

Draft Submittal

(Pink Paper)

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)
4. Administrative Topics Outline ES-301-1
5. Control Room Systems and Facility Walk-Through
Test Outline ES-301-2

Facility: Sequoyah
 Exam Level (circle one): SRO(U)

Date of Examination: 6-7-04
 Operating Test No.: 1

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. 003AP Malfunction of Rx Coolant Make Up	A, D	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. Installation of Temporary Cooling to CCP Oil Coolers	N, R	4S
j.		
k. 042 Place Vital Inv 1-II back in service after Maint	D	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> Exam Level (circle one): RO	Date of Examination: <u>6-7-04</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. 003AP Malfunction of Rx Coolant Make Up	A, D	2
c. 021-2 Respond to a failure of PRM N-44	D	7
d. 028 Start Up A-A H2 Recombiner	L, D	5
e. 062-1 Transfer 1A-A 6.9KV SD Bd From Alternate to Normal	D	6
f. Respond to a CCS Pump Trip	N	8
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. Installation of Temporary Cooling to CCP Oil Coolers	N, R	4S
j. 032AP Local Manual Control of a SG PORV	A, D	4P
k. 042 Place Vital Inv 1-II back in service after Maint	D	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: Sequoyah
 Exam Level (circle one): SRO(I)

Date of Examination: 6-7-04
 Operating Test No.: 1

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. 003AP Malfunction of Rx Coolant Make Up	A, D	2
c. 021-2 Respond to a failure of PRM N-44	D	7
d. 028 Start Up A-A H2 Recombiner	L, D	5
e.		
f. Respond to a CCS Pump Trip	N	8
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. Installation of Temporary Cooling to CCP Oil Coolers	N, R	4S
j. 032AP Local Manual Control of a SG PORV	A, D	4P
k. 042 Place Vital Inv 1-II back in service after Maint	D	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>Sequoayah</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 #223R Control Room Actions of AOP-N.08 for Fire U1 Reactor Building #1 Fan Room		
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	
<p>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.</p>		

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		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.

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 vlv 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><u>NOTE:</u> 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 and 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>Critical Step</p>
<p><u>STEP 3.:</u> RNO 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>Critical Step</p>
<p><u>NOTE:</u> 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>STEP 6.: 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>NOTE: Since Section 4.3 is an acceptable path, if operator chooses this path give the following cue.</p> <p>Cue: <i>IF the operator chooses to go to Section 4.3 role play as the US and state that the preferred method is via rthe BAT.</i></p> <p>STANDARD: Operator selects Section 4.2 Emergency Boration from BAT.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: The following steps are from Section 4.2.</p> <p>STEP 7.: 1. PLACE boric acid transfer pumps to fast speed.</p> <p>Cue: <i>IF asked, BAT "A" is aligned to unit 1 via the 1A pump.</i></p> <p>NOTE: Standard 1 and 2 can be done in any order.</p> <p>STANDARD: 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>STEP 8.: 2. ADJUST emergency borate valve FCV-62-138 to maintain flow between 35 and 150 gpm on FI-62-137A.</p> <p>NOTE: FCV-62-138 will not operate.</p> <p>STANDARD: Operator recognizes that FCV-62-138 will not operate. Operator continues with procedure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 9.: 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>Cue: <i>If asked, BAT A is aligned to unit 1.</i></p> <p>STANDARD: 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. IF emergency boration flow NOT established, THEN ALIGN normal boration path:</p> <p>a. VERIFY 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. ALIGN normal boration to VCT outlet:</p> <ul style="list-style-type: none"> • OPEN FCV-62-140. • OPEN FCV-62-144. <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>Critical Step</p>	
<p><u>STEP 12.:</u> c. CHECK 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>Critical Step</p>	
<p><u>STEP 13.:</u> 5. IF boration flow NOT established, THEN PERFORM one of the following...</p> <p><u>STANDARD:</u> Operator NA's this step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 14.:</u> 6. VERIFY 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. MAINTAIN 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. Monitor BAT level.</p> <p><u>STANDARD:</u> Operator monitors BAT level.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 17.:</u> 9. IF FR-S.1 ATWS or FR-S.2 Loss of core Shutdown condition exists, THEN....</p> <p><u>STANDARD:</u> Operator will N/A this step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<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>Critical Step</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>NOTE: time = 5040 / (flow indicated by FI-62-139)</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>Critical Step</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>Cue: <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.</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>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>NOTE: The following steps are from Section 4.4</p> <p>STEP 22.: 1. IF CCPIT valves were opened by step 4.3.4, THEN ISOLATE....</p> <p>STANDARD: These valves were not opened. Operator should N/A this step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 23.: 2. ENSURE boric acid transfer pumps to slow speed.</p> <p>NOTE: Standard 1 and 2 can be done in any order.</p> <p>STANDARD: 1) Pump(s) stopped, Green light on HS 2) Speed selector switch placed on "SLOW" position 3) Pump(s) restarted, Red light in center comes on for slow speed.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 24.: 3. THROTTLE recirc valve for BAT aligned to the blender.</p> <p>NOTE: Repositioning of the valve is not required if not moved previously.</p> <p>STANDARD: Operator repositions BAT "A" recirculation valve 1-FCV-62-237 to the desired setting by dialing the controller.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 25.: 4. ENSURE emergency boration Valve FCV-62-138 CLOSED.</p> <p>STANDARD: Operator ensures FCV-62-138 is closed by verifying the green light is on the HS with the red light off.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 26.: 5. ENSURE normal boration valves FCV-62-140 and FCV-62-144 in P-AUTO.</p> <p>NOTE: Closing FCV-62-144 is the critical step.</p> <p>STANDARD: Operator places FCV-62-140 and 144 in P-AUTO. (Should verify FCV-144 closed. FCV-140 will remain open in P-AUTO)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 27.: 6. IF manual emergency borate valve VLV-62-929 was opened....</p> <p>STANDARD: Operator N/As this step since this valve was not opened.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 28.:</u> 7. If SI signal is NOT actuated, then ENSURE VCT aligned for normal operation:</p> <p>a. ESTABLISH VCT level between 20% and 60%.</p> <p>Cue: <i>If VCT level is not within this band, cue them that level is within proper range.</i></p> <p><u>STANDARD:</u> Operator ensures VCT level is between 20% to 60%.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 29.:</u> b. Ensure VCT outlet valves ALIGNED. LCV-62-132 OPEN with HS in PULL A-P AUTO and LCV-62-133 OPEN with HS in PULL A-P AUTO.</p> <p><u>STANDARD:</u> Operator ensures the above open and HSs are pulled to A-P AUTO.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 30.:</u> c. Ensure RWST supply to CCP suction valves ALIGNED for normal operation. LCV-62-135 CLOSED with HS-62-135 in PULL A-P AUTO and LCV-62-136 CLOSED with HS-62-136 in PULL A-P AUTO</p> <p><u>STANDARD:</u> Operator ensures the above closed and HSs are pulled to A-P AUTO.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 31.:</u> d. ENSURE VCT makeup control set for automatic operation.</p> <p><u>STANDARD:</u> Operator verifies HS-62-140B is in Auto and HS-62-140A has a red light.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 32.:</u> e. ENSURE Primary Water system for BOTH units placed in service.</p> <p>Cue: <i>If U2 asked, both primary water pumps for U2 are in service.</i></p> <p><u>STANDARD:</u> Operator ensures U1 and U2 primary water pumps are in service.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 33.:</u> f. EQUALIZE RCS and pressurizer boron concentrations.</p> <p>Cue: <i>The CRO will ensure RCS and Pzr boron equalization.</i></p> <p><u>STANDARD:</u> Operator addresses need to turn on a pzr heater to open sprays.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 34.:</u> 8. Return to procedure in effect.</p> <p><u>STANDARD:</u> Operator transitions back to ES-0.1.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>NOTE: The operator returns to Step 4.b. of ES-0.1.</p> <p><u>STEP 35.</u> b. MONITOR RCS temperature:</p> <p>Cue: <i>If asked inform operator that RCS temperature is stable at 546°F.</i></p> <p><u>STANDARD:</u> Operator determines RCS temperature and monitors trend.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 36.:</u> Inform the US/SRO that Step 4 is complete.</p> <p>Cue: <i>Acknowledge the operators report.</i></p> <p><u>STANDARD:</u> Operator informs the US/SRO that 5040 gallons of boron has been added for the two stuck rods.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time_____</p>

End of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM # 3AP

Malfunction of Reactor Coolant Make-up (Boric Acid Line Tagged)

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 Write	Y	1/3/95	All	HJ Birch
1	AOP Upgrade	Y	10/24/95	All	HJ Birch
pen/ink	0-SO-62-7 Rev chg	N	7/16/97	4	HJ Birch
pen/ink	0-SO-62-7 Rev chg no impact.	N	5/11/98	4,6	HJ Birch
2	0-SO-62-7, TI-44, and AOP C.02 revisions had no impact. Revised task number and K/A ratings. Modified format.	N	7/27/98	All	JP Kearney
pen/ink	0-SO-62-7 Rev chg	N	9/21/99	4	SR Taylor
3	Changed in accordance with revision 2 of AOP-C.02 and revision 16 of 0-SO-62-7 and incorporated ref to 1-AR-M4-B. Changes included clarification of alternate path conditions.	Y	08/17/01	All	W. R. Ramsey
4	Incorporated recent changes to 0-SO-62-7 and 1-AR-M4-B; No technical impact.	N	8/15/02	4,8	J P Kearney
5	Incorporated AR, AOP, and SO62-7 changes	Y	9/9/03	All	G S Poteet
	Incorporated comments		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-163.
4. **Place 1-HS-62-140A and 140B in off position, Pink-Tag to indicate off-normal condition.**
5. Insert Override **ZLOHS62138A[1] OFF**, to simulate FCV-62-138 tagged. **Tag HS-62-138.**
6. Insert Override **AN:OVRON[325] OFF**, to simulate Alarm (D-4) on Annunciator Panel 1-XA-55-4B fails to alarm when Delta Flux gets outside the Target Band.
7. Reduce boron concentration by 3 ppm in steps of 1 minute duration. (Example: If boron is at 1002 ppm, then enter **MRF CVR27 999 1:**). Decrease the number by 3, every minute, until 1-XA-55-4B window (A-7) alarm comes in. (**Note: More than 3 ppm per minute will cause a Rx trip.**) These numbers are representative of boron concentrations for the core load at the time of revision 3 and will vary with each load. The process will require several reductions to cause the control rods to insert automatically to ~187 steps and (A-7) alarm to come in.
8. When (A-7) alarm comes in, Acknowledge alarm and FREEZE the simulator.
9. DO NOT use with JPM #40.
10. 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: CD 25 mins Local _____

Tools/Equipment/Procedures Needed:

1. AOP-C.02
2. 1-AR-M4-B
3. 0-SO-62-7, Section 8.4

References:

	Reference	Title	Rev No.
1.	AOP-C.02	Uncontrolled RCS Boron Concentration Changes	2
2.	0-SO-62-7	Boron Concentration Control	31
3.	1-AR-M4-B	NIS/Rod Control	20

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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 1 is at 95-98% power, power was reduced from 100% earlier in the shift to allow some margin for valve testing scheduled later tonight, and Xenon was at equilibrium before power reduction. Reactor coolant system boron concentration was 1167 ppm at the last chemistry lab sample and power change was performed without boration.
2. Boric acid to the blender is currently tagged to repair a leak near the BA filter. Expected outage time is 3 hours.
3. The chemistry lab and an AUO completed adding Lithium Hydroxide to the CVCS via the chemical mixing tank about 30 minutes ago.

INITIATING CUES:

