,5	HJ Birch
pen/ink	Procedure Rev deleted use of xfr switch 57-43 which was removed from Bd.	N	4/2/96	4,5,6,7	HJ Birch
pen/ink	0-SO-202-4 Rev chg from 11 to 13 only	N	6/6/96	4	HJ Birch
	0-SO-202-4 Rev chg which deleted ref to man transfer switch and equip tagged for alt feeder use.	N	5/1/98	4,6	HJ Birch
pen/ink	0-SO-202-4 revision had no impact. Revised K/A ratings. Reformatted critical steps.	N	8/13/98	All	JP Kearney
pen/ink	0-SO-250-4 rev update only	N	8/28/00	4	SR Taylor
pen/ink	0-SO-250-4 rev update only	N	01/08/01	4	W. R. Ramsey
5	Incorporated pen/ink changes; revised per recent revisions to 0-SO-202-4; no impact on JPM flow	N	8/20/02	All	J P Kearney
6	Incorporate comments. Upgrade to latest revision of 0-SO-202-4.	N	3/31/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize Simulator in IC: # 164.
4. Provide completed section 8.1 of 0-SO-202-4.
5. Ensure board fed from Start Bus and Ensure 1-XS-57-36 6.9 Kv Unit Board 1A Auto-Manual transfer selector switch in the manual position.
6. Transfer 1A-A 6.9 Kv Shutdown Board to its alternate feeder.
7. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time:** CR. 9 mins Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

0-SO-202-4 section 8.1 (signed copy)  
0-SO-202-4 section 8.1.4.

**References:**

	Reference	Title	Rev No.
1.	0-SO-202-4	6900V Shutdown Boards	19

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

Both units are in MODE 1. Relay testing has been in progress on normal feeder to 1A-A 6.9 Kv Shutdown Board.  
1B-B, 2A-A, and 2B-B 6.9kV Shutdown Boards are aligned to Normal Power supply.  
Both units are in LCO 3.8.2.1.

**INITIATING CUES:**

You are the Unit 1 CRO. Relay testing for the normal feeder breaker to 1A-A 6.9 Kv SD Bd is complete.

You are to transfer 1A-A 6.9kV Shutdown Board to Normal Feeder at 1-M-1 using 0-SO-202-4 Section 8.1.4. Section 8.1 has been completed.

When 1A-A 6.9kV Shutdown board has been returned to normal status notify the Unit 1 SRO.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.:</u> Obtain proper procedure.</p> <p><u>STANDARD:</u> 0-SO-202-4 Section 8.1.4 identified as appropriate procedure.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>	
<p><u>STEP 2.:</u> Ensure Section 8.1 of this instruction has been performed.</p> <p><u>STANDARD:</u> Operator verifies section 8.1 has been performed with no deviations.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 3.:</u> ENSURE normal 3 phase voltage AVAILABLE on normal feeder breaker 1718 compartment 11, via local voltmeter and selector switch on door.</p> <p><u>Cue:</u> <i>Voltage is approximately 7000 V.</i></p> <p><u>STANDARD:</u> Operator dispatches AUO to locally check voltage available on normal feeder breaker 1718.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 4.:</u> Ensure 1-XS-57-39, 6.9kV Shutdown Board 1A-A voltmeter selector switch is in SD Bd 1A position.</p> <p><u>STANDARD:</u> Operator checks 1-XS-57-39 in the BUS VOLTAGE position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 5.S:</u> Place 1-HS-57-44A, control switch for 1718 in CLOSE position and HOLD.</p> <p><u>STANDARD:</u> HS for ACB 1718 placed and held in CLOSED position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 6.S:</u> Place 1-HS-57-41A, control switch for 1716, in TRIP position momentarily.</p> <p><u>STANDARD:</u> HS for ACB 1716 turned to TRIP position and released.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 7.:</u> Verify breaker 1716 OPEN and breaker 1718 CLOSED.</p> <p><u>STANDARD:</u> ACB 1718 closed, red light on HS-57-44A ON, ACB 1716 open, green light on HS-57-41A ON</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 8.:</b> Verify 1-EI-57-39, 1A-A 6.9 kv Shutdown Board Bus voltmeter INDICATES normal voltage.</p> <p><b>STANDARD:</b> Operator checks voltmeter to verify voltage between 6560 and 7260 volts.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 9.:</b> Release 1-HS-57-44A to MID position.</p> <p><b>STANDARD:</b> Operator releases HS to MID position and verifies 1718 stays closed, red light ON.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 10.:</b> IF transfer does not occur, THEN:</p> <p><b>STANDARD:</b> Operator N/As this step since the transfer occurred.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 11.:</b> VERIFY all loads previously in service remain in service.</p> <p><b>STANDARD:</b> Operator verifies loads in service.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 12.:</b> Ensure any annunciators illuminated due to transfer are DARK (located panel 1-XA-55-1B or 0-XA-55-26A).</p> <p><b>STANDARD:</b> Operator acknowledges/resets any lit annunciators.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 13.:</b> IF only one shutdown board is on each CSST winding, AND all shutdown board transfers are complete, THEN NOTIFY Transmission Operator that MV Shutdown Boards are in normal alignment.</p> <p><b>Cue:</b> <i>Role play as Transmission Operator to acknowledge shutdown boards are in normal alignment.</i></p> <p><b>STANDARD:</b> Transmission Operator notified 1A-A 6.9kV shutdown board on NORMAL feeder.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 14.:</b> Notify Unit 1 SRO 1A-A 6.9kV shutdown board on NORMAL feeder.</p> <p><b>Cue:</b> <i>Role play as Unit 1 SRO to acknowledge shutdown boards are in normal alignment.</i></p> <p><b>STANDARD:</b> Unit 1 SRO notified 1A-A 6.9kV shutdown board on NORMAL feeder.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time_____</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 115

Respond to ERCW Pump Trip per AOP-M.01

Original Signatures on File

PREPARED/  
REVISED BY: \_\_\_\_\_ Date/ \_\_\_\_\_

VALIDATED BY: \* \_\_\_\_\_ Date/ \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

CONCURRED: \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

**NUCLEAR TRAINING**  
**REVISION/USAGE LOG**

REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
2	Transfer from WP. Minor enhancements.	N	1994	All	HJ Birch
3	AOI-13 Rewrite. Several JPM changes. JPM flow essentially the same.	N	3/7/95	All	HJ Birch
4	Procedure chgd to AOP-M.01 from AOI-13. Procedure added specific instruments to monitor pressure and flow. Incorp previous pen/inks which added step to address TS/REP. Chgd performance time. Chgd init cue to monitor board.	N	4/1/96	4,5,6,7	HJ Birch
	AOP Rev chg only	N	7/24/97	4	HJ Birch
	AOP Rev chg only	N	8/13/97	4	HJ Birch
pen/ink	AOP Rev chg only	N	8/10/00	4	SR Taylor
pen/ink	AOP Rev chg only	N	09/26/01	4	WR Ramsey
5	Update to current revision of AOP.	N	9/15/03	All	MG Croteau
Pen/ink	Updated to Rev.11 of AOP-M.01	N	5/19/04	2, 4	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task:** Respond To ERCW Pump trip

**Note:** This JPM satisfies Simulator Manipulation "L".

**JATA task # :** 0000620501 (RO)

**K/A Ratings:**

076000A2.01	[3.5/3.7]	076000GA 14	[2.9/3.1]
076000A4.01	[2.9/2.9]	076000A2.02	[2.7/3.1]
000062GA6	[3.4/3.6]	000062GA11	[3.4/3.7]

**Task Standard:**

STANDBY A TRAIN ERCW Pump has been started and the auto start selection switch is selected away from Q-A ERCW Pump position.

**Evaluation Method :** Simulator  X  In-Plant \_\_\_\_\_

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**Performer:** \_\_\_\_\_  
NAME Start Time \_\_\_\_\_

**Performance Rating :** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish Time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

=====  
**COMMENTS**

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\_\_\_\_\_  
\_\_\_\_\_

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize the simulator in IC #110. Ensure Q-A pump is in service and the selector switch is selected for Q-A pump.
4. Activate MF #RWO1G (Trips Q-A ERCW Pump)
5. Freeze the simulator until the operator has been briefed and is ready to perform task.
6. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time:** CR. 5 mins Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**  
AOP-M.01, section 2 and 2.1

**References:**

	Reference	Title	Rev No.
A.	AOP-M.01	Loss of ERCW	11

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Unit is in mode 1 at 100% power
2. Your US is assisting out in the field.

**INITIATING CUES:**

1. You are the CRO and are to monitor the board and respond, as a reader/doer, to any event that may occur.
2. Inform SM when any required action(s) associated with the failure have been completed.

