

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM						
SYSTEM:	Rod Control System						
TASK:	Respond to Main Turbine runback with malfunctioning Rod Control						
TASK NUMBER:	N1140100401						
JPM NUMBER:	07-01 NRC Sim a						
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	001 A4.03				
APPLICABILITY:	<table style="width: 100%; border: none;"><tr><td style="width: 25%;">EO <input type="checkbox"/></td><td style="width: 25%;">RO <input checked="" type="checkbox"/></td><td style="width: 25%;">STA <input type="checkbox"/></td><td style="width: 25%;">SRO <input checked="" type="checkbox"/></td></tr></table>			EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>				
EVALUATION SETTING/METHOD:	Simulator						
REFERENCES:	S2.OP-AB.CN-0001, Rev. 23						
TOOLS AND EQUIPMENT:	None						
VALIDATED JPM COMPLETION TIME:	<u>2 min</u>						
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	<u>N/A</u>						
Developed By:	<u>G Gauding</u> Instructor	Date:	<u>6/9/08</u>				
Validated By:	<u>Scott Jones</u> SME or Instructor	Date:	<u>6/11/08</u>				
Reviewed By:	<u>[Signature]</u> Operations Representative	Date:	<u>6-29-08</u>				
Approved By:	<u>[Signature]</u> Training Department	Date:	<u>6/27/08</u>				
ACTUAL JPM COMPLETION TIME:							
ACTUAL TIME CRITICAL COMPLETION TIME:							
PERFORMED BY:							
GRADE: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT							
REASON, IF UNSATISFACTORY:							
EVALUATOR'S SIGNATURE:		DATE:					

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Rod Control System

TASK: Respond to Main Turbine runback with malfunctioning Rod Control

**TASK
NUMBER:** N1140100401

**INITIAL
CONDITIONS:**

IC-145

100% power

Main Turbine fails to runback when demanded

Auto Rod speed control failed at 8 spm.

INITIATING CUE:

You are the Reactor Operator. Respond to all indications and alarms.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Rod Control System

TASK: Respond to Main Turbine runback with malfunctioning Rod Control

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Simulator Operator: Insert RT-1 on direction from Evaluator. - SGFP Trip - Main Turbine Fails to runback when demanded. - Rod Control Speed fails at 8 spm			
	2.2	2.2 IF Turbine Power is $\geq 70\%$ (Ptip ≥ 549.4 psia) AND loss of a single SGFP has occurred, THEN: 2.2.1 PERFORM one of the following at the TURBINE E-H CONTROL & STATUS "touch screen" monitor – OPERATIONS screen:	Candidate acknowledges alarms and indications of SGFP trip. Performs the Immediate Actions of S2.OP-AB.CN-0001, Main Feedwater / Condensate System Abnormality as below:		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Rod Control System

TASK: Respond to Main Turbine runback with malfunctioning Rod Control

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		<p>A. VERIFY Automatic Turbine Runback has or is occurring as indicated:</p> <ul style="list-style-type: none"> • SGFP RUNBACK OPERATE (red) • GENERATOR LOAD trending to ~775 MW • TURBINE INLET PRESSURE trending to ≤ 518.0 psia <p style="text-align: center;"><u>OR</u></p>	Candidate identifies that an AUTO MT runback has NOT occurred.		
*		<p>B. INITIATE Main Turbine load reduction until $\leq 66\%$ Turbine Power (Ptip ~ 518.0 psia) <u>OR</u> SGFP suction pressure > 320 psig is achieved.</p> <ol style="list-style-type: none"> 1. <u>IF RAMP RATES ARE NOT PRESET....</u> 2. SELECT SETTER - GO 	Candidate identifies ramp rates are pre-set for a runback as expected at 100% power, and touches GO on touch screen. Verifies MT begins reduction.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Rod Control System

TASK: Respond to Main Turbine runback with malfunctioning Rod Control

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*		<p>2.2.2 CONTROL Tavg by one of the following:</p> <p>A. ENSURE ROD BANK SELECTOR SWITCH in AUTO</p> <p><u>OR</u></p> <p>B. INSERT control rods to restore Tavg to Tref (Attachment 2 Section 3.0)</p>	<p>Candidate will initially ensure Rod Control is in AUTO. As the RCS heats up during the downpower, candidate will identify rods inserting at only 8 spm when a higher rod speed should be demanded due to large Terr.</p> <p>Candidate places Rod Bank Selector Switch to MANUAL and inserts rods at 48 spm.</p>		
			<p>Terminate JPM once rod insertion in Manual is under way.</p>		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

Unit is in MODE 1, 100% power.

INITIATING CUE:

You are the Reactor Operator. Respond to all indications and alarms.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION: SALEM

SYSTEM: CVCS

TASK: Place CVCS make-up control in the MANUAL Mode.

TASK NUMBER: 004 013 01 01

JPM NUMBER: 07-01 NRC Sim b

ALTERNATE PATH: ☐

K/A NUMBER: 004 A4.07

IMPORTANCE FACTOR:	<u>3.9</u>	<u>3.7</u>
	RO	SRO

APPLICABILITY:

EO ☐

RO ☒

STA ☐

SRO ☒

EVALUATION SETTING/METHOD: Simulator

REFERENCES: S2.OP-SO.CVC-0006, Rev. 21

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 10 min

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: G Gauding

Date: 6/9/08

Validated By: *Scott Jone*

Date: 6/11/08

Reviewed By: *[Signature]*

Date: 6-29-08

Approved By: *[Signature]*

Date: 6/27/08

Training Department

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE:

DATE:

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: CVCS

TASK: Place the CVCS make-up control in the MANUAL mode.

TASK NUMBER: 004 013 01 01

INITIAL CONDITIONS: VCT level transmitter LT-112 has failed. RCS boron concentration is 900 ppm. BAST boron concentration is 6,700 ppm. 2CV35 is selected to MAN TO VCT.

SIMULATOR SETUP: IC-141 created by:

- Lower VCT level to the AUTO M/U setpoint.
- Fail VCT LT-112 HIGH

INITIATING CUE:

You are the Reactor Operator. The CVCS AUTO Makeup function is inoperable due to the failure of LT-112. Perform a makeup to the VCT to 24% with the control system in MANUAL IAW S2.OP-SO.CVC-0006, Boron Concentration Control.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

*	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Operator obtains current revision of S2.OP-SO.CVC-0006.			
*	5.2.1	DETERMINE Boric Acid Flow Setpoint from S2.RE-RA.ZZ-0012, Figure(s), 100A, 100C, and 105 as applicable, OR as calculated and verified by the CRS/STA, AND RECORD Boric Acid Flow Setpoint.	Correct Figure to Use is 100A for 62 gpm Primary Water Flow with BAST concentration at normal ppm. 100C is wrong figure because it is for 9000 ppm boron which is not used during normal ops. Figure 105 is the correction factor for RCS temperatures less than 547, which N/A at 100% power. From the graph, setpoint is ~ 10 gpm. Allowable setpoint is 9 or 10 gpm. If candidate performs calculation using 900 ppm in RCS and 6,700 ppm in BAST, result is 9.6 gpm. Boric Acid setter is in 1 gallon increments.		
	5.2.2	IF required, THEN RESET COUNT A on the Makeup Flow Registers to zero IAW Exhibit 1.	Candidate resets COUNT A for Boric Acid and Primary Water flow IAW Exhibit 1.		
*	5.2.3	DEPRESS Makeup Control Mode Select STOP pushbutton.	Depresses STOP pushbutton and verifies STOP bezel illuminated.		
*	5.2.4	PLACE 2CV179, PRIMARY WATER FLOW, in MANUAL, AND CLOSE 2CV179.	For 2CV179 depresses MANUAL pushbutton and verifies MANUAL bezel illuminated. Depresses CLOSE pushbutton and verifies CLOSE bezel illuminated.		
*	5.2.5	PLACE 2CV172, BORIC ACID FLOW, in MANUAL, AND CLOSE 2CV172.	For 2CV172 depresses MANUAL pushbutton and verifies MANUAL bezel illuminated. Depresses CLOSE pushbutton and verifies CLOSE bezel illuminated.		