1. You are the OATC, you have observed over the last several minutes that Tavg is slowly increasing and that control rods have been inserting periodically.
2. The Alarm (A-7) on Annunciator Panel 1-XA-55-4B has just come in and been acknowledged. The control rod position is at 10 steps above the Low-Low insertion limit.
3. The US has directed you to you to implement AOP-C.02.
4. When you have completed reviewing the control board and indicated you are ready to begin, the simulator will be removed from Freeze.
5. Inform the US when the actions of the AOP have been completed.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 1.</u> Operator obtains a copy of the appropriate procedure.</p> <p><u>STANDARD:</u> Operator obtains a copy of 1-AR-M4-B, Window A-7.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Start Time___</p>	
<p>NOTE: The next two steps are from 1-AR-M4-B, Window A-7 Corrective Actions</p> <p><u>STEP 2.</u> 1. IF rod insertion is NOT due to turbine load drop or Tavg higher than program, THEN</p> <p><u>STANDARD:</u> Operator determines that rod inserting is due to Tavg higher than program and continues to next step.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 3.</u> 2. IF uncontrolled dilution is in progress, THEN STOP AND LOCK out both Primary Water Pumps, AND GO TO AOP-C.02, Uncontrolled RCS Boron Concentration Changes.</p> <p><u>STANDARD:</u> Primary water pumps "A" and "B" control switches HS-81-3A and 7A are turned to stop and then Pulled to Lock position.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 4.</u> Operator obtains a copy of the appropriate procedure.</p> <p><u>STANDARD:</u> Operator obtains a copy of AOP-C.02.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p>NOTE: The following steps are from AOP-C.02, Section 2.0</p> <p><u>STEP 5.</u> 1. EVALUATE Tech Specs</p> <p>Cue: The SM will evaluate Tech Specs.</p> <p><u>STANDARD:</u> Operator addresses this step.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP 6.</u> 2. DIAGNOSE the failure:</p> <p><u>STANDARD:</u> Operator determines that this is an Uncontrolled dilution event and goes to section 2.2.</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 7.</u> 1. PLACE both primary water pumps in "PULL TO LOCK".</p> <p><u>STANDARD:</u> Operator verifies primary water pumps "A" and "B" control switches HS-81-3A and 7A are in Stop and Pulled to Lock position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 8.</u> 2. MONITOR reactor power AND T-avg STABLE.</p> <p><u>Cue:</u> <i>(After operator performs step) CRO will continue monitoring secondary plant parameters and assist in monitoring T-avg being maintained on program by rod control system.</i></p> <p><u>STANDARD:</u> Operator verifies control rods in AUTO and controlling T-avg near program. Operator should also observe Rod movement diminishing, indicating dilution has possibly stopped.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 9.</u> 3. INITIATE normal or emergency boration as necessary to restore Tavg, delta I, and control rod position.</p> <p><u>Cue:</u> <i>As need for boration is determined, role play as US/SRO and direct operator to borate the RCS to restore rod position and Delta I to the Target Band and to clear the "ROD CONTROL BANKS LIMIT LO" annunciator.</i></p> <p><u>STANDARD:</u> Operator checks Tavg on 1-TR-68-2B (or ICS) on program, checks Delta I on XI-92-5005A, 5006A, 5007A, 5008A (or ICS) and determines that Delta I is outside the Target Band. Also checks that rods are approaching the COLR insertion limit for current power level and therefore boration is required to restore.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 10.</u> 3. (RNO) ENSURE CCP suction ALIGNED to RWST in accordance with 0-SO-62-7, Boron Concentration Control.</p> <p><u>NOTE:</u> Operator should go to RNO of Step 3 in AOP-C.02 because the boric acid source to the blender is tagged out and action should be performed to restore the control rods to a position above the Low Insertion limit for the current power level in accordance with AOP-C.02 and Alarm Response for window (A-7).</p> <p><u>STANDARD:</u> Operator goes to 0-SO-62-7, Section 8.4 as directed to make alignment change necessary to borate from RWST.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>NOTE: The following steps are from 0-SO-62-7 Section 8.4.</p> <p>STEP 11. [1] OPEN the following RWST Suction to CCP valves: LCV-62-135 LCV-62-136</p> <p>Cue: <i>As need for boration is determined, role play as US/SRO and direct operator to borate the RCS to restore rod position and Delta I to the Target Band and to clear the "ROD CONTROL BANKS LIMIT LO" annunciator.</i></p> <p>STANDARD: Operator OPENS both valves.</p>		<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 12. [2] CLOSE the following VCT Suction to CCP valves: LCV-62-132 LCV-62-133</p> <p>STANDARD: Operator CLOSES both valves after verifying 135 or 136 are OPEN.</p>		<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 13. [3] IF unit is in Mode 4 and RHR is in service, THEN.....</p> <p>STANDARD: Operator should N/A step.</p>		<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: The operator may elect to place HIC-62-93A in manual during step 4 or 5 of section 8.4 to obtain a steady flow rate and therefore a constant boron addition rate.</p> <p>STEP 14. [4] ADJUST charging flow rate, if necessary, USING HIC-62-93A.</p> <p>Cue: <i>Role play as US/SRO and inform the operator that normal charging flow of 50-90 gpm is adequate for current plant conditions.</i></p> <p>STANDARD: (Operator may question SRO as to whether emergency boration flow rate is required.) Operator checks charging flow on FI-62-93A and ensures flow is adequate to achieve the desired boration rate.</p>		<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 15.</u> [5] IF emergency boration is required and charging is less than 90 gpm, THEN. [a.] PLACE HIC-62-93A in MANUAL [b.] ADJUST HIC-62-93A to obtain a charging flow rate of greater than 90 gpm.</p> <p>Cue: <i>Role play as US/SRO and inform the operator that emergency boration flow rate is not required for plant conditions.</i></p> <p>STANDARD: Operator should N/A step as emergency boration is not required. (If step is performed it is acceptable for the performance of this JPM.)</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 16.</u> [6] ENSURE charging flow is stable on FI-62-93A.</p> <p>STANDARD: Operator checks charging flow on FI-62-93A and ensures flow is adequate to achieve the desired boration rate.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 17.</u> [7] MONITOR plant parameters.</p> <p>Cue: <i>After operator performs step THEN, Role play as US/SRO and inform the operator to TERMINATE boration when control rods are withdrawn enough to clear annunciator window (A-7) on XA-55-4B and the Delta I indicators start to reenter the Target Band.</i></p> <p>STANDARD: Operator checks Tavg on 1-TR-68-2B (or ICS) on program, checks Delta I on XI-92-5005A, 5006A, 5007A, 5008A (or ICS) and checks that rods are recovering to above the Low Insertion Limit and Delta I is moving toward Target Band.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 18.:</u> [8] WHEN it is desired to terminate boration, THEN [a.] OPEN LCV-62-132 and place in A-P AUTO. [b.] OPEN LCV-62-133 and place in A-P AUTO. [c.] CLOSE LCV-62-135 and place in A-P AUTO. [d.] CLOSE LCV-62-136 and place in A-P AUTO. [e.] NOTIFY Chemistry to obtain a sample.</p> <p>STANDARD: When control rod position is above the Low Insertion Limit [(A-7) clear] and Delta I indicators increase to ~-5% (± 2%), the Operator realigns the CCP suction to the VCT and NOTIFIES Chemistry to sample the RCS and pressurizer.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 19.:</u> [9] IF HIC-62-93A in MANUAL and AUTO is required, THEN [a.] ZERO deviation needle on HIC-62-93A. [b.] PLACE HIC-62-93A in AUTO.</p> <p><u>Cue:</u> <i>If questioned about auto pressurizer level control, THEN role play as US/SRO and inform the operator that auto level control is desired.</i></p> <p><u>STANDARD:</u> If automatic control was used exclusively then operator should N/A step. If manual control was taken, Operator should place HIC-62-93A back in AUTO and request IV for HIC-62-93A.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 20.:</u> [10] IF control of blender is required, THEN</p> <p><u>Cue:</u> <i>If asked, Role Play as US/SRO and inform operator that aligning blender is not applicable at this time.</i></p> <p><u>STANDARD:</u> Operator should acknowledge blender is tagged and N/A step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 21.:</u> [11] ENSURE the following:</p> <p><u>Cue:</u> <i>Role play as US/SRO and inform operator that IV on CCP suction valves is complete.</i></p> <p><u>STANDARD:</u> Operator should request IV for CCP suction valves returned to normal alignment THEN, return to AOP-C.02 to complete the procedure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>NOTE:</u> The following steps are from AOP-C.02.</p> <p><u>STEP 22.:</u> [4] IF CVCS demineralizers are suspected as possible source of uncontrolled dilution, THEN</p> <p><u>Cue:</u> <i>If questioned about demineralizer history, say there has been no recent change in status.</i></p> <p><u>STANDARD:</u> Operator should conclude step to not be applicable as history given reflects no recent change to CVCS demineralizer status.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 23.:</u> [5] ENSURE FCV-62-143, primary water supply to blender, CLOSED.</p> <p><u>STANDARD:</u> Operator ensures the GREEN light lit on Control switch HS-62-143A, primary water to the boric acid blender.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 24.:</u> [6] DISPATCH an operator to perform Appendix A, isolation of Potential Dilution Flow Paths.</p> <p><u>Cue:</u> Role Play as AUO and when Appendix A performance is requested inform the operator that: Valves 1-62-932, 1-62-907, 1-62-914, 1-62-921, 1-62-1051A, 1-62-1051B, and 0-81-519 were all closed when checked. 1-62-940 and 1-62-944 were open, but are now closed.</p> <p><u>STANDARD:</u> Operator dispatches AUO and ensures the Appendix A listed valves are closed.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 25.:</u> [7] NOTIFY the Chem Lab to determine the reactor coolant system and PZR boron concentrations.</p> <p><u>Cue:</u> Inform operator that RCS boron concentration is 1177.6 and PZR boron concentration is 1180.6 (3 ppm HIGHER than RCS).</p> <p><u>STANDARD:</u> Operator recognizes action as previously performed in 0-SO-62-7 or contacts the chem lab again to inquire about the samples of the RCS and PZR for boron concentrations.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 26.:</u> [8] CONTROL PZR heaters and spray to maintain the RCS and PZR boron concentration within 50 ppm.</p> <p><u>STANDARD:</u> No action is required since only 3 ppm difference exists but, operator may elect to manually place a bank of PZR backup heaters ON with PZR sprays maintaining RCS pressure AUTOMATICALLY.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 27.:</u> [9] VERIFY control rods above the Tech Spec insertion limit.</p> <p><u>NOTE:</u> Operator should already be aware that control rods are above the insertion limit from Step 15.</p> <p><u>STANDARD:</u> Operator visually verifies from step counters and IRPIs that control bank D is greater than 182 steps withdrawn. (May use ICS display to confirm actual Low-Low insertion limit at ~178 steps on D Bank.)</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 28.: [10] WHEN boration is complete, THEN [a.] ENSURE FCV-62-138 is CLOSED [b.] ENSURE CCP suction is aligned to VCT USING 0-SO-62-7, Boron Concentration Control</p> <p>STANDARD: Operator verifies from the control board FCV-62-138 is closed (tagged) and that CCP pump suction is alignment to the VCT, FCV-62-132, 133 OPEN in AP-Auto and FCV-62-135, 136 CLOSED in AP-Auto. (Operator may sign this step off from previous performance of 0-SO-62-7 section 8.4).</p>	<p>___ SAT ___ UNSAT</p>
<p>STEP 29.: [11] INVESTIGATE cause of uncontrolled dilution.</p> <p>NOTE: Step 24 of the JPM identified and isolated the cause of the dilution. Operator may see if SM wants to have a formal investigation on the event.</p> <p>STANDARD: Operator knows the cause of the dilution and continues.</p>	<p>___ SAT ___ UNSAT</p>
<p>STEP 30.: WHEN cause of uncontrolled dilution corrected, THEN a. PLACE primary water pumps in normal configuration b. ALIGN blender controls for automatic makeup USING 0-SO-62-7 c. ENSURE a mixed bed demineralizer is borated and placed in service as necessary USING 1,2-SO-62-9.</p> <p>NOTE: Step 21 of the JPM identified and isolated the cause of the dilution. The operator may ask the US/SRO for approval to return the PW pump in service.</p> <p>Cue: If asked, CUE the operator to place one pump in service and the other in standby.</p> <p>Cue: If asked, CUE the operator that "b." portion of step may be bypassed.</p> <p>STANDARD: a. Primary water pump "A" or "B" is started with its control switch in manual position. The alternate pump's switch is in the "P-AUTO" position. b. Operator recognizes the boric acid to the blender is still tagged and requests permission from the US/SRO to bypass this step. c. Operator knows the CVCS demineralizers were not affected during this evolution.(proceeds to next step).</p>	<p>___ SAT ___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 31.:</u> Inform Unit 1 <i>US</i> that AOP-C.02 is completed and uncontrolled dilution has been stopped.</p> <p>NOTE: Role play as Unit 1 <i>US</i>.</p> <p><u>STANDARD:</u> Operator informs Unit 1 <i>US</i> that uncontrolled dilution has been stopped.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>

End of JPM

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%.		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. Place one NR45 selector switch 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. 8 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>STEP 1: 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>STANDARD: 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>STEP 2: Obtains a copy of AOP-I.01 and implements Section 2.0.</p> <p>STANDARD: Operator obtains a copy of AOP-I.01 implements Section 2.0</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: The following are steps contained in AOP-I.01 Section 2.0.</p> <p>STEP 3: [1] EVALUATE the following Tech Specs for applicability:</p> <p>Cue: SM will evaluate Tech Specs.</p> <p>STANDARD: Operator requests SM to evaluate Tech Specs</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 4: [2] DIAGNOSE the failure.</p> <p>NOTE: The rods may have been placed in manual in Step 1.</p> <p>STANDARD: Operator determines Section 2.3 is applicable to PR failure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: The following are steps contained in AOP-I.01 Section 2.3.</p> <p>STEP 5: [1] Place rod control in Man.</p> <p>NOTE: The rods may have been placed in manual in Step 1.</p> <p>STANDARD: Operator place HS-85-5110 to manual.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 6: [2] STABILIZE reactor power at current level.</p> <p>STANDARD: 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"> PLACE "UPPER SECTION" switch to failed detector, panel M-13 (Upper Detector current comparator defeat switch).(XX-92-5037) <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>Critical Step</p>	
<p><u>STEP 8:</u></p> <ul style="list-style-type: none"> PLACE "LOWER SECTION" switch to failed detector, panel M-13 (Lower detector current comparator defeat switch). (XX-92-5037) <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>Critical Step</p>	
<p><u>STEP 9:</u></p> <ul style="list-style-type: none"> PLACE ROD STOP BYPASS switch to failed detector, panel M-13 (C-2 interlock defeat switch) (XX-92-5037) <p><u>STANDARD:</u> Rod Stop Bypass switch in "BYPASS PRN-44" position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 10:</u></p> <ul style="list-style-type: none"> PLACE Power Mismatch Bypass switch to failed detector, Panel M-13 (automatic rod control input defeat switch) (XX-92-5037) <p><u>STANDARD:</u> Power Mismatch Bypass switch in the "Bypass PRN-44" position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</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>Critical Step</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 (< 1.5°F).</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 13:</u> [6] ENSURE OPERABLE Power Range channel selected:</p> <ul style="list-style-type: none"> Nuclear Power Recorder, NR-45, to operable channel. <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>	
<p><u>STEP 14:</u></p> <ul style="list-style-type: none"> RCS Temp ΔT Recorder – (green pen). <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>Critical Step</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>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<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
	Incorporated comments		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: #168 or any IC that maintains power on RX Vent Bd 1A.
4. Ensure the controllers for both Hydrogen Recombiners are set to Zero (0) after simulator initialization.
5. Containment pressure will be given as a cue of 5 psi, when requested.
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 12 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-H₂I-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 recombiner in service per EA-268-1.
3. Inform the US when the "A-A" hydrogen recombiner 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>NOTE: 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>NOTE: The operator may obtain this pressure from indicator on M-6 or simply record the value given in the initial conditions.</p> <p>Cue: 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 power 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>Critical Step</p>	