JOB PERFORMANCE CHECKLIST

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.:</u> Obtain a copy of the appropriate procedure.</p> <p><b><u>Cue:</u></b> <i>The SM will evaluate Tech Specs and the REP</i></p> <p><b><u>STANDARD:</u></b> A copy of the AOP-M.01 has been obtained and goes to section 2.1.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p><u>STEP 2.:</u> IDENTIFY and LOCKOUT failed ERCW pump</p> <p><b><u>STANDARD:</u></b> ERCW pump QA HAND SWITCH has been placed in the PULL TO LOCK position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 3.:</u> START additional ERCW pumps as required to maintain header pressure between 78 psig and 124 psig..</p> <p><b><u>STANDARD:</u></b> Operator starts another A Train ERCW pump.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 4.:</u> CHECK two A Train ERCW Pumps AVAILABLE.</p> <p><b><u>STANDARD:</u></b> Operator verifies at least 2 A train ERCW pumps available</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 5.</u> DISPATCH personnel to inspect failed pump, and determine cause for failure.</p> <p><b><u>Cue:</u></b> <i>The floor US/AUO reports that the 51 relay has a flag picked up. The AUO reports no apparent reason for the trip locally.</i></p> <p><b><u>STANDARD:</u></b> The Floor US or an AUO has been notified to inspect the breaker and an AUO has been dispatched to the pump.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

JOB PERFORMANCE CHECKLIST

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 6:</u> CHECK 1A and 2A ERCW supply Header pressures [between 78 psig and 124 psig]:  1-PI-67-493A  2-PI-67-493A</p> <p><u>STANDARD:</u> Operator ensures header pressures are between 78 and 124 psig on both A Train indicators.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 7:</u> CHECK 1A and 2A ERCW supply Header flows [expected value].  1-FI-67-61  2-FI-67-61</p> <p><u>STANDARD:</u> Operator ensures there is flow on the A train supply header as indicated on both indicators.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 8:</u> CHECK 1B and 2B ERCW supply Header pressures [between 78 psig and 124 psig]:  1-PI-67-488A  2-PI-67-488A</p> <p><u>STANDARD:</u> Operator ensures header pressures are between 78 and 124 psig on both B Train indicators.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 9:</u> CHECK 1B and 2B ERCW supply Header flows [expected value].  1-FI-67-62  2-FI-67-62</p> <p><u>STANDARD:</u> Operator ensures there is flow on the B train supply header as indicated on both indicators.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 10:</u> Check ERCW pump loading amps NORMAL.</p> <p><u>STANDARD:</u> Pump amp meter for pump that was started verified to be in normal operating range.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

JOB PERFORMANCE CHECKLIST

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 11.:</u> TRANSFER emergency power selector switch away from failed pump.</p> <p><u>STANDARD:</u> The Emergency Power Selector Switch is positioned away from Q-A ERCW pump.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 12.:</u> CLOSE manual discharge valve for failed pump. [ERCW pumping Station]</p> <p><u>Cue:</u> <i>Play role of AUO and acknowledge the request.</i></p> <p><u>STANDARD:</u> Operator notifies an AUO to close the manual discharge valve of Q-A ERCW pump.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 13.:</u> Inform SM of failure of ERCW pump and performance of AOP-M.01.</p> <p><u>STANDARD:</u> SM is informed of pump failure and that AOP-M.01 has been performed</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>	

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 58

### FAULTED STEAM GENERATOR ISOLATION

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ *Date/*

**VALIDATED BY:** \* \_\_\_\_\_ *Date/*

**APPROVED BY:** \_\_\_\_\_ *Date/*  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ *Date/*  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
6	Transfer from WP. Minor enhancements.	N	8/19/94	All	HJ Birch
7	Incorporated U-2 TDAFW HS usage	N	10/27/94	6	HJ Birch
8	Incorporate Rev B changes.	Y	9/15/95	All	HJ Birch
pen/ink	Due to difficulty in determining the faulted S/G and if the other S/Gs are controlled, a Cue added to step 3 and the was S/G identified in init conditions.	N	11/21/95	4,5	HJ Birch
pen/ink	E-2 revision had no impact. Revised K/A ratings. Reformatted critical steps	N	8/13/98	All	JP Kearney
pen/ink	E-2 Rev change only	N	9/23/99	4	SR Taylor
9	Incorporated pen/ink changes	N	8/22/02	All	J P Kearney
Pen/ink	Updated iC#, and references	N	11/17/03	2,4	T. E. Pitchford
Pen/ink	incorporated comments	N	4/5/04	All	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Initialize the simulator in IC# 167. Activate MF #MS03A (Safety valve failure) @ 100%.
4. Manually initiate a safety injection and freeze the simulator after all automatic actions are completed.
5. Freeze until briefing complete and operator is ready to begin.
6. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR. 8 mins Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

E-2 "Faulted Steam Generator Isolation".

**References:**

	Reference	Title	Rev No.
1.	E-2	Faulted Steam Generator Isolation	11

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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 was at 100 % RTP when a Reactor Trip and Safety injection were actuated. Due to decreasing pressures in S/G #1, E-0 has directed the crew to implement E-2 "Faulted Steam Generator Isolation".

**INITIATING CUES:**

The US/SRO directs you, the Unit 1 CRO, perform E-2 to isolate S/G #1.

Inform the US/SRO when isolation per step 4 is complete.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<u>STEP 1:</u>	Obtain a copy of the required procedure.  <u>STANDARD:</u> Operator obtains a copy of E-2.	___ SAT ___ UNSAT Start Time_____
<u>STEP 2:</u>	1. CHECK MSIV's and MSIV bypass valves CLOSED. RNO: CLOSE valves.  <u>STANDARD:</u> Operator places HSs-1-4, 11, 22, 29 in the closed position and verifies green (& blue) lights on, [and verifies HSs-1- 147, 148, 149, 150 are in the closed position with green lights ON].	___ SAT ___ UNSAT  <b>Critical Step</b>
<u>STEP 3:</u>	2. CHECK S/G secondary pressure boundary integrity: Any S/G pressure controlled or rising.  <u>STANDARD:</u> Operator checks all S/G pressures using PI-1-2A & B, 9A & B , 20 A & B, 27 A & B OR PR-1-2 and determines that only #1 S/Gs pressure is decreasing , continues with E-2.	___ SAT ___ UNSAT  <b>Critical Step</b>
<u>STEP 4:</u>	3. Identify Faulted S/G: a. CHECK SG pressures <ul style="list-style-type: none"> <li>• Any S/G pressure DROPPING in an uncontrolled manner.</li> <li>• Any S/G pressure less than 140 psig.</li> </ul> <u>STANDARD:</u> Operator correctly identifies #1 S/G as faulted S/G.	___ SAT ___ UNSAT
<u>STEP 5:</u>	4. ISOLATE Faulted S/G  <u>STANDARD:</u> The next steps will Isolate the faulted S/G.	
<u>STEP 6:</u>	<ul style="list-style-type: none"> <li>• ISOLATE MFW.</li> </ul> <u>STANDARD:</u> Operator verifies FCV-3-35, 35A, and FCV-3-33 closed by green light "ON" for respective valves.	___ SAT ___ UNSAT

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 7.:</b></p> <ul style="list-style-type: none"> <li>ISOLATE AFW</li> </ul> <p><b>STANDARD:</b> Operator depresses pushbutton controls for LCV-3-164/164A to accident reset THEN places each in the manual position, verifies amber light on XX-3-148 ON and closes each valve by turning switch to the closed position and verifies the green lights on for each valve.  Places 1-HS-3-174 to the CLOSE position [HS may be placed in the PTL position] and verifies valve closed by green light on XX-3-148. [ ] not critical.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 8.:</b></p> <ul style="list-style-type: none"> <li>CLOSE steam supply valve to TD AFW pump FCV-1-15 or 16 CLOSED.</li> </ul> <p><b>NOTE:</b> When the operator places HS for FCV-1-15 in the CLOSED, 1-FCV-16 will automatically open to supply steam from S/G 4.</p> <p><b>STANDARD:</b> Operator places HS for FCV-1-15 in the CLOSED position and verifies green light "ON".</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 9.:</b></p> <ul style="list-style-type: none"> <li>VERIFY S/G blowdown valves CLOSED.</li> </ul> <p><b>STANDARD:</b> Operator ensures FCV-1-7 and 181 closed as indicated by green light "ON" for respective valves.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 10.:</b></p> <ul style="list-style-type: none"> <li>VERIFY atmospheric relief CLOSED.</li> </ul> <p><b>STANDARD:</b> Operator ensure PCV-1-6 closed by green light "ON" HS.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 11.:</b> Inform the US that the #1 S/G has been isolated per E-2.</p> <p><b>Cue:</b> <i>If operator continues to perform E-2 steps, cue that another operator will perform the remainder of the procedure.</i></p> <p><b>STANDARD:</b> Operator informs the US that the #1 S/G has been isolated per E-2.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 64AP-1

### Align ECCS & CS Pumps to Containment Sump (B Train Auto Swapover Fails)

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ Date/ \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ Date/ \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ Date/ \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
0	Initial issue.	Y	3/8/04	All	G. S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.