*	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5.2.6	ALIGN outlet of Boric Acid Blender to one of the following: A. OPEN 2CV185, MAKEUP FLOWPATH OR B. OPEN 2CV181, MAKEUP FLOWPATH	For selected flowpath, depresses OPEN pushbutton until OPEN bezel illuminated. NOTE: Preferred path is through 2CV185.		
* *	5.2.7	PERFORM the following as required to support current plant conditions: <ul style="list-style-type: none"> • START a Primary Water Pump • PLACE a Boric Acid Pump in MANUAL/FAST START 	NOTE: Normal configuration is ONE Boric acid pump running in AUTO SLOW, and NO Primary Water pumps running. Depresses START PB on either PW Pump and verifies START illuminated For selected Boric Acid Pump, depresses MANUAL and FAST START pushbuttons and verifies MANUAL and FAST START illuminated.		
*	5.2.8	ADJUST 2CV172 flow (FI110A) to the value recorded in step 5.2.1	Using INC/DEC pushbuttons, adjusts Boric Acid Flow to 9 or 10 gpm.		
	5.2.9	IF required Boric Acid flow is <u>NOT</u> achieved, THEN : <ul style="list-style-type: none"> • CLOSE 21CV160, RECIRC VALVE • CLOSE 22CV160, RECIRC VALVE 	Closing of the CV160 valves will NOT be required.		

*	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5.2.10	Manually ADJUST 2CV179 Setpoint to 62 gpm to obtain the required flow as indicated on FI111A (Refer to step 3.13)	<p>Using INC/DEC PB's, adjusts PW Flow to 62 GPM +/- 2 GPM</p> <p>Note: Step 3.13 is a precaution about receiving a flow deviation alarm if >100 gpm flow with 1 Primary Water Pump. If a flow deviation exists, automatic action will stop the makeup, and the candidate will re-establish makeup flow starting with step 5.2.8</p> <p>CUE: Once makeup is in progress and operator is monitoring VCT level via LT-114 using the Plant Computer, inform operator that VCT level is 24%.</p>		
	5.2.12	<p>When desired makeup is completed:</p> <p>A. CLOSE the following valves:</p> <ul style="list-style-type: none"> • 2CV179 • 2CV172 • 2CV185 • 2CV181 <p>B. STOP Primary Water Pump</p> <p>C. PLACE Boric Acid Pump selected in SLOW Speed</p> <p>D. PLACE the system in Automatic Makeup Mode IAW Section 5.1</p>	<p>Depresses the CLOSE pushbuttons for the valves and verifies the CLOSE pushbutton illuminates.</p> <p>Depresses STOP pushbutton for Primary Water Pump and verifies STOP illuminated.</p> <p>Places the Boric Acid Pump in AUTO and pump switches to SLOW speed.</p> <p>NOTE: The JPM is complete when the BA Pump is in SLOW.</p>		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. VCT level transmitter LT-112 has failed. RCS boron concentration is 900 ppm. BAST boron concentration is 6,700 ppm. 2CV35 is selected to MAN TO VCT.

INITIATING CUE:

You are the Reactor Operator. The CVCS AUTO Makeup function is inoperable due to the failure of LT-112. Perform a makeup to the VCT to 24% with the control system in MANUAL IAW S2.OP-SO.CVC-0006, Boron Concentration Control.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION: SALEM

SYSTEM: Pressurizer Pressure and Level

TASK: TCAF failed open Pressurizer Spray Valve (ALT PATH)

TASK NUMBER: 114 024 04 01

JPM NUMBER: 07-01 NRC Sim c

ALTERNATE PATH: ☐

K/A NUMBER: 010 A2.02

IMPORTANCE FACTOR:	<u>3.9</u>	<u>3.9</u>
	RO	SRO

APPLICABILITY:

EO ☐

RO ☒

STA ☐

SRO ☒

EVALUATION SETTING/METHOD: Simulator

REFERENCES: S2.OP-AB.PZR-0001, Rev. 16

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 3 min

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: G Gauding
Instructor

Date: 6/9/08

Validated By: Scott Jones
SME or Instructor

Date: 6/11/08

Reviewed By: [Signature]
Operations Representative

Date: 6-29-08

Approved By: [Signature]
Training Department

Date: 6/22/08

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE:

DATE:

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Pressurizer Pressure and Level

TASK: TCAF failed open pressurizer spray valve (2PS1)

TASK NUMBER: 114 024 04 01

INITIAL CONDITIONS:

IC-142

RT-1 2PS1 fails to position (0-100%)

The Rx is operating at 4.5% power. The power ascension is on hold temporarily. Rx power is stable.

INITIATING CUE:

You are the reactor operator. Respond to all indications and alarms.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Pressurizer Pressure and Level

TASK: TCAF failed open pressurizer spray valve (2PS1)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		SIMULATOR OPERATOR Insert RT-1 on direction of evaluator. MALF: PR0019A , 2PS1 fails to position (0-100%) Final Value=100			
	3.1	Operator responds to ↓ PZR Pressure and/or alarm and/or change in 2PS1 position. Initiate Att. 1 CAS	Enters S2.OP-AB.PZR-0001 directly or via an ARP. NOTE: It is acceptable for the operator to attempt closing PS1 prior to entering AB.PZR-001. Operator reviews CAS		
	3.2	Is POPS in service?	Answers NO		
	3.3	Is the controlling PZR Pressure Control Channel (I or III) failed?	Answers NO, and <u>GOES TO</u> Step 3.11		
	3.11	Is the Master Pressure Controller Failed? (Refer to Att. 2 for guidance)	Answers NO, and <u>GOES TO</u> Step 3.17 (may not refer to Att. 2 if 2PS1 has been noted open with pressure below closing setpoint.)		
#	3.17	Is a Spray Valve Failed? (Refer to Att. 2 for guidance)	Answers YES - notes 2PS1 is open		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Pressurizer Pressure and Level

TASK: TCAF failed open pressurizer spray valve (2PS1)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
#	3.18	PLACE the Spray Valve(s) in MANUAL	Selects MANUAL on 2PS1.		
#	3.19	OPERATE the Spray Valves to control pressure consistent with Att. 2.	Attempts to close 2PS1-notes that it does not respond.		
#	3.20	PLACE all PZR heaters in MANUAL and ON	Places all PZR heaters in MANUAL and ON		
#	3.21	Has pressure control been regained?	Answers NO		
#	3.22	Is RCS pressure dropping rapidly?	Answers YES		
#	3.23	Are Reactor Trip Breakers closed?	Answers YES		
*#	3.24 A	PERFORM the following TRIP the Reactor	Initiates a Reactor Trip using either MANUAL TRIP handle.		
*#	3.24 B	Is Reactor Trip confirmed?	Answers YES after confirming decreasing PRNIS Power < 5% and negative IR SUR.		
*#	3.24 C	STOP 21 AND 23 RCP	Depresses STOP PB on 21 and 23 RCP and verifies breakers opened.		
*#	3.24 D	IF PZR pressure continues to drop, <u>THEN</u> STOP all but one RCP.	Depresses STOP PB on 22 OR 24 RCP and verifies breakers opened.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Pressurizer Pressure and Level

TASK: TCAF failed open pressurizer spray valve (2PS1)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
#	3.24 E	GO TO 2-EOP-TRIP-1, Reactor Trip or Safety Injection, AND CONTINUE with this procedure	GO TO EOP-TRIP-1, and begins performing Immediate actions. CUE: When operator announces going to TRIP-1, state JPM is complete.		

Terminating Cue: Operator enters EOP-TRIP-1.

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. The Rx is operating at 4.5% power. The power ascension is on hold temporarily. Rx power is stable.