Job Performance Checklist:

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

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 13.:</u> ADJUST selected POWER ADJUST potentiometer (XS-83-5003) to obtain 10 KW on XI-83-5003. Hold for 10 minutes.</p> <p><u>Cue:</u> <i>After the step is performed, cue the operator that 10 additional minutes have elapsed.</i></p> <p><u>STANDARD:</u> "A-A" recombiner meter indicates 10 KW.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 14.:</u> ADJUST selected POWER ADJUST potentiometer (XS-83-5003) to obtain 20 KW on XI-83-5003. Hold for 5 minutes.</p> <p><u>Cue:</u> <i>After the step is performed, cue the operator that 5 additional minutes have elapsed.</i></p> <p><u>STANDARD:</u> "A-A" recombiner meter indicates 20 KW.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 15.:</u> 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><u>STANDARD:</u> "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>Critical Step</p>
<p><u>STEP 16.:</u> MONITOR and MAINTAIN KW reading as indicated on POWER out meter.</p> <p><u>STANDARD:</u> Operator addresses maintaining current KW setting.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 17.:</u> SELECT one of three thermocouples USING TEMP Channel SELECTOR switch and RECORD present reading:</p> <p><u>Cue:</u> <i>The indicated temperature is 500°F and increasing.</i></p> <p><u>STANDARD:</u> Operator selects a thermocouple and records reading for A Recombiner.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 18.:</u> MONITOR hydrogen recombiner temperature as indicated on TEMP READOUT meter.</p> <p><u>STANDARD:</u> Operator addresses that he/she will monitor recombiner Temperature on TI-83-5001.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 19.:</u> MONITOR containment hydrogen concentration.</p> <p><u>Cue:</u> Containment Hydrogen concentration is 2.2%.</p> <p><u>STANDARD:</u> Operator monitors containment hydrogen concentration by observing 1-H₂I-43-200 and 210.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 20.:</u> IF containment hydrogen concentration rises....</p> <p><u>Cue:</u> 24 hours has elapsed, the current containment H2 concentration is 1.8%.</p> <p><u>STANDARD:</u> Operator addresses need to change recombiner power depending on chemistry containment samples.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 21.:</u> Inform the Unit US when the A-A recombiner is in service and Containment Hydrogen concentration is decreasing.</p> <p><u>STANDARD:</u> Operator informs the Unit US when the A-A recombiner is in service and Containment Hydrogen concentration is decreasing.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>	

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.		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 when operator addresses step in section 8.1.4.
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 has just been completed.

You are to transfer 1A-A 6.9kV Shutdown Board to Normal Feeder at 1-M-1.

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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Start Time ___</p>	
<p><u>STEP 2.:</u> Ensure Section 8.1 of this instruction has been performed.</p> <p><u>Cue:</u> Supply the operator with the completed section 8.1.</p> <p><u>STANDARD:</u> Operator verifies section 8.1 has been performed with no deviations.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ 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> Voltage is approximately 7000 V.</p> <p><u>STANDARD:</u> Operator dispatches AUO to locally check voltage available on normal feeder breaker 1718.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ 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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ 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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Critical Step</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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Critical Step</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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	

Job Performance Checklist:

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

Respond to 1A CCS Pump Trip per AOP-M.03

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		3/18/04	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"

Reset to IC-16
IMF CC09B to PREVENT AUTO START OF 1B CCS PUMP ON LOW PRESSURE.
IMF CC10A to TRIP 1A CCS PUMP

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 est 15 minutes

Tools/Equipment/Procedures Needed

AOP-M.03
0-AR-M27-B-A
0-AR-M27-B-C

References:

	Reference	Title	Rev No.
A.	AOP-M.03	Loss of Component Cooling Water	8
B.	0-AR-M27-B-A	COMPONENT COOLING XA-55-27B-A	8
C.	0-AR-M27-B-B	COMPONENT COOLING XA-55-27B-B	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 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 is in mode 1 at 100% power
2. Your US is assisting in tagging the Unit 1 125V spare charger.

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> Respond to alarms on XA-M27-B-A and B-B AND:</p> <p style="padding-left: 40px;">Determine that 1A CCS Pump has tripped. Stop and Lock out 1A CCS Pump. Starts 1B CCS Pump.</p> <p><u>STANDARD:</u> Operator responds to alarm, locks out 1A CCS pump, starts 1B CCS pump.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>	
<p><u>STEP 1.:</u> Obtain a copy of the appropriate procedure.</p> <p><u>STANDARD:</u> The operator obtains a copy of AOP-M.03</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>	
<p><u>STEP 2.:</u> Evaluate the following Tech Specs for applicability.</p> <p><u>Cue:</u> SM will evaluate Technical Specifications</p> <p><u>STANDARD:</u> Operator requests that Tech Specs be evaluated.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 3.:</u> Evaluate EPIP-1 Emergency Plan Classification Matrix.</p> <p><u>Cue:</u> SM will evaluate EPIP-1</p> <p><u>STANDARD</u> Operator requests that EPIP-1 be evaluated.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 4.:</u> Diagnose the failure.</p> <p><u>STANDARD</u> Operator determines that Section 2.1 CCS pump trip or failure should be implemented.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 5.:</u> 1. ENSURE C-S CCS Pump RUNNING</p> <p><u>STANDARD:</u> Operator determines that C-S CCS Pump is running by observing indicating lights on handswitch and B ESF header flow. Operator continues to step 2 of procedure in the AER column.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<u>STEP 6.:</u>	2. GO TO Step 10.	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator implements AER step.	Critical Step
<u>STEP 7.:</u>	10. IDENTIFY and LOCK OUT failed CCS Pump.	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator places handswitch for 1A-A CCS pump in PULL TO LOCK. This action may have already been taken as either a Prudent Operator Action OR as a result of an Alarm Response Corrective Action.	Critical Step
<u>STEP 8.:</u>	11. ENSURE affected Unit's standby CCS pump RUNNING.	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator starts the 1B CCS pump and ensures that CCS flow returns to normal. This action may have already been taken as either a Prudent Operator Action OR as a result of an Alarm Response Corrective Action.	Critical Step
<u>STEP *9.:</u>	12. CHECK Train A CCS Heat Exchanger inlet pressure NORMAL for present plant conditions. [1-PI-70-24A, 1A1/1A2 CCS HX] [2-PI-70-17A, 2A1/2A2 CCS HX]	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator locates appropriate inlet pressure indicator and checks pressure between 90 and 110 psig.	
<u>STEP 10.:</u>	13. GO TO appropriate plant procedure.	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator exits AOP-M.03	
<u>STEP 11.:</u>	Inform SM of failure of ERCW pump and performance of AOP-M.01	___ SAT ___ UNSAT
<u>STANDARD:</u>	SM is informed of pump failure and that AOP-M.01 has been performed	Stop Time ___

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
	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# 16. 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 the actions of E-2 to isolate S/G #1.

Inform the US/SRO when isolation is complete.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 1.:</u> Obtain a copy of the required procedure.</p> <p><u>STANDARD:</u> Operator obtains a copy of E-2.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time___</p>
<p><u>STEP 2.:</u> CHECK MSIV's and MSIV bypass valves CLOSED. RNO: CLOSE valves.</p> <p>NOTE: IF valves are already closed, this step is not critical.</p> <p><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].</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 3.:</u> CHECK S/G secondary pressure boundary integrity: Any S/G press controlled or rising.</p> <p>NOTE: Since Tave is dropping, it may be difficult to determine if the other S/G pressures are controlled.</p> <p>Cue: If the operator is unable to determine that S/G pressures are controlled, Cue the operator:</p> <p><i>The US has determined that loops 2, 3, and 4 are controlled.</i></p> <p><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.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 4.:</u> Identify Faulted S/G:</p> <p>a. Any S/G pressure DROPPING in an uncontrolled manner. b. Any S/G pressure less than 140 psig.</p> <p><u>STANDARD:</u> Operator correctly identifies #1 S/G as faulted S/G.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5.:</u> ISOLATE Faulted S/G</p> <p><u>STANDARD:</u> The next steps will Isolate the faulted S/G.</p>	
<p><u>STEP 6.:</u> ISOLATE MFW.</p> <p><u>STANDARD:</u> Operator verifies FCV-3-35, 35A, and FCV-3-33 closed by green light "ON" for respective valves.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 7.:</u> ISOLATE AFW</p> <p><u>STANDARD:</u> 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.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 8.:</u> CLOSE steam supply valve to TD AFW pump FCV-1-15 or 16 CLOSED.</p> <p><u>STANDARD:</u> Operator places HS for FCV-1-15 in the CLOSED position and verifies green light "ON". [THEN places HS for FCV-1-16 in the OPEN position and verifies red light "ON".] [] not critical.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 9.:</u> VERIFY S/G blowdown valves CLOSED.</p> <p><u>STANDARD:</u> 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><u>STEP 10.:</u> VERIFY atmospheric relief CLOSED.</p> <p><u>STANDARD:</u> Operator ensure PCV-1-6 closed by green light "ON" HS.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 11.:</u> Inform the US that the #1 S/G has been isolated per E-2.</p> <p><u>STANDARD:</u> 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

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 38.
5. If IC 38 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 IORZDIHS6372A f:0 (This fails FCV-63-72 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. 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. 15 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.