SEQUOYAH NUCLEAR PLANT  
RO/SRO  
JOB PERFORMANCE MEASURE

**Task:**  
Operate the Safety Injection System in the Recirculation Mode (Align ECCS & CS Pumps to Containment Sump)

**JA/TA task # :** 3010060601 (RO)

**K/A Ratings:**

006A4.05	(3.9/3.8)	006A4.02	(4.0/3.8)	006A4.01	(4.1/3.9)
006A3.03	(4.1/4.1)	006K4.08	(3.4/3.6)	006K4.14	(3.9/4.2)
006K4.19	(3.0/3.1)	006K4.28	(3.2/3.5)	006A3.08	(4.2/4.3)
006A4.07	(4.4/4.4)				

**Task Standard:**  
Charging pumps, Safety Injection pumps, 1A RHR pump and 1A Containment Spray pump have been realigned to take water from the RHR Containment Sump without terminating flow into the RCS.

**Evaluation Method :** Simulator  X  In-Plant \_\_\_\_\_

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**Performer:** \_\_\_\_\_  
NAME Start Time \_\_\_\_\_

**Performance Rating :** SAT \_\_\_\_\_ UNSAT \_\_\_\_\_ Performance Time \_\_\_\_\_ Finish Time \_\_\_\_\_

**Evaluator:** \_\_\_\_\_ / \_\_\_\_\_  
SIGNATURE DATE

=====

**COMMENTS**

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\_\_\_\_\_

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Critical steps identified by an asterisk (\*)
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. Initialize simulator in IC 175.
5. If IC 175 is not available then use IC 134 and complete the following steps 6-9.
6. **OPEN FCVs-70-153 & 156. Place power on FCV-63-1.**
7. **INSERT IORZDIHS6373A f:0 (This fails FCV-63-73 closed.).**
8. **RESET SI Signal**
9. **When AUTO swap over to Containment Sump is actuated, FREEZE the simulator until the operator is ready to start the JPM.**
10. Activate overrides **IMF AN\_OV\_304 F:3 IMF AN\_OV\_420 F:3**, to silence nuisance alarms on Saturation Monitor and Containment Hi Moisture.
11. **Insert IMF SI-11A 7%, SI-11B 7%, SI-11 C 7%, SI-11 D 7% on KEY 1. EXAMINER WILL PROVIDE CUE FOR ENTRY. Malfunctions will cause RWST level to decrease to 7%.**
11. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time:** CR. 25 mins Local \_\_\_\_\_

**Tools/Equipment/Procedures Needed:**

ES-1.3, Transfer to RHR Containment Sump.

**References:**

	Reference	Title	Rev No.
1.	ES-1.3	Transfer to RHR Containment Sump	11

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM. I will provide initiating cues and reports on other actions when directed by you. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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 has experienced a LOCA. E-0 was completed and transitioned to E-1. Immediately upon entering E-1, the crew transitioned to FR-Z.1 due to an orange path and completed the actions of FR-Z.1. Upon completion of FR-Z.1, the RWST low level alarm (< 27%) came in and ES-1.3 has been implemented through step 7. All supporting systems/components are operable and are functioning normally.

**INITIATING CUES:**

The Unit 1 SRO directs you, the Unit 1 OATC, to review the MONITOR RWST step (step 4, of ES-1.3) and then continue performing ES-1.3 beginning at step 8. Steps 1-7 are complete.