INITIATING CUE: You are the reactor operator. Respond to all indications and alarms.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM						
SYSTEM:	Residual Heat Removal						
TASK:	Swap Operating RHR loops with one loop aligned for ECCS						
TASK NUMBER:	N0050050101						
JPM NUMBER:	07-01 NRC Sim d						
ALTERNATE PATH:	<input type="checkbox"/>	K/A NUMBER:	005 A4.01 A4.02				
APPLICABILITY:		IMPORTANCE FACTOR:	<table style="width: 100%; border: none;"><tr><td style="width: 50%; text-align: center;">3.6 / 3.4</td><td style="width: 50%; text-align: center;">3.4 / 3.1</td></tr><tr><td style="text-align: center;">RO</td><td style="text-align: center;">SRO</td></tr></table>	3.6 / 3.4	3.4 / 3.1	RO	SRO
3.6 / 3.4	3.4 / 3.1						
RO	SRO						
	EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/> SRO <input checked="" type="checkbox"/>				
EVALUATION SETTING/METHOD:	Simulator						
REFERENCES:	S2.OP-SO.RHR-0001, Rev. 24						
TOOLS AND EQUIPMENT:	None						
VALIDATED JPM COMPLETION TIME:	<u>15</u> min						
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	<u>N/A</u>						
Developed By:	<u>G Gauding</u> Instructor	Date:	<u>6/9/08</u>				
Validated By:	<u>Scott Jones</u> SME or Instructor	Date:	<u>6/11/08</u>				
Reviewed By:	<u>[Signature]</u> Operations Representative	Date:	<u>6-29-08</u>				
Approved By:	<u>[Signature]</u> Training Department	Date:	<u>6/27/08</u>				
ACTUAL JPM COMPLETION TIME:							
ACTUAL TIME CRITICAL COMPLETION TIME:							
PERFORMED BY:							
GRADE: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT							
REASON, IF UNSATISFACTORY:							
EVALUATOR'S SIGNATURE:		DATE:					

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Residual Heat Removal

TASK: Swap Operating RHR loops with one loop aligned for ECCS

**TASK
NUMBER:**

**INITIAL
CONDITIONS:**

IC-172

Unit is in MODE 4

RCS pressure is 331 psig

RHR HX inlet temp is 287 degrees and stable

21 RHR loop is in service in shutdown cooling mode.

22 RHR loop is aligned for ECCS.

INITIATING CUE:

The CRS directs you swap shutdown cooling from loop 21 to loop 22 and align 21 loop for ECCS IAW S2.OP-SO.RHR-0001, Section 5.6. Prerequisites are complete, and precautions and Limitations have been reviewed. Field Operators are standing by in the field for component manipulations with appropriate tagging release.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Residual Heat Removal

TASK: Swap Operating RHR loops with one loop aligned for ECCS

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Provide operator copy of procedure with prerequisites initialed.			
			Reviews Prereqs, Precautions and Limitations.		
	5.6.1	<u>IF</u> 21 RHR loop....	NA's step.		
	5.6.2	<u>IF</u> 22 RHR loop is aligned for ECCS with 21 RHR loop in service for cooling, <u>THEN</u> PERFORM the following to place 22 RHR loop in service and align 21 loop for ECCS:			
	5.6.2.A	ENTER TSAS 3.5.3.b (Action a)	Cue: CRS will make the Tech Spec entry.		
	5.6.2.B	ENSURE 22RH29 in AUTO.	Checks 22RH19 AUTO MANUAL lights in AUTO.		

OPERATOR TRAINING PROGRAM
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NAME: _____

DATE: _____

SYSTEM: Residual Heat Removal

TASK: Swap Operating RHR loops with one loop aligned for ECCS

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	5.6.2.C	RELEASE tags from 22RH18, HX FLOW CONTROL	<p>Calls field operator and directs removal of RBT from 22RH18-A/S.</p> <p>Cue: Simulator Operator: After repeat back, inform candidate that the RBT is removed from 22RH18, and 22RH18 A/S is open.</p> <p>ALSO remove the bezel cover over the 22RH18 on 2CC1 and state: "For purposes of this JPM, the WCD for 22RH18 has been released and confirmed."</p>		
	5.6.2.D	CLOSE 22RH18 FLOW CONTROL.	Depresses the 22RH18 CLOSE PB and holds until the GREEN 22RH18 CLOSED light illuminates.		
*	5.6.2.E	OPEN 22RH17, RHR LTDWN ISOL VALVE.	<p>Calls field operator and directs 22RH17 be opened.</p> <p>Cue: After repeat back, INSERT RT-1 to open 22RH17 over a 30 second period, and report when open.</p>		
*	5.6.2.F	START standby Component Cooling Water Pump(s) <u>AND</u> open 22CC16, 22 RHR HX OUTLET.	Verifies ALL CCW pumps are in service. Depresses OPEN PB for 2CC16 and ensures the green CLOSED light extinguishes and the OPEN red light illuminates.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Residual Heat Removal

TASK: Swap Operating RHR loops with one loop aligned for ECCS

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5.6.2.G	<p>To heat up 22 RHR loop, PERFORM the following:</p> <ol style="list-style-type: none"> 1. Slowly OPEN 22RH12 RHR HX BYPASS VALVE 2. If required, THROTTLE OPEN 22RH18 to establish flow. 3. MONITOR parameters on the Plant Computer (as applicable) while heating up RHR. <ol style="list-style-type: none"> a. 21 RHR HX Inlet Temp T0630A b. 21 RHR HX Outlet Temp T0627A c. 22 RHR HX Inlet temp T0631A d. 22 RHR HX Outlet Temp T2360A 	<p>Simulator Operator: When requested to open 22RH12, insert RT-3 to open valve over a 2 minute time period. When valve is opened, call control room to report.</p> <p>If candidate does NOT open 22RH18, the heatup of the loop will take a long time since no flow is going through the HX.</p>		
*	5.6.2.H	When 22 RHR loop temperature is approximately equal to 21 loop temperature, START 22 RHR pump.	When candidate identifies that loop temperatures are equal, depresses START pushbutton for 22 RHR pump, and verifies red start light illuminated and current indicated.		

OPERATOR TRAINING PROGRAM
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NAME: _____

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SYSTEM: Residual Heat Removal

TASK: Swap Operating RHR loops with one loop aligned for ECCS

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5.6.2.I	Simultaneously perform the following to swap the RHR flow to 22 Loop: 1. Throttle OPEN 22RH18 2. Throttle CLOSE 21RH18 3. THROTTLE 2RH20 as necessary.	Candidate opens 22RH18 while closing 21RH18. Throttling of 2RH20 should not be require due to the small transfer (5%) of the RH18 position, but may be performed.		
*	5.6.2.J	CLOSE 21RH12 RHR HX BYPASS ISOLATION VALVE <u>AND ENSURE</u> 21RH19 opens as flow is reduced.	Simulator Operator: When requested, insert RT-5 to close the 21RH12 over a 2 minute time period, and report when it is shut.		
	5.6.2.K	CLOSE 21RH17 RHR LETDOWN ISOLATION VALVE.	Simulator Operator: When requested, insert RT-7 to close the 21RH17 over a 30 second period.		
	5.6.2.L	MAINTAIN 21 RHR loop minimum flow until cooled less than 200 degrees as indicated on Plant Computer point T0630A, 21 RHR HX Inlet Temperature.	Candidate monitors computer point and maintains minimum flow until inlet temperature is <200 degrees. Cue: Once candidate has identified computer point, CUE candidate that 21 RHR HX inlet temperature is below 200 degrees.		
*	5.6.2.M	STOP 21 RHR pump	Depresses STOP pushbutton for 21 RHR pump, and verifies green stop light illuminated and no current indicated.		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

Unit is in MODE 4

RCS pressure is 295 psig

RHR HX inlet temp

21 RHR loop is in service in shutdown cooling mode.

22 RHR loop is aligned for ECCS.

INITIATING CUE:

The CRS directs you swap shutdown cooling from loop 21 to loop 22 and align 21 loop for ECCS IAW S2.OP-SO.RHR-0001, Section 5.6. Prerequisites are complete, and precautions and Limitations have been reviewed. Field Operators are standing by in the field for component manipulations.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:

STATION:	SALEM		
SYSTEM:	Containment Cooling		
TASK:	Perform a CFCU Operability and Service Water Flow Verification		
TASK NUMBER:	220130201		
JPM NUMBER:	07-01 NRC Sim e		
ALTERNATE PATH:	<input type="checkbox"/>	K/A NUMBER:	2.2.12
APPLICABILITY:	IMPORTANCE FACTOR:		
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EVALUATION SETTING/METHOD:	Simulator		
REFERENCES:	S2.OP-ST.CBV-0003 Rev. 15 S2.OP-SO.CBV-0001 Rev. 31		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	10 min		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	N/A		
Developed By:	G Gauding Instructor	Date:	3/27/08
Validated By:	Scott J. [Signature] SME or Instructor	Date:	6/11/08
Reviewed By:	[Signature] Operations Representative	Date:	6-29-08
Approved By:	[Signature] Training Department	Date:	6/27/08
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT			
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:		DATE:	

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:****NAME:** _____**DATE:** _____**SYSTEM:** Containment Cooling**TASK:** Perform a CFCU Operability and Service Water Flow Verification**TASK NUMBER:** 220130201**INITIAL CONDITIONS:**

Reset Simulator to IC-1 100% BOL.