Notify the SRO when ES-1.3 is complete.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 1.:</u> Obtains a copy of the appropriate procedure.</p> <p><u>STANDARD:</u> 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><u>STEP *2.:</u> MONITOR RWST supply to ECCS pumps:</p> <ul style="list-style-type: none"> •RWST LVL LO-LO alarm DARK [M-6E, E4] •RWST level greater than 8%. <p><u>NOTE:</u> THIS IS A CONTINUOUS MONITOR STEP. IF RWST drops to <8% the operator must perform the RNO steps and Lock out any pump still taking suction from the RWST.</p> <p><u>STANDARD:</u> Operator recognizes when the RWST is <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>Critical Step</p>
<p><u>STEP 3.:</u> Determine if containment spray should be stopped:</p> <ul style="list-style-type: none"> • Check any containment spray pump RUNNING. • Check containment pressure less than 2.0 psig. • RESET containment spray signal. • STOP containment spray pumps and PLACE in A-AUTO. • CLOSE spray header discharge valves FCV-72-39 and -2. <p><u>STANDARD:</u> 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><u>STEP 4.:</u> CHECK containment sump level greater than 11%.</p> <p><u>STANDARD:</u> Operator checks LI-63-178, 179 to ensure level > 11%.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5.:</u> ENSURE containment sump valves FCV-63-72 and FCV-63-73 OPEN</p> <p><u>NOTE:</u> FCV-63-73 will not open. Operator must go to RNO.</p> <p><u>STANDARD:</u> 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>NOTE: The following steps are from the RNO section.</p> <p>STEP *6.: IF any containment sump valve CANNOT be opened THEN PULL TO LOCK RHR pump on affected train(s).</p> <p>STANDARD: Operator PULL TO LOCK RHR pump B-B.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 7.: IF containment sump valve FCV-63-72 CANNOT be opened THEN</p> <p>NOTE: FCV-63-72 is open</p> <p>STANDARD: Operator continues in RNO to address FCV-63-73.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 8.: IF containment sump valve FCV-63-73 CANNOT be opened THEN</p> <p>STANDARD: Operator continues in RNO to address FCV-63-73.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 9.: ENSURE RWST to RHR suction valve FCV-74-21 CLOSED. WHEN FCV-74-21 closed attempt to open FCV-63-73</p> <p>NOTE: FCV-63-73 will not open</p> <p>STANDARD: Operator waits for FCV-74-3 to close and attempts to open FCV-63-73.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 10.: WHEN containment sump FCV-63-73 open, THEN RESTART RHR pump 1B-B.</p> <p>STANDARD: Operator recognizes that FCV-63-73 will not open and continues. Does NOT start RHR pump B-B</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 11.: IF NO containment sump recirculation path can NOT be established, THEN....</p> <p>STANDARD: One path has been established, operators goes to next AER step.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: The following steps are from the AER column.</p> <p>STEP 12.: ENSURE RWST to RHR suction valves FCV-74-3 and FCV-74-21 CLOSED</p> <p>STANDARD: 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"> • FCV-63-3 <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;">Critical Step</p>	
<p><u>STEP *15.:</u> ENSURE the following:</p> <ul style="list-style-type: none"> • FCV-63-4 and • FCV-63-175 are CLOSED <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;">Critical Step</p>	
<p><u>STEP *16.:</u> CLOSE RHR crosstie valves:</p> <ul style="list-style-type: none"> • FCV-74-33 • FCV-74-35 <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;">Critical Step</p>	
<p><u>STEP *17.:</u> OPEN CCP and SI pump suction from RHR:</p> <ul style="list-style-type: none"> • OPEN FCV-63-7 • OPEN FCV-63-6 <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;">Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP *18.: ALIGN RHR discharge to CCP and SI pump suction:</p> <ul style="list-style-type: none"> • OPEN FCV-63-8 • OPEN FCV-63-11 <p>NOTE: After performance of this step, If RWST LO LO level is reached, the operator will only need to stop the CS pumps.</p> <p>STANDARD: Operator places HSs in the OPEN position and verifies: FCV-63-8 Remains closed, GREEN light LIT (due to interlock with FCV-63-72). Operator should continue with one train alignment FCV-63-11 OPEN red light LIT</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 19.: VERIFY Steps 11 through 14 COMPLETED.</p> <p>STANDARD: Operator should verify all steps were completed and continue with procedure.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 20.: CHECK RCS pressure less than 1500 psig.</p> <p>STANDARD: Operator checks RCS pressure on PAM Instruments and verifies RCS pressure is less than 1500 psig.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP *21.: ENSURE SI pumps RUNNING.</p> <p>NOTE: This step is only critical if the pumps were stopped due to low level.</p> <p>STANDARD: 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>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP *22.: ENSURE CCPs RUNNING.</p> <p>NOTE: This step is only critical if the pumps were stopped due to low level.</p> <p>STANDARD: 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>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 23.:</u> MONITOR shutdown boards continuously energized.</p> <p><u>Cue:</u> <i>CRO will monitor Shutdown boards remain energized.</i></p> <p><u>STANDARD:</u> Operator checks shutdown boards energized by offsite power OR ask CRO if boards are energized.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 24.:</u> ISOLATE CCP suction from RWST:</p> <ul style="list-style-type: none"> • CLOSE LCV-62-135 and LCV-62-136 WHILE monitoring CCPiT flow • PLACE HS-62-135 in A-AUTO (pushed in) • PLACE HS-62-136 in A-AUTO (pushed in) • ENSURE at least one VCT outlet valve LCV-62-132 or -133 CLOSED. <p><u>STANDARD:</u> Operator places each HS in the CLOSED position and verifies:</p> <ul style="list-style-type: none"> • LCV-62-135 CLOSED green light LIT, HS pushed in. • LCV-62-136 CLOSED green light LIT, HS pushed in. • Either LCV-62-132, -133 CLOSED 	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 25.:</u> CHECK power restored to FCV-63-1</p> <p><u>Cue:</u> <i>Power has been restored to FCV-63-1.</i></p> <p><u>STANDARD:</u> Operator ensures power is on FCV-63-1.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 26.:</u> CLOSE FCV-63-1 while monitoring RHR flow.</p> <p><u>STANDARD:</u> 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><u>STEP 27.:</u> ISOLATE SI pump suction from RWST:</p> <ul style="list-style-type: none"> • CLOSE FCV-63-5 while monitoring SI pump flow <p><u>STANDARD:</u> 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>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>NOTE: The following steps ALIGN containment spray suction to containment sump.</p> <p>STEP 28.: CHECK RWST level is \leq 8%.</p> <p>Cue: <i>If level is not \leq 8%, Cue operator that level is less than 8%.</i></p> <p>STANDARD: Operator determines that Containment spray pumps are aligned to the RWST. Operator checks RWST level, LI-63- 50, 51, 52, & 53 to ensure level is \leq 8%.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP *29.: ENSURE containment spray pumps in PULL TO LOCK.</p> <p>NOTE: Containment Spray pumps may already be in PULL TO LOCK if RWST level dropped to $<$8%.</p> <p>STANDARD: Operator places CONTAINMENT Spray Pumps in PULL-TO-LOCK position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP *30.: ISOLATE CONTAINMENT Spray suction from RWST.</p> <ul style="list-style-type: none"> • CLOSE FCV-72-22 • CLOSE FCV-72-21 <p>STANDARD: 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>Critical Step</p>
<p>STEP *31.: CHECK Train A Containment Sump valve FCV-63-72 OPEN.</p> <p>STANDARD: 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>Critical Step</p>
<p>STEP *32.: OPEN Train A containment spray suction from containment sump FCV-72-23</p> <p>STANDARD: Places HS for FCV-72-23 in the OPEN position and verifies red lights LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<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>Critical Step</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 ≥ 2.0 psig, Cue operator that containment pressure is 5 psig.</i></p> <p><u>STANDARD:</u> Operator checks containment pressure PI-30-45 & 44 greater than 2 psi and continues.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 36.:</u> Check Containment Sump Level ≥ 18% [22% Adv] .</p> <p><u>STANDARD:</u> Operator ensures Containment sump level is ≥ 22% Adv., LI-68-178 & 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"> • FCV-63-72 OPEN • FCV-72-23 OPEN <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>Critical Step</p>
<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>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<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"> • FCV-63-73 OPEN • FCV-72-20 OPEN <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 >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> <i>Play SRO: State that the STA will monitor status trees and notify the SM if we need to transition, you are to continue with ES-1.3.</i></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><u>STEP 43.:</u> MONITOR for containment sump blockage:</p> <p>INITIATE EA-63-8, Monitoring for Containment Sump Blockage.</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-63-8.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 44.:</u> MONITOR for containment sump blockage:</p> <p>CHECK for indications of cavitation on ECCS or Containment Spray</p> <p><u>Cue:</u> <i>Inform operator that the CRO will perform check.</i></p> <p><u>STANDARD:</u> Operator addresses need to determine if pumps are cavitating.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 45.:</u> ENSURE CCS to SFP Cooling USING EA-70-1.</p> <p><u>Cue:</u> <i>Unit 2 will perform EA-70-1</i></p> <p><u>STANDARD:</u> Operator addresses need to perform this EA.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>NOTE:</u> If RCS pressure is less than 300 psig, E-1 will direct transitioning to ES-1.4, when 5 hours has elapsed.</p> <p><u>STEP 46.:</u> DETERMINE if hot leg recirculation will be required:</p> <ul style="list-style-type: none"> • CHECK RCS pressure less than 300 psig. <p><u>Cue:</u> <i>The CRO has logged the event time and will monitor the time.</i></p> <p><u>STANDARD:</u> Operator addresses need to monitor the time to Hot Leg Recirculation.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 47.:</u> Inform the US/SRO that the ECCS & CS pumps have been aligned to take suction from containment sump.</p> <p><u>STANDARD:</u> Operator informs the US/SRO that the ECCS & CS pumps have been aligned to take suction from containment sump.</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 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).

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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
	Incorporated validation comments		4/6/04	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. 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 minutes

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 EO/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 1A-A CCP 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 1A-A CCP.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 1.: Obtain a copy of the appropriate procedure.</p> <p>STANDARD: The operator obtains a copy of AOP-M.01, Appendix I.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>	
<p>STEP 2.: [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>STANDARD: Operator determines from Initiating Cues that the 1A-A CCP will be connected.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>NOTE: Materials are located in the sealed EO/AOP Locker.</p> <p>STEP 3.: [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>Cue: <i>Do not allow operator to open EO/AOP storage locker if sealed. Allow operator to describe contents:</i></p> <p style="padding-left: 40px;"><i>Valve wrench 2 fire hoses (in bag) tee connections.</i></p> <p>STANDARD: Operator locates fire hoses, tee connections and tools.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>NOTE: All manipulated valves are located in the 1A-A CCP Room.</p> <p>STEP 4.: [3] CLOSE ERCW Supply Valve to CCP Oil Cooler.</p> <p>Cue: <i>When valve 1-VLV-67-704A and direction of movement are identified, tell the operator the valve handwheel rotates clockwise and eventually will not rotate any further.</i></p> <p>STANDARD: Operator locates and closes VLV-67-704A for 1A-A CCP. Operator N/A's VLV-67-704B for 1B-B CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 5.: [4] CLOSE ERCW Return Valve to CCP Oil Cooler.</p> <p>Cue: <i>When valve 1-VLV-67-705A and direction of movement are identified, tell the operator the valve handwheel rotates clockwise and eventually will not rotate any further.</i></p> <p>STANDARD: Operator locates and closes VLV-67-705A for A-A CCP by turning in the CW direction. Operator N/A's VLV-67-705B for B-B CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 6.: [5] REMOVE Drain Plug and OPEN ERCW Drain Valve to CCP Oil Cooler</p> <p>Cue: <i>When drain plug is identified, tell the operator it can be removed. When valve 1-VLV-67-1547A 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>STANDARD: Operator locates and opens VLV-67-1547A for A-A CCP by turning in the CCW direction. Operator N/A's VLV-67-1546B for B-B CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>NOTE: Piping is identified with ID tags at disconnect points.</p> <p>STEP 7.: [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>Cue: <i>Once the fittings are identified, tell the operator they can be disconnected and the piping removed.</i></p> <p>STANDARD: Operator uses Figure 2 to locate, disconnect, and remove piping.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 8.: [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"> • Compression fitting connected to Oil Cooler (6" hard tubing with compression nut from tee connection) • Compression Fitting connected to ERCW inlet valve (4 foot red Rubber hose with compression nut) <p>Cue: <i>Once the fitting locations are identified, tell the operator the stated hose can be connected to the respective fitting.</i></p> <p>STANDARD: Operator uses Figure 3 to install temporary hose connections at proper points.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 9.: [8] CONNECT gated WYE hose connection to the nearest HPFP hose connection:</p> <ul style="list-style-type: none"> • 1-26-668 (near Waste Gas Decay Tank Gallery) • 2-26-668 (Between Boric Acid Evaporator control panels) • 1-26-662 (near elevator) <p>Cue: <i>Valve 1-26668 should be used. When identified, tell the operator that the fitting may be hooked up to the connection on the valve.</i></p> <p>STANDARD: Operator locates appropriate hose connection point and connects hose.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 10.:</u> [9] ENSURE valves on Gated WYE are CLOSED.</p> <p>Cue: <i>When asked, inform the operator that the valves on the gated wye are closed.</i></p> <p><u>STANDARD:</u> 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>Cue: <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><u>STANDARD:</u> Operator properly positions and connects fire hose sections together.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 12.:</u> [11] CONNECT Fire hose to gate wye.</p> <p>Cue: <i>When asked, inform the operator that the hose can be connected to the gated wye at the fire valve.</i></p> <p><u>STANDARD:</u> Operator connects fire hose to gate wye.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 13.:</u> [12] CONNECT Fire hose to tee connection.</p> <p>Cue: <i>When asked, inform the operator that the hose can be connected to the tee connection near the charging pump.</i></p> <p><u>STANDARD:</u> Operator connects fire hose to tee connection.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 14.:</u> [13] CHECK all hose connections are complete and hose not kinked.</p> <p>Cue: <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><u>STANDARD:</u> The operator checks connections are complete and inspects hose for kinks.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 15.:</u> [14] CLOSE ERCW Drain Valve to CCP Oil Cooler</p> <p>Cue: <i>When valve 1-VLV-67-1547A and direction of movement are identified, tell the operator the valve handwheel rotates clockwise and eventually will not rotate any further</i></p> <p><u>STANDARD:</u> Operator locates and closes VLV-67-1547A for A-A CCP. Operator N/A's VLV-67-1546B for B-B CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP16.: [15] ENSURE ERCW Isolation Valves to CCP Oil Coolers OPEN.</p> <p>Cue: <i>When valves 1-VLV-67-1544A and 1545A 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>STANDARD: Operator locates and ensures open VLV-67-1544A ERCW to Bearing Oil Cooler and VLV-67-1545A ERCW Supply to Gear Oil Cooler for A-A CCP. Operator N/A's VLV-67-1544B and VLV-67-1545B for B-B CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP17.: [16] OPEN ERCW Return Valve from CCP Oil Cooler.</p> <p>Cue: <i>When valve 1-VLV-67-705A 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>STANDARD: Operator locates and opens VLV-67-705A for A-A CCP. Operator N/A's VLV-67-705B for B-B CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 18.: [17] OPEN Main valve on Gated wye (at HPFP hose station).</p> <p>Cue: <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>STANDARD: Operator locates and opens Main valve on Gated Wye.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 19.: [18] OPEN Gated Wye routing valve that supplies the hose connection.</p> <p>Cue: <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>STANDARD: Operator locates and opens Gated Wye routing valve.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 20.: [19] OPEN Hose Station valve to provide HPFP to CCP Oil Coolers.</p> <p>Cue: <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>STANDARD: Operator opens hose station valve.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 21.:</u> [20] VERIFY fire hose pressurized.</p> <p>Cue: <i>If the operator has made proper connections, inform them the hose is pressurized.</i></p> <p>STANDARD: Operator verifies fire hose is pressurized.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 22.:</u> [21] NOTIFY UO that temporary cooling water connection to CCP is Complete.</p> <p>Cue: <i>Acknowledge the information as the Unit Operator.</i></p> <p>STANDARD: Operator notifies UO that temporary cooling has been established to 1A-A CCP.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 23.:</u> [22] Breach CCP room door OPEN to allow room cooling.</p> <p>Cue: <i>When door and method of breaching are identified, tell the operator the door is breached open.</i></p> <p>STANDARD: Operator breaches open the CCP room door.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 24.:</u> [23] COORDINATE with Maintenance or Fire Ops to install smoke removal fan to circulate air through CCP room.</p> <p>Cue: <i>Respond as Maintenance or Fire Ops when called.</i></p> <p>STANDARD: Operator contacts Maintenance or Fire Ops to install fan.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