Notify the SRO when ES-1.3 is complete.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>EXAMINER NOTE:</b> During the performance of this JPM, containment pressure will rise causing a safety injection signal to be received. Since AUTO SI is BLOCKED, this will cause ALARM FUNCTIONS ONLY.</p>	
<p><b>STEP 1.:</b> Obtains a copy of the appropriate procedure.</p> <p><b>STANDARD:</b> Operator obtains a copy of ES-1.3, reviews monitor step 4 and begins at step 8.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>
<p><b>STEP *2.:</b> MONITOR RWST supply to ECCS pumps:</p> <ul style="list-style-type: none"> <li>•RWST LVL LO-LO alarm DARK [M-6E, E4]</li> <li>•RWST level greater than 8%.</li> </ul> <p><b>NOTE:</b> THIS IS A CONTINUOUS MONITOR STEP. IF RWST drops to &lt;8% the operator must perform the RNO steps and Lock out any pump still taking suction from the RWST.</p> <p><b>STANDARD:</b> Operator recognizes when the RWST is &lt;8% and locks out any pumps still taking suction from the RWST. ACTION MUST be taken, for any CCP, SIP, or CSP, prior to pump cavitating.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 3.:</b> Determine if containment spray should be stopped:</p> <ul style="list-style-type: none"> <li>• Check any containment spray pump RUNNING.</li> <li>• Check containment pressure less than 2.0 psig.</li> <li>• RESET containment spray signal.</li> <li>• STOP containment spray pumps and PLACE in A-AUTO.</li> <li>• CLOSE spray header discharge valves FCV-72-39 and -2.</li> </ul> <p><b>STANDARD:</b> Operator recognizes that Containment Spray should NOT be terminated and goes to the RNO which sends him to Step 9.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 4.:</b> CHECK containment sump level greater than 11%.</p> <p><b>STANDARD:</b> Operator checks LI-63-178, 179 to ensure level &gt; 11%.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 5.:</b> ENSURE containment sump valves FCV-63-72 and FCV-63-73 OPEN</p> <p><b>NOTE:</b> FCV-63-73 will not open. Operator must go to RNO.</p> <p><b>STANDARD:</b> Operator verifies FCV-63-72 open (red lights on HS LIT). Recognizes that FCV-63-73 will not open and goes to RNO.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>NOTE:</b> The following steps are from the RNO section.</p> <p><b>STEP *6.:</b> IF any containment sump valve CANNOT be opened THEN PULL TO LOCK RHR pump on affected train(s).</p> <p><b>STANDARD:</b> Operator PULL TO LOCK RHR pump B-B.</p>		<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 7.:</b> IF containment sump valve FCV-63-72 CANNOT be opened THEN ....</p> <p><b>NOTE:</b> FCV-63-72 is open</p> <p><b>STANDARD:</b> Operator continues in RNO to address FCV-63-73.</p>		<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 8.:</b> IF containment sump valve FCV-63-73 CANNOT be opened THEN ....</p> <p><b>STANDARD:</b> Operator continues in RNO to address FCV-63-73.</p>		<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 9.:</b> ENSURE RWST to RHR suction valve FCV-74-21 CLOSED. WHEN FCV-74-21 closed attempt to open FCV-63-73</p> <p><b>NOTE:</b> FCV-63-73 will not open</p> <p><b>STANDARD:</b> Operator waits for FCV-74-3 to close and attempts to open FCV-63-73.</p>		<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>STEP 10.:</b> WHEN containment sump FCV-63-73 open, THEN RESTART RHR pump 1B-B.</p> <p><b>STANDARD:</b> Operator recognizes that FCV-63-73 will not open and continues. <b>Critical step is that the operator DOES NOT start RHR pump B-B</b></p>		<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 11.:</b> IF NO containment sump recirculation path can NOT be established, THEN....</p> <p><b>STANDARD:</b> One path has been established, operators goes to next AER step.</p>		<p>___ SAT</p> <p>___ UNSAT</p>
<p><b>NOTE:</b> The following steps are from the AER column.</p> <p><b>STEP 12.:</b> ENSURE RWST to RHR suction valves FCV-74-3 and FCV-74-21 CLOSED</p> <p><b>STANDARD:</b> Operator verifies FCV-74-3 and FCV-74-21 closed (green lights on associated HSs LIT).</p>		<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 13.:</u> MONITOR RCS pressure less than 1500 psig.</p> <p><u>STANDARD:</u> Operator verifies RCS pressure less than 1500 psig and continues.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP *14.:</u> CLOSE SI pump miniflow to RWST:</p> <ul style="list-style-type: none"> <li>• FCV-63-3</li> </ul> <p><u>STANDARD:</u> Operator places each HS in the CLOSED position and verifies:  FCV-63-3 would not go closed, and goes to the RNO</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	
<p><u>STEP *15.:</u> ENSURE the following:</p> <ul style="list-style-type: none"> <li>• FCV-63-4 and</li> <li>• FCV-63-175 are CLOSED</li> </ul> <p><u>STANDARD:</u> Operator places each HS in the CLOSED position and verifies:  • FCV-63-4 CLOSED green light LIT  • FCV-63-175 CLOSED green light LIT</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	
<p><u>STEP *16.:</u> CLOSE RHR crosstie valves:</p> <ul style="list-style-type: none"> <li>• FCV-74-33</li> <li>• FCV-74-35</li> </ul> <p><u>STANDARD:</u> Operator places each HS in the CLOSED position and verifies:  • FCV-74-33 CLOSED green light LIT  • FCV-74-35 CLOSED green light LIT</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	
<p><u>STEP *17.:</u> OPEN CCP and SI pump suction from RHR:</p> <ul style="list-style-type: none"> <li>• OPEN FCV-63-7</li> <li>• OPEN FCV-63-6</li> </ul> <p><u>STANDARD:</u> Operator places each HS in the OPEN position and verifies:  • FCV-63-6 OPEN red light LIT  • FCV-63-7 OPEN red light LIT</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	
<p><u>STEP *18.:</u> ALIGN RHR discharge to CCP and SI pump suction:</p> <ul style="list-style-type: none"> <li>• OPEN FCV-63-8</li> <li>• OPEN FCV-63-11</li> </ul> <p><u>NOTE:</u> <b>After performance of this step, if RWST LO LO level is reached, the operator will only need to stop the CS pumps.</b></p> <p><u>STANDARD:</u> Operator places HSs in the OPEN position and verifies:  FCV-63-11 Remains closed, GREEN light LIT (due to interlock with FCV-63-72). Operator should continue with one train alignment  FCV-63-8 OPEN red light LIT</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 19.:</b> VERIFY Steps 11 through 14 COMPLETED.</p> <p><b>STANDARD:</b> Operator should verify all steps were completed and continue with procedure.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><b>STEP 20.:</b> CHECK RCS pressure less than 1500 psig.</p> <p><b>STANDARD:</b> Operator checks RCS pressure on PAM Instruments and verifies RCS pressure is less than 1500 psig.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><b>STEP *21.:</b> ENSURE SI pumps RUNNING.</p> <p><b>NOTE:</b> This step is only critical if the pumps were stopped due to low level.</p> <p><b>STANDARD:</b> Operator verifies Si pumps running. IF not, places each Si pump handswitch in the Start position verifies pump starts by red light LIT and green light OFF (should then verifies flow on each pump).</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	
<p><b>STEP *22.:</b> ENSURE CCPs RUNNING.</p> <p><b>NOTE:</b> This step is only critical if the pumps were stopped due to low level.</p> <p><b>STANDARD:</b> Operator verifies both CCP pumps running. IF not, places each pumps handswitch in the Start position verifies pump starts by red light LIT and green light OFF (should then verifies flow on each pump).</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;"><b>Critical Step</b></p>	
<p><b>STEP 23.:</b> MONITOR shutdown boards continuously energized.</p> <p><b>Cue:</b> CRO will monitor Shutdown boards remain energized.</p> <p><b>STANDARD:</b> Operator checks shutdown boards energized by offsite power OR ask CRO if boards are energized.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><b>STEP 24.:</b> ISOLATE CCP suction from RWST:</p> <ul style="list-style-type: none"> <li>• CLOSE LCV-62-135 and LCV-62-136 WHILE monitoring CCPIT flow</li> <li>• PLACE HS-62-135 in A-AUTO (pushed in)</li> <li>• PLACE HS-62-136 in A-AUTO (pushed in)</li> <li>• ENSURE at least one VCT outlet valve LCV-62-132 or -133 CLOSED.</li> </ul> <p><b>STANDARD:</b> Operator places each HS in the CLOSED position and verifies:</p> <ul style="list-style-type: none"> <li>• LCV-62-135 CLOSED green light LIT, HS pushed in.</li> <li>• LCV-62-136 CLOSED green light LIT, HS pushed in.</li> <li>• Either LCV-62-132, -133 CLOSED</li> </ul>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 25.:</b> CHECK power restored to FCV-63-1</p> <p><b>Cue:</b> <i>Power has been restored to FCV-63-1.</i></p> <p><b>STANDARD:</b> Operator ensures power is on FCV-63-1.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 26.:</b> CLOSE FCV-63-1 while monitoring RHR flow.</p> <p><b>STANDARD:</b> Operator places the HS for FCV-63-1 in the CLOSED position and verifies green light LIT. Monitors RHR flow during closure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 27.:</b> ISOLATE SI pump suction from RWST:</p> <ul style="list-style-type: none"> <li>• CLOSE FCV-63-5 while monitoring SI pump flow</li> </ul> <p><b>STANDARD:</b> Operator places HS for FCV-63-5 in the CLOSED position and verifies green light LIT. Monitors SI pumps flow during closure, if pumps running.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>EXAMINER NOTE:</b> CUE Console Operator to enter Key 1 to cause RWST level to drop to &lt;8%.</p> <p><b>NOTE:</b> The following steps ALIGN containment spray suction to containment sump.</p> <p><b>STEP 28.:</b> CHECK RWST level is <math>\leq</math> 8%.</p> <p><b>EXAMINER NOTE:</b> Explain to operator that a time lapse has occurred to drop RWST level to 7%</p> <p><b>STANDARD:</b> Operator determines that Containment spray pumps are aligned to the RWST. Operator checks RWST level, LI-63- 50, 51, 52, &amp; 53 to ensure level is <math>\leq</math> 8%.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Time lapse</b></p>	
<p><b>STEP *29.:</b> ENSURE containment spray pumps in PULL TO LOCK.</p> <p><b>NOTE:</b> Containment Spray pumps may already be in PULL TO LOCK if RWST level dropped to &lt;8%.</p> <p><b>STANDARD:</b> Operator places CONTAINMENT Spray Pumps in PULL-TO-LOCK position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP *30.:</b> ISOLATE CONTAINMENT Spray suction from RWST.</p> <ul style="list-style-type: none"> <li>• CLOSE FCV-72-22</li> <li>• CLOSE FCV-72-21</li> </ul> <p><b>STANDARD:</b> Operator places HS for FCV-72-22 and FCV-72-21 in the CLOSED position and verifies green lights LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP *31.:</u> CHECK Train A Containment Sump valve FCV-63-72 OPEN.</p> <p><u>STANDARD:</u> Operator recognizes FCV-63-72 is open, then opens Train A containment spray suction from containment sump FCV-72-23.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP *32.:</u> OPEN Train A containment spray suction from containment sump FCV-72-23</p> <p><u>STANDARD:</u> Places HS for FCV-72-23 in the OPEN position and verifies red lights LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP *33.:</u> CHECK Train B containment sump valve FCV-63-73 OPEN.</p> <p><u>STANDARD:</u> Operator recognizes that FCV-63-73 is closed, enters RNO and continues to AER</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 34.:</u> ALIGN ERCW system USING EA-67-1, ERCW Operation.</p> <p><u>Cue:</u> <i>Inform operator that the CRO will perform this EA.</i></p> <p><u>STANDARD:</u> Operator addresses need to perform EA-67-1.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP *35.:</u> DETERMINE if containment spray pumps should be restarted. CHECK containment press greater than 2.0 psid.</p> <p><u>Cue:</u> <i>If containment pressure is not <math>\geq</math> 2.0 psig, Cue operator that containment pressure is 5 psig.</i></p> <p><u>STANDARD:</u> Operator checks containment pressure PI-30-45 &amp; 44 greater than 2 psi and continues.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 36.:</u> Check Containment Sump Level <math>\geq</math> 18% [22% Adv] .</p> <p><u>STANDARD:</u> Operator ensures Containment sump level is <math>\geq</math> 22% Adv., LI-68-178 &amp; 179.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP *37.:</u> ESTABLISH Train A Containment Spray:</p> <ul style="list-style-type: none"> <li>• FCV-63-72 OPEN</li> <li>• FCV-72-23 OPEN</li> </ul> <p><u>STANDARD:</u> Operator checks to ensure FCV-63-73 and FCV-72-20 are open by red lights LIT on handswitches.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP *38:</u> START containment spray pump 1A-A.</p> <p><u>STANDARD:</u> Operator starts Train A-A containment spray pump by placing HS-72-27A to Start and returning to A-Auto and verifying red light on HS.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 39:</u> Perform the following:</p> <p>OPEN Train A containment spray FCV-72-39.  CHECK Train A containment spray recirculation to RWST FCV-72-34  CLOSED.</p> <p><u>STANDARD:</u> Operator ensures FCV-72-39 is open by red light LIT.  Ensures FCV-72-34 closed by green light LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 40:</u> ESTABLISH Train B Containment Spray:</p> <ul style="list-style-type: none"> <li>• FCV-63-73 OPEN</li> <li>• FCV-72-20 OPEN</li> </ul> <p><u>STANDARD:</u> Operator recognizes FCV-63-73 will not open, does not start 1B-B containment spray pump.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 41:</u> CHECK containment spray flow greater than 4750 gpm on Train A.</p> <p><u>STANDARD:</u> Operator observes &gt;4750 gpm on FI-72-34.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 42:</u> RESUME FRP implementation</p> <p><u>Cue:</u> <b>Play SRO: State another operator will complete activities.</b></p> <p><u>STANDARD:</u> Operator informs the SRO that they should implement the FRPs at this time.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop time  _____</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 400

### Installation of Temporary Cooling (HPFP) to CCP 1A-A or 1B-B Oil Coolers (AOP-M.01 Appendix I)

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ **Date/** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER		V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Initial Issue	Y	3/31/04	ALL	G. S. Poteet
Pen/ink	Incorporated validation comments	N	4/6/04	ALL	G.S. Poteet
1	Incorporate validation comments and to make JPM	Y	5/19/04	ALL	G.S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Critical steps identified by Critical Step in Bold type
2. Sequenced steps identified by an "s"
3. Any UNSAT requires comments
4. **Determine which CCP is in service and then run the JPM on the CCP which is OUT OF SERVICE. The JPM is written to address either pump, the B pump related valves are in paranthesis.**
5. **This JPM requires the sealed storage locker to be open. ENSURE the locker is sealed after the last performance of the JPM.**
6. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR. \_\_\_\_\_ Local 40 min.