Rx power is 100% steady state.

INITIATING CUE:

You have been directed to perform S2.OP-ST.CBV-0003, Containment Systems-Cooling Systems surveillance for **25** CFCU for Post Maintenance Operability.

25 CFCU is filled and vented.

Component Off Normal Report has been reviewed with no abnormalities noticed.

Calibration data for required instruments has been obtained and recorded in appropriate Attachments.

The differential pressure gauge for 22 SW header has been installed.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		START TIME: _____			
		Provide candidate with marked up copy of S2.OP-ST.CBV-0003.	Prerequisites have been completed, but operator should review them before proceeding.		
			Operator reviews and initials Precautions and Limitations.		
			NOTE: There is no requirement to either start additional SW pumps OR stop any running CFCUs. There is a system requirement NOT to run 5 CFCUs in HIGH speed, but that is N/A here. However, candidate MAY start another SW pump OR stop a CFCU, which is acceptable.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.1.1	PERFORM test on each CFCU required to be tested IAW the following instruction: A. ENSURE the CFCU to be tested is in LOW SPEED IAW S2.OP-SO.CBV-0001, Containment Ventilation Operation.	Operator retrieves procedure, and reviews P&Ls, and Prerequisites. If needed, tell operator Components Off Normal review is complete and SAT. Operator starts 25 CFCU in LOW speed IAW Step 5.1.3 by: A. Ensuring CFCU is filled and vented (Initiating Cue) B. Ensure SW is available (must have been to fill CFCU.) C. PRESS FAN LOW SPEED START bezel. D. ENSURES damper alignment is correct. Roughing-shut HEPA inlet-open HEPA outlet-open E. Verifies SW flow >1465 gpm.		
	5.1.1 (cont)	B. RECORD Start Time in the applicable Attachments(s), Section 3.0, for the CFCU being tested	Operator records start time in Attachment 5		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
* *		C. When at least 15 minutes have elapsed, RECORD the following in the applicable Attachment(s), Section 3.0, for the CFCU being tested: 1. Stop Time 2. Cooling Water Flow Rate (gpm) 3. <u>IF</u> testing 21 <u>OR</u> 22 CFCU, <u>THEN</u> both 21 SW HDR ΔP is to be recorded. 4. <u>IF</u> testing 23 CFCU, <u>THEN</u> both 21 SW HDR ΔP <u>AND</u> 22 SW HDR ΔP are to be recorded (Refer to Step 3.5) 5. <u>IF</u> testing 24 <u>OR</u> 25 CFCU, <u>THEN</u> 22 SW HDR ΔP is to be recorded. 6. Test results by initialing the SAT or UNSAT column IAW the Acceptance Criteria stated in the Attachment	<p><u>CUE: 25 CFCU has been operating for 15 minutes.</u></p> <p>Operator records stop time, flow rate, and 22 SW header ΔP.</p> <p>Operator marks steps for 21-23 CFCU N/A.</p> <p><u>CUE: WHEN ASKED, report 22 SW header ΔP is 68 psid.</u></p> <p><u>See next page for discussion of Acceptance Criteria for ST.CBV-0003</u></p>		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.1.1 (cont)		<p>Exhibit 1 identifies the minimum flow rate associated with different SW header ΔP.</p> <p>P&L 3.4 states that when ΔP falls between two points on Att., the value shall be rounded up. The 68 psid reported by the field operator shall be rounded up to 70 psid, which yields a required minimum flow of 1447 gpm for 25 CFCU. The recorded flow for 25 CFCU recorded was ~1950 (depending on other CFCU status and number of SE pumps operating) gpm, so the minimum TS flow of 1465 is SAT, and the minimum flow for the ΔP is also SAT.</p>		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
 DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		<p>D. ALIGN the CFCUs as required to support current plant conditions IAW S2.OP-SO.CBV-0001, Containment Ventilation Operation.</p> <p>A. N/A for High Speed</p> <p>B. <u>IF</u> CFCU is running in Low Speed, <u>THEN</u> PRESS FAN LOW SPEED STOP bezel.</p> <p>C. ENSURE bezels illuminated:</p> <ol style="list-style-type: none"> 1. FAN STOP 2. ROUGH FLTR DAMPER OPEN 3. HEPA INLET DAMPER CLOSED 4. HEPA OUTLET DAMPER CLOSED 	<p>Operator stops 25 CFCU IAW Step 5.1.4 of S2.OP-SO.CBV-0001 by:</p> <p>Presses FAN LOW SPEED STOP bezel.</p> <p>Checks proper bezels illuminated:</p>		
		State: JPM is complete.			

Terminating Cue : None

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

Rx power is 100% steady state.

INITIATING CUE:

You have been directed to perform S2.OP-ST.CBV-0003, Containment Systems-Cooling Systems surveillance for **25** CFCU for Post Maintenance Operability.

Component Off Normal Report has been reviewed with no abnormalities noticed.

Calibration data for required instruments has been obtained and recorded in appropriate Attachments.

The differential pressure gauge for 22 SW header has been installed.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:**

STATION:	SALEM		
SYSTEM:	Containment Cooling		
TASK:	Perform a CFCU Operability and Service Water Flow Verification		
TASK NUMBER:	220130201		
JPM NUMBER:	07-01 NRC Sim e (SRO Only)		
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	2.2.12
APPLICABILITY:		IMPORTANCE FACTOR:	
EO <input type="checkbox"/>	RO <input type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EVALUATION SETTING/METHOD:	Simulator		
REFERENCES:	S2.OP-ST.CBV-0003 Rev. 15 S2.OP-SO.CBV-0001 Rev. 31		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	10 min		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	N/A		
Developed By:	G Gauding Instructor	Date:	06/13/08
Validated By:	 SME or Instructor	Date:	6/27/08
Reviewed By:	 Operations Representative	Date:	6-29-08
Approved By:	 Training Department	Date:	6/27/08
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE:	<input type="checkbox"/> SAT	<input type="checkbox"/> UNSAT	
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:		DATE:	

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:

NAME: _____

DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

TASK NUMBER: 220130201

INITIAL CONDITIONS:

Reset Simulator to IC-146 100% BOL.

Simulator Operator: You will be required to **INSERT RT-1** when the candidate pushes the LO SPEED START PB for 25 CFCU, so adjusting the booth camera to ensure a good view may be beneficial.

RT-1 AD20 OVAO 25 Fan Cooler Out Water Flow 1540 10 second ramp

Rx power is 100% steady state.

INITIATING CUE:

You have been directed to perform S2.OP-ST.CBV-0003, Containment Systems-Cooling Systems surveillance for **25** CFCU for Post Maintenance Operability.

25 CFCU is filled and vented.

Component Off Normal Report has been reviewed with no abnormalities noticed.

Calibration data for required instruments has been obtained and recorded in appropriate Attachments.

The differential pressure gauge for 22 SW header has been installed.