End of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM # 32AP

Local Manual Control of a S/G PORV Modified - Not an AP

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

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. 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 5 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>STEP 1.: Obtain a copy of the appropriate procedure.</p> <p>NOTE: Once the operator has demonstrated where/how to obtain the procedure supply him/her with a copy.</p> <p>STANDARD: Operator obtains a copy of EA-1-2.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>
<p>STEP 2.: Perform actions of Section 4.1.</p> <p>STANDARD: Operator selects unit 1 and S/G #1 and transitions to section 4.2.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 3.: Establish communications between UO in Aux. Control room and operator at #1 S/G PORV manual controls.</p> <p>Cue: After the operator establishes communications tell him to "partially open the PORV for SG #1" (if phone is used: keep the phone line open).</p> <p>STANDARD: Communications is established between operator at #1 S/G PORV and UO.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 4.: IF control air available, THEN CLOSE HCVs for atmospheric relief by turning knurled knob counterclockwise UNTIL air loading indicates ZERO:</p> <p>Cue: If operator looks at air pressure coming from main header (on pressure regulator), Cue them that it is indicating 22 psig.</p> <p>Cue: Air pressure at HCV-1-6 indicating (0) zero on output indicator.</p> <p>STANDARD: Operator locates HCV -1-6 (L-423, 480V Shutdown Bd Room 1A1) and determines valve operator has zero air output.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 5.: PLACE the 3-way valve in BYPASS.</p> <p>CUE: Bypass switch is in the Bypass position.</p> <p>STANDARD: Operator locates three way valve and places it to the BYPASS position</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 6.:</u> CONTROL S/G pressure as directed by UO: Open HCV to raise air signal to open atmospheric relief valve.</p> <p><u>Cue:</u> <i>Air pressure indicating 8 psig on output indicator.</i></p> <p><u>STANDARD:</u> Operator turns 1-HCV-1-6 knurled knob clockwise to load up and OPEN the PORV.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 7.:</u> Informs UO that local control has been established with 8 psig air loading.</p> <p><u>Cue:</u> <i>S/G pressure is decreasing too fast; reduce loading pressure to 6 psig.</i></p> <p><u>STANDARD:</u> Operator turns 1-HCV-1-6 knurled knob counter-clockwise until air loading pressure is 6 psig.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 8.:</u> Operator reduces loading pressure to 6 psig.</p> <p><u>Cue:</u> <i>Air pressure indicating 6 psig on output indicator</i></p> <p><u>STANDARD:</u> Operator turns 1-HCV-1-6 knurled knob counter-clockwise until air loading pressure is 6 psig.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 9.:</u> Informs UO that local control has been established with 6 psig air loading.</p> <p><u>Cue:</u> <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><u>STANDARD:</u> Operator reports to UO that local control has been established with 6 psig air loading.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

End of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM # 42

Placing Vital Inverter 1-II Back in Service Following Maintenance

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:
11	Revised to rev 23 of 0-SO-250-2 which utilizes the Spare inverter 0-II as operable replacement for 1-II or 2-II Inverters	Y	08/07/01	ALL	WR Ramsey
pen/ink	0-SO-250-2 Rev 24 update only	N	8/21/01	4	WR Ramsey
12	Revised based on changes to 0-SO-250-2	Y	9/4/02	All	J P Kearney
13	Incorporated changes based on the procedure and JPM comments	N	9/15/2003	All	G S Poteet
	Incorporated comments	N	4/5/06	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. **SM approval will be required to enter the "Trip Hazard Zone" in the Vital Battery Rm and Vital Inverter area.**
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 55 minutes

Tools/Equipment/Procedures Needed:

0-SO-250-2, Section 8.10

References:

	Reference	Title	Rev No.
1.	0-SO-250-2	120V AC Vital Instrument Power System	36

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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. **WHEN ENTERING A UNIT TRIP HAZARD ZONE ENSURE YOU DO NOT TOUCH ANY SWITCHES WITHIN THAT ZONE.** 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. Both units are operating at power (MODE 1) and maintenance on 120V ac Vital Inverter 1-II has been completed.
2. Inverter "1-II" is currently shutdown and out of service with its respective 120V AC Vital Instrument Power Board "1-II" supplied from its alternate supply, Inverter 0-II, in accordance with 0-SO-250-2.

INITIATING CUES:

1. Maintenance has cleaned and inspected the 120V AC Vital inverter "1-II"
2. The Unit 1 SRO has directed you, the Control Room AUO, return the 120V AC Vital inverter "1-II" to service and align it to 120V AC Vital Instrument Board 1-II per 0-SO-250-2 section 8.10.
3. Inform the Unit 1 SRO when 120V AC Vital Instrument Board 1-II has been realigned to its normal supply.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 1.: Obtain copy of the appropriate procedure.</p> <p>STANDARD: Operator obtains a copy of SO-250-2 Section 8.10.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Start Time ___</p>
<p>NOTE: If operator asks, acknowledge that a Concurrent Verifier would be present during performance of this S.O. (For JPM purposes have him continue as if a CV was present)</p> <p>STEP 2.: VERIFY 120V AC Vital Instrument Board 1-II is ENERGIZED by observing transfer switch 1-SW-250-NE-E in ALTERNATE position and normal board voltage on 1-EI-250-NE-E.</p> <p>Cue: <i>Board voltage is NORMAL, and the transfer switch is in the ALTERNATE position.</i></p> <p>STANDARD: Operator identifies Vital Instrument Board 1-II and verifies board voltage normal and the transfer switch in the ALTERNATE position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 3.: ENSURE 120V AC Vital Inverter 1-II DC supply breaker 1-BKRC-250-KF /326-E on 125V DC Vital Battery Board II is in ON position.</p> <p>Cue: <i>Breaker 326 is in the ON, UP, position.</i></p> <p>STANDARD: Operator identifies breaker 326 on 125V Vital Batt Bd II and ensures it is in the ON, UP, position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: DO NOT allow operator to open breaker compartment. Inform operator to discuss actions that would be taken.</p> <p>STEP 4.: ENSURE [0-BCTB-250-DM/9A-B], 120V AC Vital Inverters 1-II & 2-II CLOSED at 480 V SDBD 1B2-B compt. 9A.</p> <p>Cue: <i>Breaker is in the closed position.</i></p> <p>STANDARD: Operator verifies breaker is closed.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 5.: IF 1-II Inverter is NOT already in service, THEN ENSURE all breakers on 120V AC Vital Inverter 1-II are OFF</p> <p>Cue: <i>As each breaker is addressed state "The breaker switch is in the OFF, down position."</i></p> <p>STANDARD: Operator identifies each breaker on Vital Inverter 1-II and ensures it is in the OFF, down, position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 6.: ENSURE [1-BKRA-250-KS/11-E], 120V AC Vital Inverter 1-II Disconnect Bkr ON at 480V AC Vital Disconnect Panel II, el. 749 Aux Bldg.</p> <p>Cue: <i>After operator simulates placing the disconnect breaker in the ON, cue him the breaker is in the ON position</i></p> <p>STANDARD: Operator places [1-BKRA-250-KS/11-E] in the ON position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 7. S: PRESS and HOLD PRECHARGE pushbutton [1-HS-250-QN/S4-E] and verify the pre-charge light is lit.</p> <p>Cue: <i>The pre-charge light is lit.</i></p> <p>STANDARD: Operator identifies 1-II Vital inverter and presses the PRECHARGE pushbutton and verifies the pre-charge light is LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 8. S: PLACE BATTERY INPUT breaker [1-BKR-250-QN/B1-E] In ON position.</p> <p>NOTE: This step MUST BE completed prior to releasing the pre-charge PB. After the PB is released the capacitors begin to discharge. Closing the input breaker more than 5 seconds after the pre-charge PB is released could cause high charging currents that could blow the inverter fuses and make the inverter inoperable.</p> <p>Cue: <i>Breaker handle is in the ON, up, position.</i></p> <p>STANDARD: Operator places the Battery input circuit breaker on Vital inverter cabinet 1-II in the ON, up, position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 9. S: RELEASE PRECHARGE pushbutton [1-HS-250-QN/S4-E].</p> <p>Cue: <i>If asked, the pre-charge light remains lit.</i></p> <p>STANDARD: Operator identifies 1-II Vital Inverter and releases the PRECHARGE pushbutton after closing the battery input breaker.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 10.:</u> PLACE [1-BKRA-250-QN/B301-E], AC Input To Rectifier Bkr in ON position.</p> <p><u>Cue:</u> <i>Breaker handle is in the ON position.</i></p> <p><u>STANDARD:</u> Operator places the breaker in the ON position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 11.:</u> ENSURE [1-HS-250-QN/S5-E] Remote sync switch on 1-II Inverter in OFF position.</p> <p><u>Cue:</u> <i>Remote sync switch on 1-II Inverter is in OFF position.</i></p> <p><u>STANDARD:</u> Operator verifies the Remote sync switch on 1-II Inverter in OFF position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 12.:</u> ENSURE [1-BKRA-250-QN/B701-E], AC Input To Isolimiter Bkr in ON position.</p> <p><u>Cue:</u> <i>After operator simulates placing [1-BKRA-250-QN/B701-E], AC Input To Isolimiter Bkr in the ON position, cue him/her that it is ON.</i></p> <p><u>STANDARD:</u> Operator places the [1-BKRA-250-QN/B701-E], AC Input To Isolimiter Bkr in ON position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 13.:</u> ENSURE [1-BKRA-250-QN/B4-E], Bypass Source AC Input Bkr in ON position.</p> <p><u>Cue:</u> <i>After operator simulates [1-BKRA-250-QN/B4-E], Bypass Source AC Input Bkr in the ON position, cue him/her that it is ON.</i></p> <p><u>STANDARD:</u> Operator [1-BKRA-250-QN/B4-E], Bypass Source AC Input Bkr in the ON position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 14.:</u> PLACE [1-BKRA-250-QN/B2-E], Inverter Output Bkr in ON position.</p> <p><u>Cue:</u> <i>After operator simulates [1-BKRA-250-QN/B2-E], Inverter Output Bkr in ON position, cue him/her that it is ON.</i></p> <p><u>STANDARD:</u> Operator places [1-BKRA-250-QN/B2-E], Inverter Output Bkr in the ON position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 15.: ENSURE [1-HS-250-QN/S1-E] Manual Bypass Sw is in the INVERTER TO LOAD position.</p> <p>Cue: <i>After operator simulates [1-HS-250-QN/S1-E] Manual Bypass Sw in the INVERTER TO LOAD position, cue him/her that it is in the INVERTER TO LOAD position.</i></p> <p>STANDARD: Operator places [1-HS-250-QN/S1-E] Manual Bypass Sw in the INVERTER TO LOAD position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 16.: PRESS [1-HS-250-QN/S201-E], Inverter To Load Pushbutton AND VERIFY "Inverter Supplying Load" light ON and "Bypass Source Supplying Load" light OFF.</p> <p>Cue: <i>"Inverter Supplying Load" light ON and "Bypass Source Supplying Load" light OFF</i></p> <p>STANDARD: Operator presses [1-HS-250-QN/S201-E], Inverter To Load Pushbutton and verifies "Inverter Supplying Load" light ON and "Bypass Source Supplying Load" light OFF.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 17.: PERFORM the following on Annunciator Pnl 1:</p> <ol style="list-style-type: none"> 1. PLACE [1-HS-250-QN/S2-E], AN1 Annunciator Disable Sw in ON. 2. PRESS button A (Acknowledge) 3. PRESS button R (Reset). <p>Cue: <i>After operator simulates places [1-HS-250-QN/S2-E], AN1 Annunciator Disable Sw in ON, cue him/her that it is in the ON position.</i></p> <p>STANDARD: Operator places [1-HS-250-QN/S2-E], AN1 Annunciator Disable Sw ON; presses button A (Acknowledge); and presses button R (Reset).</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 18.: PERFORM the following on Annunciator Pnl 2:</p> <ol style="list-style-type: none"> 1. PLACE [1-HS-250-QN/S3-E], AN2 Annunciator Disable Sw in ON. 2. PRESS button A (Acknowledge). 3. PRESS button R (Reset). <p>Cue: <i>After operator simulates places [1-HS-250-QN/S3-E], AN2 Annunciator Disable Sw in ON, cue him/her that it is in the ON position.</i></p> <p>STANDARD: Operator places [1-HS-250-QN/S3-E], AN2 Annunciator Disable Sw ON; presses button A (Acknowledge); and presses button R (Reset).</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 19.: ENSURE alarms clear in the MCR (1-XA-55-1C, windows B-6 and B-7)</p> <p>Cue: <i>As the CRO, acknowledge that the alarms are clear.</i></p> <p>STANDARD: Operator calls the MCR to determine the alarms are clear.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 20.: IF [INVERTER OUTPUT] voltage is < 120.6 volts or > 126.5 volts OR frequency is < 59.4 Hz or > 60.6 Hz, THEN NOTIFY Electrical Maintenance for support.</p> <p>Cue: <i>AC OUTPUT voltage is 121 volts and frequency is 60 Hz.</i></p> <p>STANDARD: Operator checks AC OUTPUT voltage and frequency to ensure within required limits.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 21.: PLACE [1-HS-250-QN/S5-E], Remote Sync switch on 1-II Vital Inverter to SYNC OUT position.</p> <p>Cue: <i>After operator simulates placing [1-HS-250-QN/S5-E], Remote Sync switch on 1-II Vital Inverter to SYNC OUT position, cue him/her that it is in the SYNC OUT position.</i></p> <p>STANDARD: Operator places [1-HS-250-QN/S5-E], Remote Sync switch on 1-II Vital Inverter to the SYNC OUT position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 22.: ENSURE [0-HS-250-QW/SW4-E] Remote Sync Input Switch, in UNIT 1 Position.</p> <p>Cue: <i>After operator simulates placing [0-HS-250-QW/SW4-E] Remote Sync Input Switch, in the UNIT 1 Position, cue him/her that it is in the Unit 1 position.</i></p> <p>STANDARD: Operator places [0-HS-250-QW/SW4-E] Remote Sync Input Switch, in the UNIT 1 Position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p>STEP 23.: ENSURE [0-HS-250-QW/SW5-E], Remote Sync Light Switch, in UNIT 1 position.</p> <p>Cue: <i>After operator simulates placing [0-HS-250-QW/SW5-E] Remote Sync Input Switch, in the UNIT 1 Position, cue him/her that it is in the Unit 1 position.</i></p> <p>STANDARD: Operator places [0-HS-250-QW/SW5-E] Remote Sync Input Switch, in the UNIT 1 Position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 24.: VERIFY In Sync light LIT on 1-II Inverter..</p> <p>Cue: <i>In Sync light LIT</i></p> <p>STANDARD: Operator verifies In Sync light LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 25.: VERIFY 120V AC Vital Instrument Power Board 1-II amber [NOR SUPPLY AVAIL] light LIT.</p> <p>Cue: <i>120V AC Vital Instrument Power Board 1-II amber [120VAC Vital Inverter Supply Available] light LIT.</i></p> <p>STANDARD: Operator verifies 120V AC Vital Instrument Power Board 1-II amber [120VAC Vital Inverter Supply Available] light LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 26.: VERIFY 120V AC Vital Instrument Power Board 1-II blue sync light LIT to show Inverter 0-II is in synchronism.</p> <p>Cue: <i>120V AC Vital Instrument Power Board 1-II blue sync light LIT.</i></p> <p>STANDARD: Operator verifies 120V AC Vital Instrument Power Board 1-II blue sync light LIT.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 27.: OPERATE 120V AC Vital Instrument Board 1-II Transfer switch 1-SW-250-NE-E to NORMAL position.</p> <p>NOTE: Switch must travel 150-180° for breaker to close (This is past the NORMAL position indication).</p> <p>Cue: <i>Transfer switch is aligned to the NORMAL (Vertical) position.</i></p> <p>STANDARD: Operator identifies the transfer switch on the 1-II Vital Instrument Power Distribution Board and rotates the switch swiftly to the normal position.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 28.: VERIFY 120V AC Vital Instrument Board 1-II voltage remains stable on the voltmeter 1-EI-250-NE-E.</p> <p>Cue: <i>Board voltage is stable.</i></p> <p>STANDARD: Operator checks board voltmeter to verify voltage is stable.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 29.: PLACE [1-HS-250-QN/S5-E], Remote Sync Switch on 1-II Inverter to OFF position</p> <p>Cue: <i>After operator simulates placing [1-HS-250-QN/S5-E], Remote Sync Switch on 1-II Inverter to the OFF position, cue him/her that it is in the OFF position.</i></p> <p>STANDARD: Operator places [1-HS-250-QN/S5-E], Remote Sync Switch on 1-II Inverter to OFF position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 30.: ENSURE [0-HS-250-QW/SW4-E] Remote Sync Input Switch, in OFF Position.</p> <p>Cue: <i>After operator simulates placing [0-HS-250-QW/SW4-E] Remote Sync Input Switch to the OFF position, cue him/her that it is in the OFF position.</i></p> <p>STANDARD: Operator places [[0-HS-250-QW/SW4-E] Remote Sync Input Switch to OFF position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 31.: ENSURE [0-HS-250-QW/SW5-E], Remote Sync Light Switch, in OFF position.</p> <p>Cue: <i>After operator simulates placing [0-HS-250-QW/SW5-E] Remote Sync Light Switch to the OFF position, cue him/her that it is in the OFF position.</i></p> <p>STANDARD: Operator places [[0-HS-250-QW/SW5-E] Remote Sync Light Switch to OFF position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 32.: ENSURE [0-HS-250-QW/SW3-E] Remote Alarm Switch in OFF.</p> <p>Cue: <i>After operator simulates placing [0-HS-250-QW/SW3-E] Remote Alarm Switch to the OFF position, cue him/her that it is in the OFF position.</i></p> <p>STANDARD: Operator places [[0-HS-250-QW/SW3-E] Remote Alarm Switch to OFF position.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 33.: ENSURE alarms clear in the MCR (1-XA-55-1C, window B-6 and B-7).</p> <p>Cue: <i>As the CRO, acknowledge the alarms are clear.</i></p> <p>STANDARD: Operator contacts the main control room to determine alarm light status.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 34.:</u> INDEPENDENTLY VERIFY THE FOLLOWING BREAKERS 0-BCTB-250-DM/9A-B Closed 1-BKRA-250-KS/11-E On</p> <p><u>Cue:</u> <i>Role play as independent verifier and repeat back breaker information as given.</i></p> <p><u>STANDARD:</u> Operator addresses independent verification.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 35.:</u> Inform the Unit 1 SRO that the 1-II Vital Inverter is back in service and that the 1-II Vital Power Board is back on the NORMAL supply from the 1-II Inverter.</p> <p><u>STANDARD:</u> Operator informs the Unit 1 SRO that the 1-II Vital Inverter is back in service and that the 1-II Vital Power Board is back on the NORMAL supply from the 1-II Inverter. (Only lacks IV)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>	