**Tools/Equipment/Procedures Needed**

AOP-M.01, Appendix I Installation of Temporary Cooling (HPFP) to CCP Oil Coolers.  
Fire hoses (two 50 ft sections), tee connections and tools from EOI/AOP Storage Locker  
[Unit 1 PD pump room, AB el. 669]

**References:**

	Reference	Title	Rev No.
A.	AOP-M.01	Loss of Component Cooling Water	11

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. A complete loss of ERCW has occurred.
2. The operating crew is performing AOP-M.01, Section 2.11, Loss of All ERCW Flow.
3. RCPs and CCPs have been placed in STOP/PULL TO LOCK.

**INITIATING CUES:**

1. The Unit 1 UO has determined that temporary cooling will be established to the inservice CCP (1\_\_\_\_) using AOP-M.01, Appendix I.
2. You are the Rad Waste AUO and have been directed to perform Appendix I, Installation of Temporary Cooling (HPFP) to CCP Oil Coolers.
2. Inform Unit 1 UO when temporary cooling has been established to the in service CCP (1\_\_\_\_).

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 1.:</b> Obtain a copy of the appropriate procedure.</p> <p><b>STANDARD:</b> The operator obtains a copy of AOP-M.01, Appendix I.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>	
<p><b>STEP 2.:</b> [1] Determine which CCP to connect temporary cooling: (N/A pump not connected)</p> <p style="padding-left: 40px;">A-A CCP B-B CCP</p> <p><b>STANDARD:</b> Operator determines from Initiating Cues that the (1___) CCP will be connected.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 3.:</b> [2] Obtain fire hoses (two 50 ft sections), tee connections and tools from EO/AOP Storage Locker.[ Unit 1 PD pump room, AB el. 669]</p> <p><b>Cue:</b> <i>If desired for operator to open the locker, then cue the operator to open EO/AOP storage locker if sealed.</i></p> <p><b>NOTE:</b> The following materials are located in the sealed EO/AOP Locker.</p> <p style="padding-left: 40px;">Valve wrenches 2 fire hoses (In bag) Red rubber Hose tee connections gatged wye connection</p> <p><b>STANDARD</b> Operator locates fire hoses, tee connections and tools.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>NOTE:</b> All manipulated valves are located in the associated CCP Room.</p> <p><b>STEP 4.:</b> [3] CLOSE ERCW Supply Valve to CCP Oil Cooler.</p> <p><b>Cue:</b> <i>When valve 1-VLV-67-704A(B) and direction of movement are identified, tell the operator the valve handwheel rotates clockwise and eventually will not rotate any further.</i></p> <p><b>STANDARD</b> Operator locates and closes VLV-67-704A(B) for 1A-A (1B-B) CCP. Operator N/A's valve not operated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 5.:</b> [4] CLOSE ERCW Return Valve to CCP Oil Cooler.</p> <p><b>Cue:</b> <i>When valve 1-VLV-67-705A(B) and direction of movement are identified, tell the operator the valve handwheel rotates clockwise and eventually will not rotate any further.</i></p> <p><b>STANDARD:</b> Operator locates and closes VLV-67-705A(B) for 1A-A (1B-B) CCP by turning in the CW direction. Operator N/A's valve not operated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 6.:</b> [5] REMOVE Drain Plug and OPEN ERCW Drain Valve to CCP Oil Cooler</p> <p><b>Cue:</b> <i>When drain plug is identified, tell the operator it can be removed. When valve 1-VLV-67-1547A(1A-A CCP) or 1-VLV-67-1546B (1B-B CCP) and direction of movement are identified, tell the operator the valve handwheel rotates counter-clockwise and eventually will not rotate any further. Some water is seen coming from the drain.</i></p> <p><b>STANDARD:</b> Operator locates and opens valve 1-VLV-67-1547A (1A-A CCP) or 1-VLV-67-1546B (1B-B CCP) by turning in the CCW direction. Operator N/A's valve not operated.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>NOTE:</b> Piping is identified with ID tags at disconnect points.</p>	<p>___ SAT</p>	
<p><b>STEP 7.:</b> [6] DISCONNECT ERCW INLET (Supply) piping at the compression Fittings (two places) shown in Figure 2 of this Appendix and remove piping section.</p> <p><b>Cue:</b> <i>Once the fittings are identified, tell the operator they can be disconnected and the piping removed.</i></p> <p><b>STANDARD:</b> Operator uses Figure 2 to locate, disconnect, and remove piping.</p>	<p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 8.:</b> [7] CONNECT temporary hose compression fittings to Oil Cooler and ERCW inlet valve as shown in Figure 3.</p> <ul style="list-style-type: none"> <li>• Compression fitting connected to Oil Cooler (6" hard tubing with compression nut from tee connection)</li> <li>• Compression Fitting connected to ERCW inlet valve (4 foot red Rubber hose with compression nut)</li> </ul> <p><b>Cue:</b> <i>Once the fitting locations are identified, tell the operator the stated hose can be connected to the respective fitting.</i></p> <p><b>STANDARD:</b> Operator uses Figure 3 to install temporary hose connections at proper points.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 9.:</u> [8] CONNECT gated WYE hose connection to the nearest HPFP hose connection:</p> <ul style="list-style-type: none"> <li>• 1-26-668 (near Waste Gas Decay Tank Gallery)</li> <li>• 2-26-668 (Between Boric Acid Evaporator control panels)</li> <li>• 0-26-662 (near elevator)</li> </ul> <p><b><u>Cue:</u></b> <i>Valve 1-26-668 should be used. When identified, tell the operator that the fitting may be hooked up to the connection on the valve.</i></p> <p><b><u>STANDARD:</u></b> Operator locates appropriate hose connection point and connects hose.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 10.:</u> [9] ENSURE valves on Gated WYE are CLOSED.</p> <p><b><u>Cue:</u></b> <i>When asked, inform the operator that the valves on the gated wye are closed.</i></p> <p><b><u>STANDARD:</u></b> Operator ensures valves are closed.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 11.:</u> [10] ROLL out fire hose (with female end at gated wye and male connection in pump room) and CONNECT two 50 ft. lengths together.</p> <p><b><u>Cue:</u></b> <i>When the operator correctly reports the location and method of placement of the hoses, inform them that the hoses are rolled out and connected.</i></p> <p><b><u>STANDARD:</u></b> Operator properly positions and connects fire hose sections together.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 12.:</u> [11] CONNECT Fire hose to gate wye.</p> <p><b><u>Cue:</u></b> <i>When asked, inform the operator that the hose can be connected to the gated wye at the fire valve.</i></p> <p><b><u>STANDARD:</u></b> Operator connects fire hose to gate wye.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 13.:</u> [12] CONNECT Fire hose to tee connection.</p> <p><b><u>Cue:</u></b> <i>When asked, inform the operator that the hose can be connected to the tee connection near the charging pump.</i></p> <p><b><u>STANDARD:</u></b> Operator connects fire hose to tee connection.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 14.:</b> [13] CHECK all hose connections are complete and hose not kinked.</p> <p><b>Cue:</b> <i>When asked, tell the operator the status of the connections and hose (as long as the stated manipulations were correct, conditions are as expected).</i></p> <p><b>STANDARD:</b> The operator checks connections are complete and inspects hose for kinks.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 15.:</b> [14] CLOSE ERCW Drain Valve to CCP Oil Cooler</p> <p><b>Cue:</b> <i>When valve 1-VLV-67-1547A(1A-A CCP) or 1-VLV-67-1546B (1B-B CCP) and direction of movement are identified, tell the operator the valve handwheel rotates clockwise and eventually will not rotate any further</i></p> <p><b>STANDARD:</b> Operator locates and closes valve 1-VLV-67-1547A (1A-A CCP) or 1-VLV-67-1546B (1B-B CCP).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 16.:</b> [15] ENSURE ERCW Isolation Valves to CCP Oil Coolers OPEN.</p> <p><b>Cue:</b> <i>When valves 1-VLV-67-1544A(B) and 1545A(B) are identified, tell the operator cues consistent with the valves being open (if asked, valve moves freely in clockwise but not counter-clockwise direction, etc.).</i></p> <p><b>STANDARD:</b> Operator locates and ensures open VLV-67-1544A(B) ERCW to Bearing Oil Cooler and VLV-67-1545A(B) ERCW Supply to Gear Oil Cooler for A-A CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 17.:</b> [16] OPEN ERCW Return Valve from CCP Oil Cooler.</p> <p><b>Cue:</b> <i>When valve 1-VLV-67-705A(B) and direction of movement are identified, tell the operator the valve handwheel rotates counter-clockwise and eventually will not rotate any further.</i></p> <p><b>STANDARD:</b> Operator locates and opens VLV-67-705A(B) for A-A (B-B) CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 18.:</b> [17] OPEN Main valve on Gated wye (at HPFP hose station).</p> <p><b>Cue:</b> <i>When location at hose station and direction of motion are identified, tell the operator that the main valve on gated wye opens.</i></p> <p><b>STANDARD:</b> Operator locates and opens Main valve on Gated Wye.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 19.:</b> [18] OPEN Gated Wye routing valve that supplies the hose connection.</p> <p><b>Cue:</b> <i>When location at hose station and direction of motion are identified, tell the operator that the routing valve on gated wye opens.</i></p> <p><b>STANDARD:</b> Operator locates and opens Gated Wye routing valve.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 20.:</b> [19] OPEN Hose Station valve to provide HPFP to CCP Oil Coolers.</p> <p><b>Cue:</b> <i>When the proper hose station valve (1-26-668) and direction of movement are identified, tell the operator the valve handwheel rotates counter-clockwise and eventually will not rotate any further.</i></p> <p><b>STANDARD:</b> Operator opens hose station valve.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 21.:</b> [20] VERIFY fire hose pressurized.</p> <p><b>Cue:</b> <i>If the operator has made proper connections, inform them the hose is pressurized.</i></p> <p><b>STANDARD:</b> Operator verifies fire hose is pressurized.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 22.:</b> [21] NOTIFY UO that temporary cooling water connection to CCP is Complete.</p> <p><b>Cue:</b> <i>Acknowledge the information as the Unit Operator.</i></p> <p><b>STANDARD:</b> Operator notifies UO that temporary cooling has been established to 1A-A (1B-B) CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 32AP