If required, identify any required entry into TSAS.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		START TIME: _____			
		Provide candidate with marked up copy of S2.OP-ST.CBV-0003.	Prerequisites have been completed, but operator should review them before proceeding.		
			Operator reviews and initials Precautions and Limitations.		
			NOTE: There is no requirement to either start additional SW pumps OR stop any running CFCUs. There is a system requirement NOT to run 5 CFCUs in HIGH speed, but that is N/A here. However, candidate MAY start another SW pump OR stop a CFCU, which is acceptable.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Containment Cooling**TASK:** Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.1.1	PERFORM test on each CFCU required to be tested IAW the following instruction: A. ENSURE the CFCU to be tested is in LOW SPEED IAW S2.OP-SO.CBV-0001, Containment Ventilation Operation. SIMULATOR OPERATOR INSERT RT-1 WHEN THE LO SPEED START PB IS PRESSED FOR 25 CFCU	Operator retrieves procedure, and reviews P&Ls, and Prerequisites. If needed, tell operator Components Off Normal review is complete and SAT. Operator starts 25 CFCU in LOW speed IAW Step 5.1.3 by: A. Ensuring CFCU is filled and vented (Initiating Cue) B. Ensure SW is available (must have been to fill CFCU.) C. PRESS FAN LOW SPEED START bezel. D. ENSURES damper alignment is correct. Roughing-shut HEPA inlet-open HEPA outlet-open E. Verifies SW flow >1465 gpm.		
	5.1.1 (cont)	B. RECORD Start Time in the applicable Attachments(s), Section 3.0, for the CFCU being tested	Operator records start time in Attachment 5		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		C. When at least 15 minutes have elapsed, RECORD the following in the applicable Attachment(s), Section 3.0, for the CFCU being tested: <ol style="list-style-type: none"> 1. Stop Time 2. Cooling Water Flow Rate (gpm) 3. <u>IF</u> testing 21 <u>OR</u> 22 CFCU, <u>THEN</u> both 21 SW HDR ΔP is to be recorded. 4. <u>IF</u> testing 23 CFCU, <u>THEN</u> both 21 SW HDR ΔP <u>AND</u> 22 SW HDR ΔP are to be recorded (Refer to Step 3.5) 5. <u>IF</u> testing 24 <u>OR</u> 25 CFCU, <u>THEN</u> 22 SW HDR ΔP is to be recorded. 6. Test results by initialing the SAT or UNSAT column IAW the Acceptance Criteria stated in the Attachment 	<p><u>CUE:</u> 25 CFCU has been operating for 15 minutes.</p> <p>Operator records stop time, flow rate, and 22 SW header ΔP.</p> <p>Operator marks steps for 21-23 CFCU N/A.</p> <p><u>CUE:</u> WHEN ASKED, report 22 SW header ΔP is 76 psid.</p> <p><u>See next page for discussion of Acceptance Criteria for ST.CBV-0003</u></p>		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.1.1 (cont)		<p>Exhibit 1 identifies the minimum flow rate associated with different SW header ΔP.</p> <p>P&L 3.4 states that when ΔP falls between two points on Att., the value shall be rounded up. The 76 psid reported by the field operator shall be rounded up to 80 psid, which yields a required minimum flow of 1547 gpm for 25 CFCU. The recorded flow for 25 CFCU recorded was 1540 (depending on other CFCU status and number of SE pumps operating) gpm, so the minimum TS flow of 1465 is SAT, and the minimum flow for the ΔP is UNSAT.</p> <p>IAW P&L 3.3, BOTH cooling water minimum flow AND Minimum Flow Rate specified in Exhibit 1 must be SAT for the CFCU to be considered OPERABLE.</p> <p>The ST is UNSAT, and entry into TSAS 3.6.2.3 is required.</p>		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Containment Cooling

TASK: Perform a CFCU Operability and Service Water Flow Verification

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		<p>D. ALIGN the CFCUs as required to support current plant conditions IAW S2.OP-SO.CBV-0001, Containment Ventilation Operation.</p> <p>A. N/A for High Speed</p> <p>B. <u>IF</u> CFCU is running in Low Speed, <u>THEN</u> PRESS FAN LOW SPEED STOP bezel.</p> <p>C. ENSURE bezels illuminated:</p> <ol style="list-style-type: none"> 1. FAN STOP 2. ROUGH FLTR DAMPER OPEN 3. HEPA INLET DAMPER CLOSED 4. HEPA OUTLET DAMPER CLOSED 	<p>Operator stops 25 CFCU IAW Step 5.1.4 of S2.OP-SO.CBV-0001 by:</p> <p>Presses FAN LOW SPEED STOP bezel.</p> <p>Checks proper bezels illuminated:</p>		
		State: JPM is complete.			

Terminating Cue : None

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

Rx power is 100% steady state.

INITIATING CUE:

You have been directed to perform S2.OP-ST.CBV-0003, Containment Systems-Cooling Systems surveillance for **25** CFCU for Post Maintenance Operability.

Component Off Normal Report has been reviewed with no abnormalities noticed.

Calibration data for required instruments has been obtained and recorded in appropriate Attachments.

The differential pressure gauge for 22 SW header has been installed.

If required, identify any required entry into TSAS.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:

STATION:	SALEM		
SYSTEM:	Electrical Distribution		
TASK:	Failure of 2C 4KV Vital Bus to Transfer to the Alternate Source		
TASK NUMBER:	0620040101		
JPM NUMBER:	07-01 NRC Sim f		
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	062 A4.01
APPLICABILITY:		IMPORTANCE FACTOR:	
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EVALUATION SETTING/METHOD:	Simulator		
REFERENCES:	S2.OP-SO.4KV-0003 Rev. 24, S2.OP-AB.4KV-003 Rev. 8		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	<u>10 min</u>		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	<u>N/A</u>		
Developed By:	<u>G Gauding</u> Instructor	Date:	<u>6/10/08</u>
Validated By:	<u>Scott Jones</u> SME or Instructor	Date:	<u>6/11/08</u>
Reviewed By:	<u>[Signature]</u> Operations Representative	Date:	<u>6-29-08</u>
Approved By:	<u>[Signature]</u> Training Department	Date:	<u>6/27/08</u>
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT			
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:		DATE:	

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE:

NAME: _____

DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to Transfer to the Alternate Source

TASK NUMBER: 0620040101

INITIAL CONDITIONS:

1. 100% power 07-01 NRC Exam **IC-144**
2. **ET-1 KC812PC3.** This event is inserted when the 24CSD breaker CLOSE PB is depressed. It sends an OVERRIDE OPEN signal to 24CSD and 23CSD. Even if the 24CSD breaker CLOSE PB is released, neither infeed breaker will shut, and the bus will load in SEC MODE II*.
3. SO.4KV-003 is paper in the simulator, must have a marked up paper copy for each operator.

INITIATING CUE:

You have been directed by the CRS to transfer 2C 4KV Vital Bus from 23 SPT to 24 SPT IAW S2.OP-SO.4KV-0003, section 5.1

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to Transfer to the Alternate Source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		START TIME: _____			
		Operator reviews procedure, including all Precautions and Limitations.	Evaluator provides a marked up copy of S2.OP-SO.4KV-0003, Rev. 24.		
	5.1.1	ENSURE following conditions exist prior to transferring the 2C 4KV Vital Bus from one SPT to the other SPT: A. 2C 4KV Vital Bus 125VDC Control Power is energized. B. 2C 4KV Vital Bus 28VDC Control Power is energized. C. SPT assuming load is energized and available for service.	125VDC control power is verified by either identifying the supervisory lights for 2C Vital bus on 2RP6 are illuminated or checking battery bus power on 2RP1. 28VDC control power is verified by identifying the bezel PB's for 2C 4KV Vital bus are illuminated on 2CC3 or checking battery bus power on 2RP1. SPT available is verified by identifying 24 SPT voltage/ampere indication on 2RP6		
	5.1.2	IF 2CC131, RCP THERMAL BARRIER ISOLATION, is in AUTO, THEN PLACE in MANUAL.	Student identifies 2CC131 is in AUTO on 2CC1, depresses the MAN PB and observes the auto light extinguish and the MAN light illuminate.		
		NOTE between steps 5.1.2 and 5.1.3	Student identifies that transferring 2C Vital bus to 24 SPT will NOT result in 3 Vital busses being powered from the same SPT.		
	5.1.3	IF transferring 2C 4KV Vital bus from 23 SPT to 24 SPT, THEN: ENSURE <u>all</u> Overhead Annunciators for 24 SPT are clear.	Observes no OHA's on "K" Window.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to Transfer to the Alternate Source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5	PRESS Mimic Bus 2C VITAL INFEED 24CSD pushbutton and ENSURE Console Bezel 24CSD MIMIC BUS INTLK CLOSE SELECTION illuminates.	<ul style="list-style-type: none"> Presses the Mimic Bus 2C VITAL BUS INFEED 24CSD BREAKER button. Verifies button color changes to yellow. Verifies 24CSD MIMIC BUS INTLK CLOSE SELECTION illuminates. 		
*	6	PERFORM the following: 1. PRESS AND HOLD control console 24CSD CLOSE pushbutton. 2. RELEASE pushbutton when 24CSD indicates <u>CLOSED OR</u> when a SEC Undervoltage Safeguards Actuation occurs. 3. ENSURE the following: <ul style="list-style-type: none"> Console bezel 24CSD MIMIC BUS INTLK CLOSE SELECTION is extinguished. 23CSD is OPEN. 2C 4KV Vital Bus voltage is 4.275-4.336KV. 	Student presses and holds control console 24CSD CLOSE pushbutton until a SEC Undervoltage Safeguards Actuation occurs, then releases pushbutton. Notes 24CSD failed to close and 2C EDG energized the bus. Responds to alarms and enters S2.OP-AB.4KV-0003 due to Blackout Loading on 2C Vital bus.		
	7	INITIATE Attachment 1, CAS	Student refers to Att. 1 CAS, and determines no items are currently in effect.		
	8	Was 22 Charging Pump providing Seal Injection and Charging flow?	Student determines 22 Charging pump was NOT in service prior to loss of 2C bus, and GOES TO Step 3.12		
	9	PLACE 21 Primary Water pump in AUTO	Presses the 21 Primary Water Pump AUTO button and verifies the button illuminates.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to Transfer to the Alternate Source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	10	PLACE 21 BAT pump in AUTO	Presses the 21 BAT AUTO button and verifies the button illuminates.		
	11	Is 2C 4KV Vital Bus energized from the Diesel Generator?	Checks the 2C DG bezel and 2C bus voltage and answers YES.		
*	12	RESET EMERGENCY loading for 2C EDG RESET 230V Control center	Presses the RESET EMERGENCY LOADING BUTTON and verifies the button illuminates. Presses the RESET 230V button and verifies the button illuminates.		
*	13	OPEN 23SW20, TURB AREA	Presses the 23SW20 OPEN PB and verifies the button illuminates. Checks SW header pressure within band (105-125psig)		
*	14	START/STOP 2C Vital Bus loads (Att.2) as necessary.	Refers to Att. 2 and stops a Component Cooling pump, a Service Water pump, and 22 Charging pump.		
			CUE: JPM is complete.		
		STOP TIME: _____			