END OF JPM

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	
<p>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.</p>		

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 #223R Control Room Actions of AOP-N.08 for Fire U1 Reactor Building #1 Fan Room	
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).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
0	Initial Issue Made corrections resulting from validation	Y		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**.
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. 15min Local _____

Tools/Equipment/Procedures Needed

1. 0-SO-62-7
2. Cycle Nuclear Design Report (NDR)
3. 0-SO-62-7 Boron Concentration Control

References:

	Reference	Title	Rev No.
A.	0-GO-5	Normal Power Operation	37
B.	0-SO-62-7	Boron Concentration Control	31
C.	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.

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><i>NO USING CURRATOR</i></p>	<p>N/A SAT <input type="checkbox"/> UNSAT Start Time _____</p>
<p><u>STEP 2.:</u> [1] CALCULATE target boron concentration by performing the following:</p> <p>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>___ SAT ___ 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>___ SAT ___ 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>___ SAT ___ 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>___ SAT ___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<u>STEP 6.:</u>	Total Reactor Power Change	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator determines power change to be 50%.	Critical Step
<u>STEP *7.:</u>	Number of hours to change power	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator enters 16 2/3 hours per Initial Conditions	Critical Step
<u>STEP *8.:</u>	Current Rod Position	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator enters 160 steps per Initial Conditions	
<u>STEP *9.:</u>	Final Rod Position	___ SAT ___ UNSAT
<u>STANDARD:</u>	Operator enters 228 steps per Initial Conditions	
<u>STEP *10.:</u>	$\Delta\rho_{\text{POWER DEFECT}} = \text{_____ pcm PD}_2 - \text{_____ pcm PD}_1 = \text{_____ pcm}$	___ SAT ___ UNSAT
<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.	
	$\Delta\rho_{\text{POWER DEFECT}} = 1050 \text{ pcm PD}_2 - 350 \text{ pcm PD}_1 = 700 \text{ pcm}$	Critical Step
<u>STEP *11.:</u>	$\Delta\rho_{\text{XENON}} = \text{_____ pcm XE}_2 - \text{_____ pcm XE}_1 = \text{_____ pcm}$	___ SAT ___ UNSAT
<u>Cue:</u>	ICS value for Xenon (XE₁) is 2250. Xenon value (XE₂) from Reactor Engineering is 2430 pcm.	
<u>STANDARD:</u>	Operator enters Xenon values and calculates the change in reactivity due to Xenon.	
	$\Delta\rho_{\text{XENON}} = -2430 \text{ pcm XE}_2 - (-2250 \text{ pcm}) \text{ XE}_1 = -180 \text{ pcm}$	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP *12.: $\Delta\rho_{\text{RODS}} = \text{_____ pcm Rods}_2 - \text{_____ pcm Rods}_1 = \text{_____ pcm}$</p> <p>STANDARD: Operator uses proper curve Figure 4, BOL solid line to enter data. For 160 steps operator should enter -350 pcm. For 228 steps, operator should enter 0 pcm.</p> <p>$\Delta\rho_{\text{RODS}} = 0 \text{ pcm Rods}_2 - (-350) \text{ pcm Rods}_1 = 350 \text{ pcm}$</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 13.: $\Delta\rho_{\text{BORON}} = \text{_____ ppm Boron X _____ pcm/ppm Boron} = \text{_____ pcm}$ <small>(CURRENT)</small></p> <p>STANDARD: Operator enters 1400 ppm for current boron concentration. Operator utilizes Figure 5 to determine differential boron concentration for BOL 1450 ppm as -6.25 pcm/ppm.</p> <p>$\Delta\rho_{\text{BORON}} = 1450 \text{ ppm Boron X } -6.25 \text{ pcm/ppm Boron} = -9062.5 \text{ pcm}$</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 14.: $\text{_____ pcm } \Delta\rho_{\text{POWER DEFECT}} - \text{_____ pcm } \Delta\rho_{\text{XENON}} - \text{_____ } \Delta\rho_{\text{RODS}} + \text{_____ } \Delta\rho_{\text{BORON}} = \text{_____ pcm BORON}_2$</p> <p>STANDARD: Operator determines value for BORON₂ using data previously entered.</p> <p>$700 - (-180) - (350) + (-9062.5) = -7832.5 \text{ pcm}$</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 15.: $(\text{_____ pcm Boron } 2) + (\text{_____ pcm/ppm Boron Worth}) = \text{_____ Target ppm}$</p> <p>STANDARD: Operator determines Target ppm using data previously entered.</p> <p>$-7832.5 / -6.25 = 1253.2 \text{ ppm}$</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 16.: ENSURE independently verified by SRO</p> <p>STANDARD:</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time _____</p>

End of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM # 19X

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

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 _____

=====
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. Reset the Simulator to 100% Bol IC.
5. Use Override **ZAO??????????**, available via the menu path **/O OVRD/????????????????????** to create an obvious 5-6% 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 _____ 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	

=====

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><u>STEP</u> : Obtain copy of 1-SI-OPS-000-002.0 in progress.</p> <p><u>STANDARD</u>: Operator Obtains copy of 1-SI-OPS-000-002.0 Appendix A already in progress from the Evaluator.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p>Start Time___</p>	
<p><u>STEP</u> : Check position of 1-FCV-63-1A and 1-FCV-63-22A in the OPEN position.</p> <p><u>STANDARD</u>: 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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>	
<p><u>STEP</u> : 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><u>Cue</u>: <i>If operator informs the Unit Supervisor of the 1-LI-63-51 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><u>STANDARD</u>: Operator records RWST level instrument readings in Appendix A and identifies that deviation the between 1-LI-63-51 and the other RWST level channels does not meet the 5% deviation requirement in Note 39 (Critical). 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 style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: center;">Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP: Evaluates Technical Specification LCOs.</p> <p>Cue: <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>STANDARD: Operator Evaluates Tech Spec Requirements and determines the Following LCOs and actions are applicable: LCO 3.3.2.1 Action a & b. 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>Critical Step</p>	
<p>STEP: Operator completes an SPP-8.1 CTL.</p> <p>NOTE: Provide Operator blank copy of SPP-8.1 CTL when requested.</p> <p>STANDARD: 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>Critical Step</p>	
<p>STEP: 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>STANDARD: 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>STEP: 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>STANDARD: 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:</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).

NUCLEAR TRAINING					
REVISION/USAGE LOG					
REVISION NUMBER	DESCRIPTION OF REVISION	V	DATE	PAGES AFFECTED	PREPARED/REVISED BY:
0	Initial Issue	Y	11/05/03	All	SR Taylor
1	Added Cue	Y	3/29/04	6	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

JATA 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 for Unit 1 only.

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 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.
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** 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.**
8. **REMOVE** paper from printer from previous performance or setup for this JPM as applicable.
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 _____ 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.
Key to BETA 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.
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 per 0-SO-55-1, Section 6.1, Step 5. The SER Point number is 683 and is to be disabled for Unit 1 only.
3. Notify the Unit 1 US when you have completed Step 5.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 1:</u> Obtain Copy of required Procedure.</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>Start Time ___</p>
<p><u>STEP 2:</u> OBTAIN SER Operator Panel key from the SM</p> <p>NOTE: When Operator addresses obtaining Key provide him with the key for the Simulator SER Operator Panel.</p> <p><u>STANDARD:</u> Obtains SER Operator Panel key.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> PLACE NORMAL/ENABLE/DISABLE key switch to the ENABLE/DISABLE position.</p> <p><u>STANDARD:</u> Momentarily Places NORMAL/ENABLE/DISABLE key switch to the ENABLE/DISABLE position on SER Operator Panel</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 4:</u> ENTER 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>Critical Step</p>
<p><u>STEP 5:</u> DEPRESS the ENTER P/B.</p> <p><u>STANDARD:</u> Operator DEPRESSES the ENTER P/B on SER Operator Panel.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 6:</u> VERIFY SER point changed to reflect "DISABLED" status.</p> <p>Cue: <i>SER point number 683 was disabled.</i></p> <p><u>STANDARD:</u> Operator verifies status change is printed by the SER Printer.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 7: GO TO unit 1 or unit 2 ICS keyboard terminal.</p> <p>STANDARD: Operator goes to an operable Unit 1 Simulator ICS terminal.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 8: GO TO ALARM section in upper left hand corner, AND left mouse click.</p> <p>STANDARD: Operator goes to the "ALARM" menu section in upper left hand corner, AND left mouse click for drop down menu.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 9: SELECT on "Delete From Process".</p> <p>STANDARD: Operator should select "Delete From Processing" from the drop down menu.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 10: ENTER the Beta computer point number.</p> <p>NOTE: Operator will have to select "By Point ID" in the next window to bring up Point ID entry window before point ID can be entered.</p> <p>STANDARD: Operator enters the Point ID as follows "1B0683A" to disable the point in the "A" channel and "1B0683B" when the "B" channel is disabled.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 11: ENTER your name in space labeled Modified By.</p> <p>STANDARD: Operator enters name on ICS screen.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 12: ENTER the reason for the computer point removal.</p> <p>STANDARD: Operator enters appropriate reason on ICS screen.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 13: DEPRESS F-3 to EXECUTE</p> <p>STANDARD: Operator depresses the F-3 key on the ICS keyboard or clicks on the "F-3 Execute" button at the bottom of the display screen.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 14: OBSERVE the Current Value and Current Quality color change to blue, AND the Current Quality Status changes to UNK.</p> <p>Cue: <i>If ICS is working properly, color should change to Blue and Current Quality Status should change to UNK if it does NOT, cue that it did.</i></p> <p>STANDARD: Operator verifies the Current Value and Current Quality color change to blue, and the Current Quality Status changes to UNK.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 15: REPEAT steps f through l for the other Beta computer point channel.</p> <p>STANDARD: Operator repeats steps for the other channel.</p> <p>NOTE: JPM Steps are repeated below for the other channel.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 16: GO TO ALARM section in upper left hand corner, AND left mouse click.</p> <p>STANDARD: Operator goes to the "ALARM" menu section in upper left hand corner, AND left mouse click for drop down menu.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 17: SELECT on "Delete From Process".</p> <p>STANDARD: Operator should select "Delete From Processing" from the drop down menu.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 18: ENTER the Beta computer point number.</p> <p>NOTE: Operator will have to select "By Point ID" in the next window to bring up Point ID entry window before point ID can be entered.</p> <p>STANDARD: Operator enters the Point ID as follows "1B0683A" to disable the point in the "A" channel and "1B0683B" when the "B" channel is disabled.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 19: ENTER your name in space labeled Modified By.</p> <p>STANDARD: Operator enters name on ICS screen.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 20: ENTER the reason for the computer point removal.</p> <p>STANDARD: Operator enters appropriate reason on ICS screen.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 21: DEPRESS F-3 to EXECUTE</p> <p>STANDARD: Operator depresses the F-3 key on the ICS keyboard or clicks on the "F-3 Execute" button at the bottom of the display screen.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 22: OBSERVE the Current Value and Current Quality color change to blue, AND the Current Quality Status changes to UNK.</p> <p>Cue: <i>If ICS is working properly, color should change to Blue and Current Quality Status should change to UNK if it does NOT, cue that it did.</i></p> <p>STANDARD: Operator verifies the Current Value and Current Quality color change to blue, and the Current Quality Status changes to UNK.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 16: IF the annunciation SER is transmitted to the other unit, THEN.....</p> <p>STANDARD: Operator N/As this step.</p>	<p>___ SAT ___ UNSAT</p>
<p>STEP 17: REFER TO OPDP-4, <i>Annunciator Disablement</i>, for documentation and tracking of annunciator point(s).</p> <p>Cue: <i>Unit 1 SRO will address OPDP-4 requirements.</i></p> <p>STANDARD: Operator addresses OPDP-4.</p>	<p>___ SAT ___ UNSAT</p>
<p>STEP 18: Inform Unit 1 US that SER Point 683 has been disabled in accordance with 0-SO-55-1, Section 6, Step 5.</p> <p>NOTE: Role Play as Unit 1 Unit Supervisor.</p> <p>STANDARD: Operator informs Unit 1 US that SER Point 683 has been disabled in accordance with 0-SO-55-1, Section 6, Step 5.</p>	<p>___ SAT ___ UNSAT</p> <p>Stop Time ___</p>