### Local Manual Control of S/G PORV

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ **Date/**

**VALIDATED BY:** \* \_\_\_\_\_ **Date/**

**APPROVED BY:** \_\_\_\_\_ **Date/**  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ **Date/**  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
6	Transfer from WP. Change JPM and initial conditions to match new procedure Rev of AOI-27.	N	8/24/94	All	HJ Birch
7	Incorporate Rev B changes.	N	9/19/95	All	HJ Birch
8	Incorp previous pen/ink to add AUO to performer group. Chgd from AOI-27 to AOP-C.04. Added cue to stp 5. Chgd press from 60 to 22 psig since guage only goes to 28. Change title to AP since must go from 1st choice of operating valve with the controller, to manual operations.	N	3/12/96	4,5,6	HJ Birch
pen/ink	AOP- C.04 revision had no impact. Revised K/A ratings. Reformatted critical steps.	N	8/22/98	All	JP Kearney
pen/ink	AOP-C.04 rev. Had no impact. Reformat step 2.	N	11/28/01	4, 5	L. Pauley
9	Deleted AOP-C.04 as a reference; JPM only relies on EA-1-2. Incorporated pen/ink changes.	N	8/16/02	4	J P Kearney
10	Revision 3 set 3-15 psig to correspond to 0-100% open. Changed JPM to reflect pressure band.	N	9/11/03	All	MG Croteau
11	Converted to alternate path	Y	5/14/04	1, 5,6	G.S.Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. This JPM should be initiated from the Aux Control Room/6.9kV SD Bd Room.
4. EVALUATOR should provide a copy of EA-1-2 Local Control of SG PORVs to the operator when Initiating Cues are given.
5. Ensure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

**Validation Time:** CR. \_\_\_\_\_ **Local** 10 minutes

**Tools/Equipment/Procedures Needed:**  
EA-1-2

**References:**

	Reference	Title	Rev No.
A.	EA-1-2	Local Control of S/G PORVS	3

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. Smoke has forced a "Control Room Evacuation".
2. While performing actions in AOP-C.04 "Operations to Cold Shutdown in the Auxiliary Control Mode", the Unit 1 UO could NOT get the S/G PORVs to open.

**INITIATING CUES:**

1. You are the Control Room AUO and are directed to locally operate the #1 S/G PORV in accordance with EA-1-2.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 1.:</b> Obtain a copy of the appropriate procedure.</p> <p><b>NOTE:</b> Evaluator provides copy of EA-1-2 to operator.</p> <p><b>STANDARD:</b> Operator obtains a copy of EA-1-2.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p><b>STEP 2.:</b> Perform actions of Section 4.1.</p> <p><b>STANDARD:</b> Operator selects unit 1 and S/G #1 and transitions to section 4.2.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 3.:</b> Establish communications between UO in Aux. Control room and operator at #1 S/G PORV manual controls.</p> <p><b>Cue:</b> <i>After the operator establishes communications tell him to "partially open the PORV for SG #1" (if phone is used: keep the phone line open).</i></p> <p><b>STANDARD:</b> Communications is established between operator at #1 S/G PORV and UO.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 4.:</b> IF control air available, THEN CLOSE HCVs for atmospheric relief by turning knurled knob counterclockwise UNTIL air loading indicates ZERO:</p> <p><b>Cue:</b> <i>If operator looks at air pressure coming from main header (on pressure regulator), cue them that it is indicating 0 psig.</i></p> <p><b>Cue:</b> <i>If operator looks at air pressure on HCV-1-6, cue them that it is indicating (0) zero on output indicator.</i></p> <p><b>NOTE:</b> IF requested, role play as OATC and direct operator to proceed to the next step.</p> <p><b>STANDARD:</b> Operator locates HCV -1-6 (L-423, 480V Shutdown Bd Room 1A1) and determines control air is not available.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><b>STEP 5:</b> If control air is NOT available, THEN USE dog handwheel(s) to control atmospheric relief(s) as directed by UO by performing the following as necessary.</p> <ul style="list-style-type: none"> <li>• TURN dog handwheel clockwise to open atmospheric relief valve</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• TURN dog handwheel counterclockwise to close atmospheric relief.</li> </ul> <p><b>Cue:</b> <i>After operator demonstrates how to open valve role play as UO and state that S/G pressure is decreasing too fast; close #1 atmospheric relief valve</i></p> <p><b>STANDARD:</b> Operator turns handwheel for PCV-1-5 in the clockwise direction to open the atmospheric relief valve. Operator verifies that control has been established by contacting OATC to confirm controlled cooldown. After cue, operator turns handwheel in the counterclockwise direction to close atmospheric relief valve.</p>	<p>___ SAT  ___ UNSAT</p> <p><b>Critical Step</b></p>
<p><b>STEP 6:</b> Informs UO that local control has been established by use of dog handwheel.</p> <p><b>Cue:</b> <i>S/G pressure is decreasing slowly; leave the valve in the current position. You may continue with other duties and will be contacted if the valve needs repositioning.</i></p> <p><b>STANDARD:</b> Operator reports to UO that local control has been established by use of dog handwheel.</p>	<p>___ SAT  ___ UNSAT</p>

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM # 189AP

### Radiation Monitor 0-RE-90-122 Flushing After Hi Radiation Signal Isolation of Release (Alternate Path)

Original Signatures on File

**PREPARED/  
REVISED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_

**VALIDATED BY:** \* \_\_\_\_\_ **Date/** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Training Manager)

**CONCURRED:** \*\* \_\_\_\_\_ **Date/** \_\_\_\_\_  
(Operations Representative)

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER		V	DATE	PAGES AFFECTED	PREPARED/ REVISED BY:
0	Initial Issue	Y	1/19/04	All	S. Poteet

V - Specify if the JPM change will require another Validation (Y or N).  
See cover sheet for criteria.