Terminating Cue: When unnecessary equipment S/D is complete

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. **The Unit is at 100% power. 23 SPT will be removed from service to repair an oil leak.**

INITIATING CUE: You have been directed by the CRS to transfer 2C 4KV Vital Bus from 23 SPT to 24 SPT IAW S2.OP-SO.4KV-0003, section 5.1

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION: SALEM

SYSTEM: Subcooling Margin Monitor

TASK: Calculate actual RCS subcooling during performance of LOCA-1

TASK NUMBER: N0170030501

JPM NUMBER: 07-01 NRC Sim g

ALTERNATE PATH: ☒ X

K/A NUMBER: 009 EA1.16

IMPORTANCE FACTOR: 4.2 4.2

APPLICABILITY:

EO ☐

RO ☒ X

STA ☐

SRO ☒ X

RO

SRO

EVALUATION SETTING/METHOD: Simulator

REFERENCES: 2-EOP-CFST, Rev. 25
2-LOCA-1, Rev. 28

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 10 min

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: G Gauding
Instructor

Date: 6/9/08

Validated By: Scott Jones
SME or Instructor

Date: 6/11/08

Reviewed By: [Signature]
Operations Representative

Date: 6-29-08

Approved By: [Signature]
Training Department

Date: 6/27/08

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE:

DATE:

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Subcooling Margin Monitor

TASK: Calculate actual RCS subcooling during performance of LOCA-1

**TASK
NUMBER:**

**INITIAL
CONDITIONS:**

1. IC- 171 Post Trip and SI from 1,232 gpm LOCA.
2. AN0099 SER 099 Fails C6 Containment Pressure High.
3. VC0311A cont Pressure Channle 1 fails to 55 psig.
4. O/R A801 Channel I Containment Pressure

All these failures are to force the A SMM into adverse without any real indication why, and serves as the basis for the CRS to direct a manual calculation of Subcooling. It also prevents the SMM Channel B from shifting to Adverse when actual containment pressure rises to 4 psig to make the candidate only perform one subcooling calculation.

INITIATING CUE:

The reactor was manually tripped and a SI initiated. The crew has just enetered 2-EOP-LOCA-1. The Subcooling Margin Monitor Channels are displaying different values of subcooling. The CRS directs you to calculate actual subcooling IAW OHA D-40 SUBCLG CH A MARGIN LO ARP.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Subcooling Margin Monitor

TASK: Calculate actual RCS subcooling during performance of LOCA-1

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Operator refers to OHA D-40			
	3.1	CONFIRM loss of Subcooling Margin using one or more of the following: <ul style="list-style-type: none"> - SMM Channel A and B Recorders on 2CC2 - SMM Channel A and B Monitors on 2RP4 - DETERMINE Subcooling Margin using Table A or B of 2-EOP-CFST-1. 	Stem cue states to calculate subcooling. IF candidate only reads subcooling number off channel they think is valid, THEN Cue: The CRS does not think the Subcooling Margin Monitor Channels are valid. Calculate actual subcooling IAW the ARP.		
			<p>Table A of CFST-1 is for NORMAL Containment conditions which are containment pressure < 4 psig, and containment radiation < 1E5 R/hr read on 2R44A or 2R44B located on 2RP1. Containment pressure starts at 3.6 psig as read on 2CC1.</p> <p>Table B is for ADVERSE containment conditions which are containment pressure >4 psig or containment radiation >1E5 R/Hr.</p> <p>Containment radiation will be well below 1E5 R/Hr, and the simulator is set up to prevent containment pressure from rising >4 psig on 2CC1 console.</p>		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Subcooling Margin Monitor

TASK: Calculate actual RCS subcooling during performance of LOCA-1

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*			<p>Candidate selects Table A, and records applicable data on Table D as directed at the bottom of the page of Table A.</p> <p>Time: Current time</p> <p>CFST Table Used: A</p> <p>RCS pressure from PT-405 (PT-403 is reading off scale low: Current RCS pressure.</p> <p>Tsat: Tsat for RCS pressure recorded above:</p> <p>RCS Temperature: Highest CET MUST be used, not Tavg, Tc, or Th (can be read from SGTR computer screen or CET from Main Page on computer.</p> <p>Subcooling: Tsat-Highest CET</p>		
			<p>Once candidate has provided subcooling, <u>state JPM is complete.</u></p> <p>Data recorded MUST be verified to ensure correct number for conditions when data taken is correct.</p> <p>Initial RCS pressure was 1418, and slowly lowers to 1396 over 10 minutes.</p> <p>Hottest CET starts at 547 and lowers to 542 over 10 minutes.</p> <p>Table for RCS pressure is in 25 psig increments, so acceptable subcooling should be within +/- 2 degrees.</p>		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

The Rx was manually tripped from 100% power, and a manual Safety Injection initiated due to indications of a LOCA.

Abnormal conditions include:

1. Containment Pressure Channel I is reading 0 psig with all the other channels reading ~3.5 psig.
2. Containment Pressure Channel I Hi-Hi Pressure Bistable is lit on 2RP4.

INITIATING CUE:

The reactor was manually tripped and a SI initiated. The crew has just entered 2-EOP-LOCA-1. The Subcooling Margin Monitor Channels are displaying different values of subcooling. The CRS directs you to calculate actual subcooling IAW OHA D-40 SUBCLG CH A MARGIN LO Alarm Response Procedure.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: Component Cooling Water (CCW)

TASK: Perform Actions for CCW Restoration (21 CCW pump)

TASK NUMBER: N1150420501

JPM NUMBER: 07-01 NRC Sim h

ALTERNATE PATH: ☒

K/A NUMBER: 008 A4.01

IMPORTANCE FACTOR: 3.3 3.1
RO SRO

APPLICABILITY:

EO ☐

RO ☒

STA ☐

SRO ☒

EVALUATION SETTING/METHOD: Simulator

REFERENCES: 2-EOP-APPX-1, Rev. 23

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 10 min

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: G Gauding
Instructor

Date: 6/9/08

Validated By: Scott Jones
SME or Instructor

Date: 6/11/08

Reviewed By: [Signature]
Operations Representative

Date: 6-29-08

Approved By: [Signature]
Training Department

Date: 6/27/08

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE:

DATE:

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Component Cooling Water (CCW)

TASK: Perform Actions for CCW Restoration

**TASK
NUMBER:** N1150420501

**INITIAL
CONDITIONS:**

IC- 143

The reactor was manually tripped and a SI initiated. EOP-TRIP-1 is in effect.

A Loss of Off-Site power occurred coincident with the Rx trip.

ALL 4KV Vital busses are energized from their respective EDG's.

NO CCW pumps are running.