End of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM # 180

2 'A' RHR Heat Exchanger Radiological Work Permit Evaluation And Survey Map Data Review

**PREPARED/
REVISED BY:** William O. Lovelace Date/12/10/2003

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	12/10/03	All	W. O. Lovelace
	Revised to incorporate validation comments.		3/25/04		

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 dose rate, total estimated dose, and the best place to stand within the Rad Boundary during a work delay.

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 Local

Tools/Equipment/Procedures Needed:

RWP 03017031 & Survey #112203-15

REFERENCES:

	Reference	Title	Rev No.
A	Permit Number 03317031	Radiological Work Permit	
B	Survey Number 112203-15	A414 RHR & Containment Spray Hxs 2A	

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:

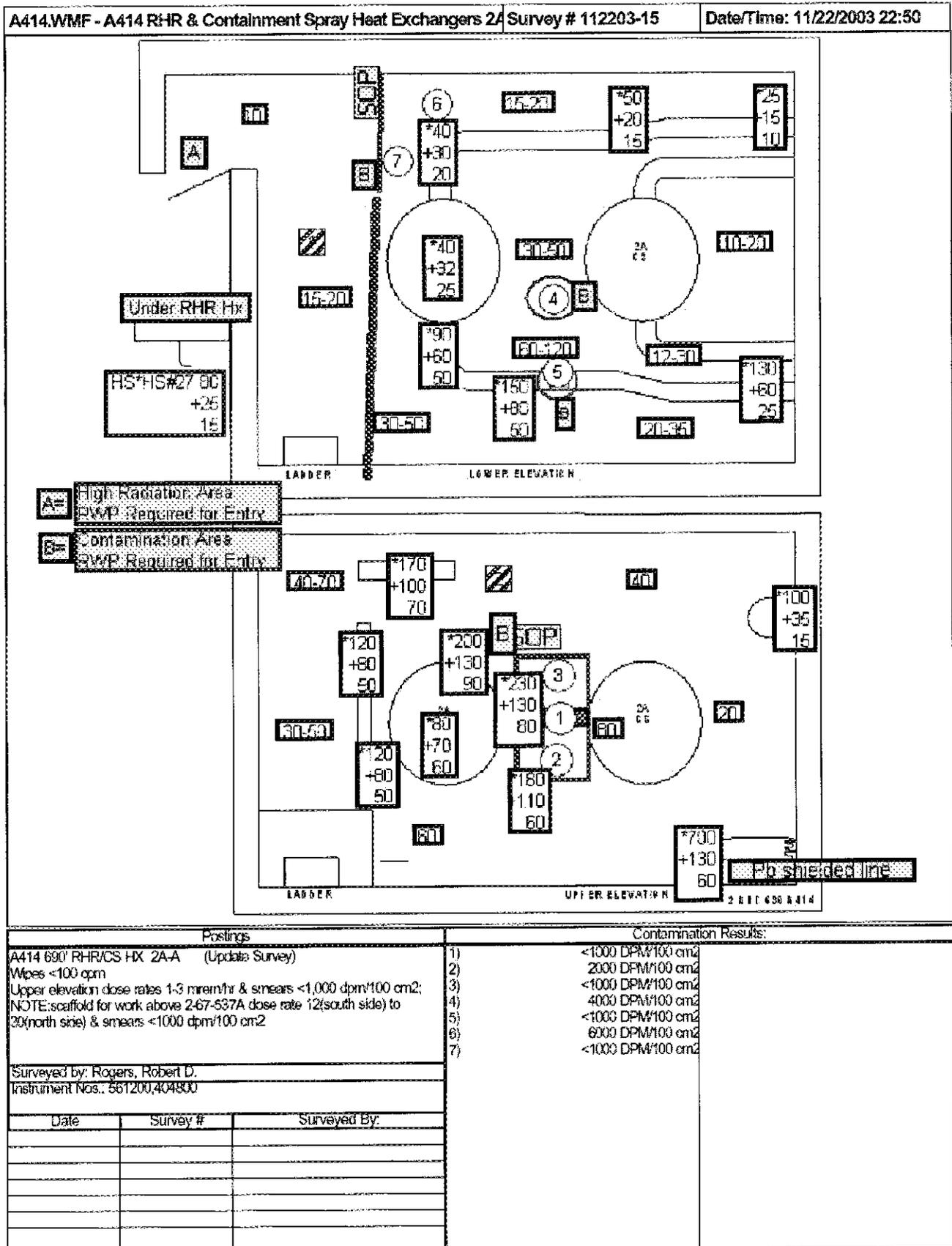
1. Utilize RWP 03017031 & Survey #112203-15 for this JPM.
2. Work in a high contamination area is covered.
3. The dosimetry requirements are specified.
4. The settings for the dose alarm and the dose rate alarm setpoints are specified.
5. It is estimated that 2 workers will each spend 45 minutes removing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

INITIATING CUES:

From the information provided, determine the following:

1. Anti-contamination clothing requirements, if this were a job in a HIGH CONTAMINATION AREA.
2. Required dosimetry for the RWP.
3. The dose alarm and dose rate alarm setpoints.
4. Exposures for each worker, assuming they spend the entire 45 minutes at the RHR Heat Exchanger.
5. As one of the workers is taking the insulation off of the RHR heat exchanger, the other worker is checking over the tools and notices that the torque wrench calibration date has expired. If the worker removing the insulation finishes before the worker returns with the in date calibrated torque wrench, where in the Rad boundary should he stand for ALARA considerations?

Sequoyah Nuclear Station VSDS Survey Report



Sequoyah Nuclear Plant

Unit: 2
Permit Number: 03017031
Revision Number: 0
Page: 1

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 U1C12 REFUELING OUTAGE.

ANTI-CONTAMINATION CLOTHING REQUIREMENTS

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	
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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

Sequoyah Nuclear Plant

Unit: 2
Permit Number: 03017031
Revision Number: 0
Page: 2

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 ESP 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

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP:</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><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p>Critical Step</p>
<p><u>STEP:</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><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p>Critical Step</p>
<p><u>STEP:</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><input type="checkbox"/> SAT</p> <p><input type="checkbox"/> UNSAT</p> <p>Critical Step</p>
<p><u>STEP:</u> It is estimated that 2 workers will spend a total of 45 minutes removing insulation, checking the head bolt torque, and replacing the insulation on 2A RHR Heat Exchanger. What dose will they each receive for this work?</p> <p><u>STANDARD:</u> 45 minutes = .75 hour therefore: .75hr. X 25mrem/hr.(General Area—dose rate at 1 meter = 18.75 mrem</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><u>STEP :</u> As one of the workers is taking the insulation off of the RHR heat exchanger, the other worker is checking over the tools and notices that the torque wrench calibration date has expired. If the worker removing the insulation finishes before the worker returns with the in date calibrated torque wrench, where in the Rad boundary should he stand for ALARA considerations?</p> <p><u>STANDARD:</u> In the *25/15/10 corner (lower elevation).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>

End Of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM # 179

Evaluate Worker Exposure

**PREPARED/
REVISED BY:** William O. Lovelace Date/12/03/2003

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	12/03/03	All	W. O. Lovelace

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 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:
Letdown line = 700 MR/hr
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. Dose for workers up to this time is as follows:
Worker 'A' = 530 MR
Worker 'B' = 630 MR
Worker 'C' = 4620 MR

INITIATING CUES:

Assuming all three workers will spend the entire 12 hours in the charging pump room, determine their exposures and any administrative requirements that would have to be satisfied.

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP</u> : Determine Worker 'A' exposure and administrative requirements.</p> <p><u>STANDARD</u>: Worker 'A' exposure is calculated to be 1010 MR. The Worker will need an Administrative Dose Level Extension requested by his supervisor and authorized by the RAD CHEM Manager.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;">Critical Step</p>	
<p><u>STEP</u> : Determine Worker 'B' exposure and administrative requirements.</p> <p><u>STANDARD</u>: Worker 'B' exposure is calculated to be 1110 MR. The Worker will need an Administrative Dose Level Extension requested by his supervisor and authorized by the RAD CHEM Manager.</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;">Critical Step</p>	
<p><u>STEP</u> : Determine Worker 'C' exposure and administrative requirements.</p> <p><u>STANDARD</u>: Worker 'C' exposure is calculated to be 5100 MR. The Worker will need an Administrative Dose Level Extension requested by his supervisor and authorized by the RAD CHEM Manager, Plant Manager, Site Vice President (or SED as appropriate).</p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p> <p style="text-align: right;">Critical Step</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)

JA/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 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 and EPIP-4

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.

The simulator is NOT representative of the scenario you are about to address.