**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Critical steps identified by Critical Step in **BOLD**.
2. Sequenced steps identified by an "s"
3. Any **UNSAT** requires comments
4. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR. \_\_\_\_\_ Local 30 minutes

**Tools/Equipment/Procedures Needed**

0-SO-77-1 Section 8.2

**References:**

	Reference	Title	Rev No.
1.	0-SO-77-1	Waste Disposal System	28

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. A release from the CDCT has just been initiated using 0-SO-77-1 Waste Disposal System and 0-SI-CEM-077-400.1 Liquid Waste Effluent Batch Release.
2. The calculated high radiation trip setpoint for 0-RM-90-122 is 8.59 E+04 cpm, per 0-SI-CEM-077-400.1, Liquid Waste Effluent Batch Release.
3. A high radiation signal on 0-RE-90-122 occurred shortly after initiation of the release, causing an isolation of the release.
4. 0-RCV-77-43 has been verified CLOSED.

**INITIATING CUES:**

You are the RadWaste AUO and have been directed by the Unit 1 SRO to perform Section 8.2 of 0-SO-77-1 to clear the Hi Radiation Alarm on Radiation Monitor 0-RE-90-122. Inform the Unit 1 SRO when Section 8.2 is complete.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 1.:</b> Obtain a copy of the appropriate procedure.</p> <p><b>STANDARD:</b> The operator obtains a copy of 0-SO-77-1, Section 8.2</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p><b>STEP 2.:</b> [1] ENSURE [0-RCV-77-43] Radiation Control Valve is CLOSED.</p> <p><b>Cue:</b> <i>Information is given as part of the Initial Conditions.</i></p> <p><b>STANDARD:</b> Operator verifies that valve is closed by reviewing INITIAL CONDITIONS portion of JPM.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 3.:</b> [2] ENSURE [0-77-689A] Radiation Monitor Inlet Isolation Valve is OPEN.</p> <p><b>Cue:</b> <i>Inform the operator that the HW for [0-77-689A] is snug.</i></p> <p><b>STANDARD:</b> Operator OPENS [0-77-689A] Radiation Monitor Inlet Isolation Valve by turning HW in the CCW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 4.:</b> [3] OPEN [0-77-689B] Discharge to FDCT Isolation Valve.</p> <p><b>Cue:</b> <i>Inform the operator that the HW for [0-77-689B] moves in the counter clockwise direction until snug.</i></p> <p><b>STANDARD:</b> Operator OPENS [0-77-689B] Discharge to FDCT Isolation Valve by turning HW in the CCW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 5.:</b> [4] CLOSE [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve.</p> <p><b>Cue:</b> <i>Inform the operator that the HW for [0-77-689C] moves in the clockwise direction until snug.</i></p> <p><b>STANDARD:</b> Operator CLOSES [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve by turning HW in the CW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 6.:</b> [5] VERIFY [0-RE-90-122] radiation monitor pump is running.</p> <p><b>Cue:</b> <i>0-HS-90-122B RED light ON; GREEN light OFF.</i></p> <p><b>STANDARD:</b> Operator verifies that [0-RE-90-122] radiation monitor pump is running.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 7.:</u> [6] ALLOW [0-RE-90-122] Radiation Monitor to flush to FDCT for 5 minutes.</p> <p><u>Cue:</u> <i>Inform operator that 5 minutes have elapsed.</i></p> <p><u>STANDARD:</u> Operator allows flush for at least 5 minutes prior to proceeding to next step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 8.:</u> [7] OPEN [0-77-689C]</p> <p><u>Cue:</u> <i>Inform the operator that the HW for [0-77-689C] moves in the counter clockwise direction until snug.</i></p> <p><u>STANDARD:</u> Operator OPENS [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve by turning HW in the CCW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP *9.:</u> [8] CLOSE [0-77-689B]</p> <p><u>Cue:</u> <i>Inform the operator that the HW for [0-77-689B] moves in the clockwise direction until snug.</i></p> <p><u>STANDARD:</u> Operator CLOSES [0-77-689B] Discharge to FDCT Isolation Valve by turning HW in the CW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><u>STEP 10.:</u> [9] RECORD 0-RE-90-122 reading: 0-RE-90-122 Reading _____ cpm</p> <p><u>NOTE:</u> <b>ALTERNATE PATH BEGINS HERE.</b></p> <p><u>Cue:</u> <i>IF steps 3-8 were performed successfully, then inform operator that 0-RE-90-122 is reading 9.00 E+04 cpm</i></p> <p><u>STANDARD:</u> Operator enters 0-RE-90-122 data.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP * 11.:</u> [10] IF the reading in step [9] is below the trip setpoint. THEN RETURN to instruction where exited</p> <p><u>NOTE:</u> <b>Setpoint was provided in the INITIAL CONDITIONS.</b></p> <p><u>STANDARD:</u> Operator determines that the current 0-RE-90-122 reading remained greater than the trip setpoint and continues to step [11]</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 12.: [11] IF the reading obtained in step [9] is still above the trip setpoint, THEN PERFORM the following steps to lower the radiation monitoring reading:</p> <p>[a] CLOSE applicable tank isolation valve from release header.  (N/A tanks not aligned)</p> <p>Cask Decon Collector Tank</p> <p><b>Cue:</b> <i>Inform the operator that the HW for [0-77-679] moves in the clockwise direction until snug.</i></p> <p><b>NOTE:</b> Valve is located in CDCT room</p> <p>STANDARD: Operator CLOSES [0-77-679] Cask Decon Collector Tank by turning HW in the CW direction until HW is snug. Operator enters an "N/A" for the Monitor Tank.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p>STEP13.: [b] OPEN [0-VLV-59-735] Demin Flush To Radwaste Isol.</p> <p><b>Cue:</b> <i>Inform the operator that the handle for [0-VLV-59-735] moves in the counter clockwise direction until handle is in line with pipe.</i></p> <p><b>NOTE:</b> Valve is located in CDCT room</p> <p>STANDARD: Operator OPENS [0-VLV-59-735] Demin Flush To Radwaste Isol by turning handle in the CCW direction until handle is in line with pipe.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p>STEP14.: [c] OPEN [0-77-689B] Discharge to FDCT Isolation Valve.</p> <p><b>Cue:</b> <i>Inform the operator that the HW for [0-77-689B] moves in the counter clockwise direction until snug.</i></p> <p>STANDARD: Operator OPENS [0-77-689B] Discharge to FDCT Isolation Valve by turning HW in theCCW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p>STEP 15.: [d] CLOSE [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve.</p> <p><b>Cue:</b> <i>Inform the operator that the HW for [0-77-689C] moves in the clockwise direction until snug.</i></p> <p>STANDARD: Operator CLOSES [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve by turning HW in the CW direction until HW is snug.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
STEP 16.:	[e] WHEN count rate on [0-RE-90-122] decreases to its minimum value, THEN  <b>Cue:</b> <i>0-RE-90-122 is indicating 8.00 E+02 cpm.</i>  STANDARD: Operator reads count rate on 0-RE-90-122.	___ SAT ___ UNSAT
STEP 17.:	[1] OPEN [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve.  <b>Cue:</b> <i>Inform the operator that the HW for [0-77-689C] moves in the counterclockwise direction until snug.</i>  STANDARD: Operator OPENS [0-77-689C] Radiation Monitor Return to Release Header Isolation Valve by turning HW in the CCW direction until HW is snug.	___ SAT ___ UNSAT  <b>Critical Step</b>
STEP 18.:	[2] CLOSE [0-77-689B] Discharge to FDCT Isolation Valve.  <b>Cue:</b> <i>Inform the operator that the HW for [0-77-689B] moves in the clockwise direction until snug.</i>  STANDARD: Operator CLOSES [0-77-689B] Discharge to FDCT Isolation Valve by turning HW in the CCW direction until HW is snug.	___ SAT ___ UNSAT  <b>Critical Step</b>
STEP 19.:	[f] CLOSE [0-VLV-59-735] Demin Flush To Radwaste Isol.  <b>Cue:</b> <i>Inform the operator that the handle for [0-VLV-59-735] moves in the clockwise direction until perpendicular with pipe.</i>  STANDARD: Operator CLOSES [0-VLV-59-735] Demin Flush To Radwaste Isol by turning handle in the CCW direction until handle is perpendicular with pipe.	___ SAT ___ UNSAT  <b>Critical Step</b>
STEP 20.:	[g] OPEN Cask Decon Collector tank isolation valve [0-77-679]  <b>Cue:</b> <i>Inform the operator that the HW for [0-77-679] moves in the counter clockwise direction until snug.</i>  STANDARD: Operator OPENS [0-77-679] Cask Decon Collector Tank by turning HW in the CCW direction until HW is snug.	___ SAT ___ UNSAT  <b>Critical Step</b>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
STEP 21.:	[h] IF hi radiation alarm will not clear, THEN NOTIFY the appropriate US/SRO that alarm will not clear.  <b><u>Cue:</u></b> <i>0-RE-90-122 high radiation alarm is clear (Provide appropriate feedback based on method used). If asked, rad monitor 0-RE-90-122 is still reading 8.00 E+2 cpm.</i>  STANDARD: Operator determines that 0-RE-90-122 alarm has cleared by observing NO red lights LIT OR verifying XA-55-L2C Window C-3 DARK in Radwaste AUO shack OR Calling Main Control Room for alarm information.	___ SAT ___ UNSAT
STEP 22.:	[12] Return to instruction where exited.  STANDARD: Operator informs Unit 1 US/SRO that 0-SO-77-1 is complete	___ SAT ___ UNSAT End Time___

End of JPM

# SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

## JPM 55-AP1

### Local Operation of 1 {2} A-A D/G (Idle Start)

Original Signatures on File

PREPARED/ REVISED BY:	_____	Date/
VALIDATED BY: *	_____	Date/
APPROVED BY:	_____	Date/
	(Operations Training Manager)	
CONCURRED: **	_____	Date/
	(Operations Representative)	

\* Validation not required for minor enhancements, procedure Rev changes that do not affect the JPM, or individual step changes that do not affect the flow of the JPM.