22 CCW pp C/T

INITIATING CUE:

You have been directed to start ONE CCW pump IAW 2-EOP-APPX-1.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Component Cooling Water (CCW)

TASK: Perform Actions for CCW Restoration

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Candidate obtains 2-EOP-APPX-1			
	1	CHECK 4 KV vital bus status: a. CHECK AT LEAST ONE vital bus ENERGIZED by station power transformers.	Checks energized 4KV vital busses and determines NO 4KV vital bus is being supplied from station power transformer. RNO a. - GOES TO Step 2.		
	2	CHECK ECCS pump (CVC,SI, or RHR) and AFW pump status: a. CHECK all ECCS pumps AND motor driven AFW pumps running on energized vital buses.	Checks running pumps and determines that ALL ECCS and MDAFW pumps are running on energized vital buses.		
	2.b.	CHECK one CCW pump running.	Checks CCW pump status and determines NO CCW pumps are running. RNO b. - GOES TO step 3.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Component Cooling Water (CCW)

TASK: Perform Actions for CCW Restoration

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	3	SELECT CCW pump start strategy: a. IF ALL 4 KV vital busses energized, THEN GO TO Step 4.	Determines ALL 4KV vital busses are energized, and GOES TO Step 4.		
	4	START 22 CCW Pump as follows: a. CHECK 22 CCW Pump AVAILABLE.	Candidate determines 22 CCW pump is NOT available. (C/T from stem), RNO a. GOES TO Step 5		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Component Cooling Water (CCW)

TASK: Perform Actions for CCW Restoration

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5	START 21 CCW pump as follows:			
*		a. BLOCK 2A AND 2B SECs.	Candidate BLOCKS 2A and 2B SECs on 2RP1 by rotating switches to BLOCK, verifying block light illuminated, and releasing switch.		
*		b. RESET 2A AND 2B SECs.	Candidate RESETS 2A and 2B SECs by depressing the RESET SEC LOADING PB on 2A and 2B EDG Control bezels.		
		c. SEND an operator to 100 ft elev chiller area to lock out 21 chiller by placing the keyswitch in OFF (LOCKOUT) position.	Candidate sends operator to lockout chiller.		
		d. PERFORM the following at RP2:			
		1. STOP 21 Switchgear Room Supply Fan.	Candidate rotates the switch to STOP and depresses switch.		
		2. START 22 Switchgear Room Supply Fan	Candidate identifies that 22 fan is already running		
		d. STOP the following equipment at CC1:			
		21 CFCU			
		21 Aux Bldg Exhaust Fan.			

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Component Cooling Water (CCW)

TASK: Perform Actions for CCW Restoration

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	5 (cont)	e. START the following equipment at CC1: 22 OR 24 CFCU 21 AB Exhaust Fan	Candidate depresses START PB for 22 OR 24 CFCU, and 21 ABV Exh Fan.		
*		f. START 21 CCW Pump	Candidate depresses START pushbutton and observes start light and amps.		
	6	PLACE 21 AND 22 CCW Heat Exchangers in service as follows: a. CHECK AT LEAST THREE SW pumps running. b. SEND an operator to 84 ft elev Aux Bldg to place 21 and 22 CCW Heat exchangers in service IAW S2.OP-SO.CC-0002. c. RETURN to procedure in effect.	Candidate verifies 3 SW pumps running from board indications. Candidate dispatches operator. Candidate announces returning to EOP-TRIP-1.		
			State JPM is complete.		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

The reactor was manually tripped and a SI initiated. EOP-TRIP-1 is in effect.

A Loss of Off-Site power occurred coincident with the Rx trip.

ALL 4KV Vital busses are energized from their respective EDG's.

NO CCW pumps are running.

22 CCW pp C/T

INITIATING CUE:

You have been directed to start ONE CCW pump IAW 2-EOP-APPX-1.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION: SALEM

SYSTEM: Loss of All AC Power, EOP-LOPA-1

TASK: Perform Actions For Reactor Coolant Pump Seal Cooling Restoration

TASK NUMBER: N1150460501

JPM NUMBER: 07-01 NRC In Plant i

ALTERNATE PATH: ☐

K/A NUMBER: EPE 055 EK3.02

IMPORTANCE FACTOR: 4.3 4.6

APPLICABILITY:

EO ☐

RO ☒

STA ☐

SRO ☒

RO

SRO

EVALUATION SETTING/METHOD: In Plant

REFERENCES: 2-EOP-LOPA-1 Rev. 26

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 6 min.

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: G Gauding

Date: 6/10/08

Validated By: *Scott Jone*
Instructor

Date: 6/12/08

Reviewed By: *[Signature]*
SME or Instructor

Date: 6-29-08

Approved By: *[Signature]*
Operations Representative

Date: 6/27/08

Training Department

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE:

DATE:

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Loss of All AC Power, EOP-LOPA-1

TASK: Perform Actions For Reactor Coolant Pump Seal Cooling Restoration

**TASK
NUMBER:** N1150460501

**INITIAL
CONDITIONS:**

A loss of all AC power has occurred in Unit 2. The crew has completed LOPA-1 through Step 26.

INITIATING CUE:

You are directed to locally isolate Unit 2 RCP Seal Cooling per Step 27 of EOP-LOPA-1.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

# *	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
	1	Provide a copy of LOPA-1, Sheet 2.	Refers to LOPA-1, Sheet 2, Step 27.		
*	2a	Locally close CV83, SEAL WATER FILTER INLET	<p>Locates CV83 in 84 ft elevation Aux Bldg in Seal Water Injection Filter Valve Room. Closes valve by turning handwheel in clockwise direction.</p> <p>CUE: Handwheel has been rotated clockwise. Valve stem has fully lowered. Handwheel will not turn further.</p>		
*	2b	Locally close CV89, SEAL WATER FILTER INLET	<p>Locates CV89 in 84 ft elevation Aux Bldg in Seal Water Injection Filter Valve Room. Closes valve by turning handwheel in clockwise direction.</p> <p>CUE: : Handwheel has been rotated clockwise. Valve stem has fully lowered. Handwheel will not turn further.</p>		
*	2c	Locally close CV95, SEAL WATER FILTER BYPASS	<p>Locates CV95 in 84 ft elevation Aux Bldg in Seal Water Injection Filter Valve Room. Closes valve by turning handwheel in clockwise direction.</p> <p>CUE: : Handwheel has been rotated clockwise. Valve stem has fully lowered. Handwheel will not turn further.</p>		

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

# *	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
*	3	Locally close CV116, SEAL WATER TO VCT VALVE.	<p>Valve is located in roped off area. Points to CV116 in 78 ft elevation Mech Pen Area SG B/D HX Area.</p> <p>CUE: Demonstrate how to close a similar valve in the area outside of the roped off area as if were CV116.</p> <p>Closes valve by depressing and holding motor operator declutch lever and turning handwheel in clockwise direction.</p> <p>CUE: Handwheel has been rotated clockwise. Valve stem has fully lowered. Handwheel will not turn further</p>		
*	4	Locally close CC131, RCP THERMAL BARRIER VALVE.	<p>Valve is located in roped off area. Points to CC131 in 78 ft elevation Mech Pen Area SG B/D HX Area.</p> <p>CUE: Handwheel has been rotated clockwise. Valve stem has fully lowered. Handwheel will not turn further</p>		

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

# *	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
	5	NOTIFY Control Room that RCP Seal Cooling has been isolated.	<p>Informs control room that RCP Seal Cooling has been isolated.</p> <p>TERMINATING CUE: Control room has been informed that RCP Seal Cooling has been isolated.</p>		

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

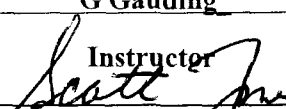

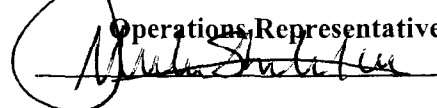
INITIAL CONDITIONS:

A loss of all AC power has occurred in Unit 2. The crew has completed LOPA-1 through Step 26.