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 EIPs 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>NOTE: The leak rate is ~128 gpm (140 - 12 gpm RCP seal leakoff).</p> <p>STANDARD: 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>Critical Step</p> <p>Task Start Time</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>STANDARD: Operator implements an SITE AREA EMERGENCY utilizing EPIP-4, Section 3.1. Operator should classify the event within 15 minutes 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>Critical Step</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>STANDARD: 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>Cue: <i>If operator requests respond "TSC has not been manned".</i></p> <p>STANDARD: 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
<p><u>STEP 5.</u> [2] RECORD time of declaration. TIME _____</p> <p>NOTE: Operator may have already stated time of declaration, but must enter time properly in EPIP-4 form.</p> <p><u>STANDARD:</u> Operator should enter proper time that declaration was made.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 6.</u> [3] ACTIVATE Emergency Paging System (EPS) as follows:</p> <p>[a] IF EPS has already been activated, THEN GO TO Step 4.</p> <p>NOTE: The SQN EPS is out of service per initial conditions.</p> <p><u>STANDARD:</u> Operator continues to implement Step [3] actions.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><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.</p> <p>NOTE: There is no indication of an onsite Security event given in the initial conditions.</p> <p><u>STANDARD:</u> Operator continues to implement Step [3] actions.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><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.</p> <p>NOTE: There is no indication of an onsite event which is making site access dangerous to responders given in the initial conditions.</p> <p><u>STANDARD:</u> Operator continues to implement Step [3] actions.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 9.</u> [d] ACTIVATE EPS using touch screen terminal. IF EPS fails to activate, THEN continue with Step 4.</p> <p>NOTE: The SQN EPS is out of service per initial conditions.</p> <p><u>STANDARD:</u> Operator continues with Step [4].</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 12.</u></p> <p>NOTE:</p> <p>Cue:</p> <p>STANDARD:</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><i>Role play as the ODS, and report that the EPS has been activated as requested.</i></p> <p>Operator continues to implement Step [5] actions.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 13.</u></p>	<p>[b] READ completed Appendix B to ODS.</p> <ol style="list-style-type: none"> 1. This is a Drill 2. This is SED (Their name) Sequoyah has declared a SITE AREA EMERGENCY affecting Unit 1 3. EAL Designators Potential LOSS 1.2.2 and Potential LOSS 1.3.4 4. Brief description of incident: {Leak exceeding one CCP capacity AND Unexpected VALID increase in Area or Vent Rad Monitors} 5. Radiological Conditions [Airborne Release Offsite] [Release information not known] [Liquid Release Offsite] [Release information not known] or [Minor releases within federally approved limits] 6. Event Declared: [Time and Date] 7. Protective Action Recommendation: [NONE] 8. Ask the ODS to repeat the information he has received to ensure accuracy. 9. Time and Date this information was provided. _____ / _____ <p>Cue: <i>Role play as the ODS, and repeat back Appendix B information..</i></p> <p>STANDARD: 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>Critical Step</p>
<p><u>STEP 14.</u></p> <p>Cue:</p> <p>Caution:</p> <p>STANDARD:</p>	<p>[c] FAX Appendix B to the ODS.</p> <p><i>The support AUO will send the FAX for you.</i></p> <p>DO NOT LET THE EXAMINEE FAX THE FORM</p> <p>Operator addresses Faxing the Notification Form to the ODS.</p>	<p>___ SAT</p> <p>___ UNSAT</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<u>STEP 15.</u>	[d] MONITOR for confirmation call from ODS that State/Local notifications complete: RECORD time State notified. _____ <u>Cue:</u> <i>After 5 minutes have elapsed, role play as the ODS and report that State/local notifications are complete</i> <u>STANDARD:</u> Operator records time of notification.	___ SAT ___ UNSAT
<u>STEP 16.</u>	[6] IF ODS CANNOT be contacted within 10 minutes of declaration, THEN <u>STANDARD:</u> Operator N/As this step and continues.	___ 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) <u>Cue:</u> <i>The Operations Clerk will make appropriate calls to personnel to staff the TSC and OSC.</i> <u>STANDARD:</u> 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.) <u>Cue:</u> <i>No personnel are available to perform Appendix A.</i> <u>STANDARD:</u> Operator performs continues to Appendix A.	___ SAT ___ UNSAT
NOTE:	The following steps are contained in Appendix A, Notifications and Announcements.	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 19.</u> [1] IF there is a security threat, THEN</p> <p><u>Cue:</u> There have been no reports of an onsite Security event.</p> <p><u>STANDARD:</u> Operator N/As this step and continues.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><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.</p> <p><u>Cue:</u> As the Radcon Shift Supervisor, acknowledge the report.</p> <p><u>STANDARD:</u> Operator makes the notification and directs the Radcon Shift Supervisor to implement EPIP-14 AND CECC EPIP-9.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p><u>STEP 20.:</u> [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><u>Cue:</u> As the Chemistry Shift Supervisor, acknowledge the report.</p> <p><u>STANDARD:</u> Operator makes the notification and directs the Chemistry Shift Supervisor to implement EPIP-14.</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 21.:</u> [4] Announce to plant personnel:</p> <p>"ATTENTION PLANT PERSONNEL. ATTENTION PLANT PERSONNEL. A SITE AREA EMERGENCY HAS BEEN DECLARED BASED ON Potential LOSS (RCS Leakage/LOCA) AND Potential LOSS (Containment Bypass). AFFECTING UNIT 1." Repeat the announcement.</p> <p><u>STANDARD:</u> Operator makes the PA announcement.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 22.:</u> [5] Notify the Plant Management in accordance with SPP-3.5 and Provide SAE information.</p> <p>NOTE: Activation of the EPS will make the Plant Management aware of the REP actuation, however administrative procedures require notification.</p> <p>Cue: <i>As plant management, acknowledge the report.</i></p> <p><u>STANDARD:</u> Operator contacts Plant Management and informs them of the REP classification and provides SAE information from appendix B.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	
<p><u>STEP 23.:</u> [6] Notify the "On-Call" NRC Resident AND PROVIDE SAE Information.</p> <p>Cue: <i>As the NRC resident, acknowledge the report.</i></p> <p><u>STANDARD:</u> Operator should notify the "On-Call" NRC Resident and provide SAE Information (Appendix B).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 24.: [7] Notify the NRC of plan activation via ENS phone.</p> <p>Cue: <i>As the NRC, acknowledge the report.</i></p> <p>STANDARD: Operator should notify the NRC (headquarters) as soon as practicable, but within 1 Hr. of declaration of the event. Operator provides SAE information (Appendix B).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p> <p>Time of Notification:</p> <p>_____</p>
<p>STEP 25.: [8] Notify the SM/SED phone that notifications are complete.</p> <p>Cue: <i>SM/SED acknowledges.</i></p> <p>STANDARD: Notify the SM/SED that the notification are complete.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: After completing Appendix A, Notifications and Announcements, the operator returns to Section 3.1, Step [9]</p>	
<p>STEP 26. [9] GO TO Section 3.3</p> <p>STANDARD: Operator implements Section 3.3.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: Following steps from EPIP-4, Section 3.3</p>	

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p><u>STEP 27.:</u></p> <p><u>Cue:</u></p> <p><u>STANDARD:</u></p>	<p>[1] MONITOR radiation monitors.</p> <p><i>Per initiating cues, RM 101B is increasing. When examinee uses ICS or RM indication to determine effluent radiation levels per Tables 7-1 and 7-2 of EPIP-1, cue the operator: 0-RM-90-101B: ~ 7.9E+4 cpm 1-RM-90-400: ~ 4E+4 µCi/s 0-RM-90-400: ~ 1E+3 mr/hr All other RM reading ~ normal Field Surveys are in progress</i></p> <p>Operator should use either ICS or the RP-30 modules to monitor effluent radiation. No additional classifications determined.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 28.:</u></p> <p><u>Cue:</u></p> <p><u>STANDARD:</u></p>	<p>[2] When indication exists of an unplanned radiological release, THEN ENSURE Dose Assessment is performed.</p> <p>[a] IF the CECC has not assumed the responsibility, THEN NOTIFY Chemistry to perform a dose assessment using EPIP-13 "Dose Assessment" AND PROVIDE the following information:</p> <ol style="list-style-type: none"> 1. Type of event. 2. Release Path 3. Expected Duration. <p><i>Per initiating cues, RM 101B is increasing. When examinee uses ICS or RM indication to determine effluent radiation levels per Tables 7-1 and 7-2 of EPIP-1, cue the operator: 0-RM-90-101B: ~ 7.9E+4 cpm 1-RM-90-400: ~ 4E+4 µCi/s 0-RM-90-400: ~ 1E+3 mr/hr All other RM reading ~ normal Field Surveys are in progress</i></p> <p>Operator directs Chemistry Shift Supervisor to perform a dose assessment per EPIP-13, provides type of event, release path, and expected duration. The event type is a LOCA outside containment, release path through the AB stack, expected duration is unknown.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 29.:</u> If personnel accountability has not been previously initiated, THEN ACTIVATE assembly and accountability using EPIP-8, Appendix C. (may be delegated.)</p> <p><u>Cue:</u> Additional personnel will perform EPIP-8, Appendix C actions.</p> <p><u>STANDARD:</u> Operator addresses the need to implement EPIP-8, Appendix C.</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p><u>STEP 30.:</u> MONITOR plant conditions AND EVALUATE using EPIP-1.....</p> <p><u>Cue:</u> If operator begins Monitoring plant conditions, THEN tell him "The TSC is staffed and will COMPLETE SAE follow-up Form".</p> <p><u>STANDARD:</u> Operator addresses completing SAE follow-up Form (page 16).</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Stop Time___</p>

End of JPM

SEQUOYAH NUCLEAR PLANT JOB PERFORMANCE MEASURE

JPM 223R

Control Room Actions of AOP-N.08 for Fire U1 Reactor Building #1 Fan Room

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	Y	10/1/2002	All	GS 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: Control Room Actions of AOP-N.08 for Fire U1 Reactor building Fan Room

JA/TA task #: (RO)

K/A Ratings: 2.4.27 (3.0/3.5) 2.1.30 (3.9/3.4) 067AA2.16 (3.3/4.0)
067AK3.04 (3.3/4.1) 004A4.08 (3.8/3.4) 004A4.11 (3.4/3.3)

Task Standard: Identify time Critical actions performed outside of the control room

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. 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. 35 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 Reactor Building Fan Room #1.
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**
- **PZR Press. is 2235 psig**
- **PZR Level is 33% and rising**
- **CST Level is 40%**
- **Seal Injection is 7 gpm per RCP**
- **Tavg is 552 °F**

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 16.2.b is complete.

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 1.: 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>Cue <i>AUO's are notified and report to the Control Room</i></p> <p>Evaluator Note: Step 16 of AOP-N.01</p> <p>STANDARD: 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>Critical step</p> <p>Time Start:</p> <p>_____</p>
<p>STEP 2.: IDENTIFY applicable section of AOP-N.08 based upon location of fire:</p> <p>Cue: <i>Steps 1 through 7 of AOP-N.08 are not applicable at this time</i></p> <p>STANDARD: Operator determines that AOP-N.08 Section 2.72 is applicable</p> <ol style="list-style-type: none"> 1) Operator goes to AOP-N.08 Section 2.0 Give Cue Above 2) At Step 8, AOP-N.08, Operator determines Step 16 is appropriate 3) At Step 16, AOP-N.08, Operator determines Section 2.72 is appropriate 	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 3.: DETERMINE time critical local operator actions in the applicable section:</p> <p>Evaluator Info.: <i>The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.72</i></p> <ol style="list-style-type: none"> 4) Operator goes to Section 2.72, Step 1 5) Operator verifies fire is in U1 Ctmt Outside Polar crane wall 6) Operator @ Step 2, determines step is N/A <p>STANDARD: Operator determines that:</p> <p>Fire is outside polar crane wall. (Critical Step)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>

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Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 4: DETERMINE 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 2.72</p> <p>7) Operator @ Step 3 determines fire is between AZ 270 ° - 33 ° 8) Operator @ Step 4.a.1), determines App. F.1, Step 8 is N/A 9) Operator @ Step 4.a.2), determines App. F.1, Step 2 is required</p> <p>STANDARD: Operator determines that:</p> <p>Fire is between AZ 270 ° - 33 ° App. F.1, Step 8 is N/A. App. F.1, Step 2 is required</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>
<p>STEP 5: DETERMINE 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 2.72</p> <p>10) Operator @ Step 4.a.3, determines App. F.1, Step 3 is required 11) Operator @ Step 4.b, determines App. G is required 12) Operator @ Step 4.c, determines step is required 13) Operator @ Step 5, determines step is N/A</p> <p>STANDARD: Operator determines that:</p> <p>Appendix F.1, Step 3 is required (60 min) Appendix G is required and is time critical (30 min) Step 4.c is required and is time critical (60 min)</p>	<p>___ SAT</p> <p>___ UNSAT</p> <p>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD		SAT/UNSAT
<p>STEP 6.: DETERMINE time critical local operator actions in the applicable section:</p> <p><i>Evaluator Info.: The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.72</i></p> <p>Cue for #18 below: 1B-B CCP running</p> <p>14) Operator @ Step 6, determines App. A is required 15) Operator @ Step 7, determines step is N/A 16) Operator @ Step 8, determines step is N/A 17) Operator @ Step 9, determines step is N/A 18) Operator @ Step 10, determines step is N/A 19) Operator @ Step 11, determines step is N/A</p> <p>STANDARD: Operator determines that: Appendix A is required Steps 7 through 11 are N/A and 1B-B CCP is running</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 7.: DETERMINE time critical local operator actions in the applicable section:</p> <p><i>Evaluator Info.: The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.72</i></p> <p>20) Operator @ Step 12, determines step is N/A</p> <p>STANDARD: Operator determines that: Step 12 is not applicable</p>	<p>___ SAT</p> <p>___ UNSAT</p>	
<p>STEP 8.: DETERMINE time critical local operator actions in the applicable section:</p> <p><i>Evaluator Info.: The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.2</i></p> <p>21) Operator @ Step 13, determines table 2.72-1 to be used</p> <p>STANDARD: Operator determines that: Table 2.72-1 to be used</p>	<p>___ SAT</p> <p>___ UNSAT</p>	

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 9: DETERMINE time critical local operator actions in the applicable section:</p> <p><i>Evaluator Info.: The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.72</i></p> <p>22) Operator @ Step 14, determines step is N/A 23) Operator @ Step 15, determines step is N/A 24) Operator @ Step 16, determines step is N/A</p> <p>STANDARD: Operator determines that: Steps 14 through 16 are N/A</p>	<p>___ SAT ___ UNSAT</p>
<p>STEP 10: DETERMINE time critical local operator actions in the applicable section:</p> <p><i>Evaluator Info.: The below information is needed to work through AOP-N.08 if the operator reads each step in Section 2.72</i></p> <p>25) Operator @ Step 17, determines App. L is required 26) Operator @ Step 18, determines step is N/A 27) Operator @ Step 19, determines step is N/A</p> <p>STANDARD: Operator determines that: App. L is required and is time critical (60 min) Steps 18 and 19 are N/A</p>	<p>___ SAT ___ UNSAT</p> <p>Critical Step</p>

Job Performance Checklist:

STEP/STANDARD	SAT/UNSAT
<p>STEP 11.: DETERMINE 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 2.72</p> <p>28) Operator @ Step 20, determines step is N/A 29) Operator @ Step 21, determines step is N/A</p> <p>STANDARD: Operator determines that: Steps 20 and 21 are N/A</p>	<p>___ SAT ___ UNSAT</p>
<p>STEP 12.: Provide AUOs with applicable AOP-N.08 appendices.</p> <p>Cue: Respond as the individual AUO and accept the Appendices</p> <p>STANDARD: CRO provides Appendix F.1, G, and L (critical step) Step 4.c, Essential Air is isolated (60 min) CRO may provide other appendices (non-critical)</p>	<p>___ SAT ___ UNSAT</p> <p>Critical Step</p> <p>Time Stop: _____</p>

End of JPM