\*\* Operations Concurrence required for new JPMs and changes that affect the flow of the JPM (if not driven by a procedure revision).

**SPECIAL INSTRUCTIONS TO EVALUATOR:**

1. Sequenced steps identified by an "s"
2. Any UNSAT requires comments
3. Insure operator performs the following required actions for **SELF-CHECKING**;
  - a. Identifies the correct unit, train, component, etc.
  - b. Reviews the intended action and expected response.
  - c. Compares the actual response to the expected response.

Validation Time: CR. \_\_\_\_\_ Local: 15 mins

**Tools/Equipment/Procedures Needed:**

- 0-SO-82-1 section 8.2
- 0-SO-82-3 section 8.2
- 0-SO-82-5, Attachment 2
- 0-SO-82-7, Attachment 2
- 0-AR-DG-1A-LCL
- 0-AR-DG-2A-LCL

**References:**

	Reference	Title	Rev No.
A.	0-SO-82-1	Diesel Generator 1A-A	18
B.	0-AR-DG-1A-LCL	Diesel Generator 1A-A Local Panel	12
C.	0-SO-82-5	Diesel Generator 1A-A Support Systems	7
D.	0-SO-82-3	Diesel Generator 2A-A	21
E.	0-AR-DG-2A-LCL	Diesel Generator 2A-A Local Panel	10
F.	0-SO-82-7	Diesel Generator 2A-A Support Systems	7

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**READ TO OPERATOR**

**Directions to Trainee:**

I will explain the initial conditions, and state the task to be performed. All steps shall be simulated for this JPM. I will provide initiating cues and indicate any steps to be discussed. When you complete the task successfully, the objective for this job performance measure will be satisfied. 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:**

1. All D/Gs are in the standby alignment/mode.
2. The 1A-A {2A-A} D/G has been rolled one complete revolution per 0-SO-82-1 {0-SO-82-3}, Section 8.1.
3. Both of the Unit SROs have given approval to perform this procedure.
4. All the 'B' Train equipment is operable per Tech. Specs.
5. The 1A-A {2AA} D/G has now been declared INOPERABLE for scheduled maintenance.

**INITIATING CUES:**

1. 0-SO-82-1, Section 4.0, Prerequisite Actions, has been completed.
2. You are an AUO and have been assigned to locally start the 1A-A {2A-A} D/G using 0-SO-82-1, {0-SO-82-3} section 8.2, Idle Start and Increase to Rated Speed.
3. Notify the Unit 1 US when the D/G is ready for control room synchronization.

Job Performance Checklist:

STEP/STANDARD

SAT/UNSAT

<p><b>STEP 1.:</b> Obtain a copy of the appropriate procedure.</p> <p><b>NOTE:</b> Per initiating cues section 4.0, Prerequisite Actions, of 0-SO-82-1 {0-SO-82-3} has been completed.</p> <p><b>STANDARD:</b> Operator obtains a copy of 0-SO-82-1{0-SO-82-3} and begins at section 8.2, Idle Start and increase to Rated Speed.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p>Start Time _____</p>
<p><b>STEP 2.:</b> [1] DISPATCH an operator to the Diesel Generator Building to monitor parameters....</p> <p><b>Cue:</b> An additional AUO will monitor D/G operating parameters, using Appendices B and C of 0-SO-82-1 {0-SO-82-3}.</p> <p><b>STANDARD:</b> Operator addresses this step and notes additional operator will be monitoring appendices.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p>
<p><b>STEP 3.:</b> [2] IF prestartup rolling is required, THEN perform section 8.1.</p> <p><b>NOTE:</b> Per initial conditions this has been performed.</p> <p><b>STANDARD:</b> Operator can initial this step since it has been completed.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p>
<p><b>STEP 4.:</b> [3] IF prestartup rolling is NOT required, THEN.</p> <p><b>STANDARD:</b> Operator should N/A this step since the 1A-A {2A-A} D/G was rolled.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p>
<p><b>STEP 5.:</b> [4] PLACE 0-HS-82-18 DG 1A-A {0-HS-82-78 DG 2A-A} Mode Selector switch to PULL FOR LOCAL TRANSFER position.</p> <p><b>Cue:</b> Role play as the Unit Operator in the main control room and state: 0-HS-82-18 {0-HS-82-78} has been placed in the PULL FOR LOCAL TRANSFER position.</p> <p><b>STANDARD:</b> Operator communicates with the Unit Operator and requests 0-HS-82-18 {0-HS-82-78} is placed in the Pull For Local Transfer position.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 6.:</b> [5] PRESS 0-HS-82-22 {0-HS-82-82}, Trip to Local Gen 1A-A {2A-A} pushbutton.</p> <p><b>Cue:</b> 0-HS-82-22 {0-HS-82-82} pushbutton has been depressed.</p> <p><b>STANDARD:</b> Operator locates and depresses 0-HS-82-22 {0-HS-82-82}.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>STEP 7.:</b> [6] CHECK LRX1A {LRX2A} tripped (red target).</p> <p><b>Cue:</b> Knob on the LRX1A {LRX2A} relay rotates to the trip position AND red flag on handswitch shows tripped.</p> <p><b>STANDARD:</b> Operator verifies LRX1A {LRX2A} TRIPPED to local. Knob rotates to the trip position and red flag shows tripped.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>STEP 8.:</b> [7] IF idle start is required with D/G in MAINT, THEN...</p> <p><b>Cue:</b> Cue operator that idle start will NOT be required in MAINT.</p> <p><b>STANDARD:</b> Operator enters N/A for the step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><b>NOTE TO EXAMINER:</b> INFORM OPERATOR THAT ALARM on 0-DG-1A-LCL {0-DG-2A-LCL}, LOW START AIR PRESSURE ENGINE INLET, window (F-1), has just been received.</p> <p><b>Cue:</b> When candidate looks at the starting air header pressure indicate that pressure is indicating 140 psig for Engine No. 2.</p>		
<p><b>NOTE TO EXAMINER:</b> The following steps are from 0-AR-DG-1A-LCL {0-AR-DG-2A-LCL}, window (F-1).</p>		

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><b>STEP 9:</b> [8] If either 0-82-543-1A2 or 0-82-548-1A2 {0-82-543-2A2 or 0-82-548-2A2}, start motor air supply isolation valves, are CLOSED, THEN NOTIFY CRO or US/SRO of D/G inoperability.</p> <p><b>Cue 1:</b> When the operator identifies 0-82-543-1A2 {0-82-543-2A2}, cue the operator that the valve's handle is perpendicular to the air line.</p> <p><b>Cue 2:</b> When the operator is notifying the CRO or US/SRO, cue the operator that the SM directs the operator to OPEN 0-82-543-1A2 {0-82-543-2A2}.</p> <p><b>Cue 3:</b> If the operator opens 0-82-543-1A2 {0-82-543-2A2}, cue the operator that the annunciator window (F-1) has reset and the Engine No. 2 start air header pressure is indicating 190 psig.</p> <p><b>Examiner Note:</b> If the operator checks the receiver pressure, cue the operator that the receiver pressure is indicating 280 psig. (Examiner should have 0-SO-82-5 {0-SO-82-7} Att. 2 available if requested by the operator).</p> <p><b>STANDARD:</b> Operator identifies the valve is closed. Operator opens 0-82-543-1A2 {0-82-543-2A2}.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p><b>Critical Step</b></p>	
<p><b>NOTE TO EXAMINER:</b> The following step is from 0-SO-82-1 {0-SO-82-3}, section 8.2</p>		
<p><b>STEP 10:</b> [8] PRESS 0-HS-82-25 {0-HS-82-85}.</p> <p><b>Examiner Note:</b> JPM critical steps are complete. Examiner ends JPM.</p> <p><b>STANDARD:</b> Operator presses 0-HS-82-25 {0-HS-82-85}.</p>	<p><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p>StopTime _____</p>	