INITIATING CUE:

You are directed to locally isolate RCP Seal Cooling per Step 27 of EOP-LOPA-1.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM		
SYSTEM:	Auxiliary Feedwater		
TASK:	TCAF Control Evacuation - Start 23 AFWPp and feed the SGs.		
TASK NUMBER:	114 013 04 01		
JPM NUMBER:	07-01 NRC In Plant j		
ALTERNATE PATH:	<input type="checkbox"/>	K/A NUMBER:	APE 068 AA1.02
APPLICABILITY:		IMPORTANCE FACTOR:	4.3 4.5
	EO <input type="checkbox"/>		RO SRO
	RO <input checked="" type="checkbox"/>		
	STA <input type="checkbox"/>		
	SRO <input checked="" type="checkbox"/>		
EVALUATION SETTING/METHOD:	In Plant		
REFERENCES:	S2.OP-AB.CR-0002, Control Room Evac. Due to Fire, Att. 5, Rev. 25		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	6 min.		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	N/A		
Developed By:	G Gauding	Date:	6/10/08
Validated By:	 Instructor	Date:	6/12/08
Reviewed By:	 SME or Instructor	Date:	6-29-08
Approved By:	 Operations Representative Training Department	Date:	6/30/08
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT			
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:		DATE:	

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

NAME: _____

DATE: _____

SYSTEM: Abnormal Procedures

TASK: TCAF Control Room Evacuation - Start 23 AFW Pump and feed the SGs

**TASK
NUMBER:** 114 013 04 01

**INITIAL
CONDITIONS:** Due to a fire in the Control Room, it has been evacuated IAW S2.OP-AB.CR-0002. 21 AFW Pp is C/T. 22 AFW Pp is running but must be stopped soon because of flow oscillations. The only action taken in the control room prior to evacuation was to trip the reactor.

INITIATING CUE:

You have been designated by the CRS to start 23 AFW Pp and control feed to the SGs IAW Attachment 5, Steps 23 thru 29, of S2.OP-AB.CR-0002, Control Room Evacuation Due to Fire.

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Abnormal Procedures

TASK: TCAF Control Room Evacuation - Start 23 AFWPp and feed the SGs.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Operator obtains the current revision of S2.OP-AB.CR-0002, Control Room Evacuation Due to Fire, and locates proper step in Att. 5.	Evaluator provides a copy of Att. 5 only, marked up to Step 23. NOTE: Evaluator should have a clean copy of entire procedure with them in case candidate asks for it.		
* * *	23	At No. 23 Aux Fededwater Panel 207-2 (left cabinet section), 23.1 OPEN 2MS132, Steam Supply to No. 23 AFW Pump Turbine, as follows: A. CLOSE the manual air isolation valve 2MS132 -A/S to SV-509-2 (left wall, top row.) B. OPEN the drain cock of the pressure regulator for SV-509-2.	Locates Panel 207-2 and points out/discusses closing the correct valve. CUE: Valve is shut Discusses opening the pressure regulator drain cock. CUE: Drain cock is open.		
* *		23.2 OPEN 2MS53, No. 23 Auxiliary Feedwater Pump Governor Valve as follows: A. CLOSE the manual air isolation valve FA-3964-A/S to FA-3964.(back wall, mid cabinet) B. OPEN the drain cock of the pressure regulator for FA-3964.	Locates valve and points out/discusses closing the correct valve. CUE: Valve is shut Discusses opening the pressure regulator drain cock. CUE: Drain cock is open.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Abnormal Procedures

TASK: TCAF Control Room Evacuation - Start 23 AFWPp and feed the SGs.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	24	CONTROL speed of 23 AFW Pump with Manual Speed Setting Knurled Knob until discharge pressure is ~100 psig (PL-1686-2 at Panel 207-2) greater than Steam Generator Pressures at Hot Shutdown Panel 213-2.	Locates knurled knob at turbine governor and points out/discusses adjusting it to the required position, while locating the 2 pressure gauges. CUE: 23 AFW pump discharge pressure is 100 psig > SG pressure.		
*	25	At 21AF11, No. 21 Steam Generator AFW Inlet Valve: 25.1 Manually ADJUST the hand jack for 21AF11 to maintain the valves present position.	Locates 21AF11 and discusses operating the hand jack to maintain valve in position.		
*		25.2 CLOSE the manual isolation valve 21AF11-A/S to pressure regulator in No. 2 Unit Redundant Air Supply 21AF11 Panel 700-2K.	Locates Panel 700-2K , locates and describes closing the correct manual isolation valve. CUE: Valve is shut		
*		25.3 OPEN the drain cock of the pressure regulator.	Locates and discusses opening the drain cock. CUE: Drain cock is open.		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____
DATE: _____

SYSTEM: Abnormal Procedures

TASK: TCAF Control Room Evacuation - Start 23 AFWPp and feed the SGs.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	26 27 28	At 22AF11....	<p>The next 3 steps perform the same manipulation on the remaining 3 AF11 valves.</p> <p>CUE: For purposes of this JPM, you are only required to locate the remaining 3 panels for air supply isolation.</p> <p>Candidate locates Panels 700-2X for 22AF11, 700-2J for 23AF11, and 700-2L for 24AF11.</p>		
*	29	ADJUST AF11 valves to maintain all Steam Generator levels between 15% and 33% Narrow Range as indicated on LI-1640 thru 1643.	<p>CUE: When operator points out SG NR level indication, state that 22 SG NR level is 38%, and the remaining SG NR levels are all 28%.</p> <p>Candidate discusses how to manually close the 22AF11.</p> <p>Terminate JPM.</p>		

JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

1. Due to a fire in the Control Room, it has been evacuated IAW S2.OP-AB.CR-0002. 21 AFWPp is tagged OOS and 22 AFW Pp is running but must be stopped soon because of flow oscillations. The only action taken in the control room prior to evacuation was to trip the reactor.

INITIATING CUE:

You have been designated by the CRS to start 23 AFW Pp and control feed to the SGs IAW Attachment 5, Steps 23 thru 29, of S2.OP-AB.CR-0002, Control Room Evacuation Due to Fire.

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM		
SYSTEM:	Radioactive Liquid Waste		
TASK:	Perform an Authorized Release of Rad. Liquid Waste to the CIRC Water System From 21 CVCS Monitor Tank		
TASK NUMBER:	N0685140104		
JPM NUMBER:	07-01 NRC In Plant k		
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	2.3.11
APPLICABILITY:		IMPORTANCE FACTOR:	
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EVALUATION SETTING/METHOD:	In Plant/SIMULATE		
REFERENCES:	S2.OP-SO.WL-0001, Rev. 23 S2.OP-AB.RAD-0001, Rev. 26		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	20 min.		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	N/A		
Developed By:	<u>G Gauding</u>	Date:	6/11/08
Validated By:	<u>Instructor</u>	Date:	6/12/08
Reviewed By:	<u>SME or Instructor</u>	Date:	6-29-08
Approved By:	<u>Operations Representative</u>	Date:	6/27/08
	Training Department		
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE:	<input type="checkbox"/> SAT	<input type="checkbox"/> UNSAT	
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:		DATE:	

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Radioactive Liquid Waste

TASK: Perform an Authorized Radioactive Liquid Waste Release to the CIRC Water System From 21 CVCS Monitor Tank

**TASK
NUMBER:** N0685140104

INITIAL CONDITIONS:

The unit is at 100% power.
A discharge of 21 CVCS Monitor Tank to Unit 1 Circ Water via Unit 2 SW has been directed
Recirculation and preparation for release of the Monitoring tank have been completed.
Chemistry has authorized a maximum allowable release rate of 150 gpm.
2R18 and the Overboard Flow monitor are OPERABLE.
SW Room Cooler Headers are NOT cross-tied.

INITIATING CUE:

You have been directed to perform a release of 21 CVCS Monitor Tank to Unit 1

Circ Water via Unit 2 Service Water using #21 CCW Heat Exchanger IAW

S2.OP-SO.WL-0001, commencing with Step 5.3.2

Successful Completion Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

*	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
		Provide candidate with marked up copy of release procedure.	Reviews marked up procedure		
	5.3.2	MAINTAIN SW flow \geq 500 gpm IAW S2.OP-SO.CC-0002, 21 & 22 CCHX Operation.	If requested, provide candidate with copy of procedure.		
	5.3.3	ENSURE CLOSED: <ul style="list-style-type: none"> • 2WL115, WASTE DISCHARGE HDR X-CONN VALVE • 2WL49, WMT PMP DISCHARGE STOP • 2WL156, WASTE DISCHARGE HDR FLUSH VLV • 2WL185, WMHT DISCH V – OVBD • 2WL51, LIQUID RELEASE STOP VALVE • 2WL53 ,WMT PMP RECIRC WMTS ISOL V • 2WL56, WMT TO WHUT STOP VLV 	Locates valves and identifies them as closed. ALL these valves are normally closed, but <u>IF</u> they are open <u>THEN</u> Cue that valve is shut.		
*	5.3.4	UNLOCK AND OPEN 2WL50, LIQUID RADWASTE OVERBOARD STOP VALVE	Locates valve, and unlocks and opens valve. <u>Cue:</u> Valve is open		
*	5.3.5	<u>IF</u> 21 CCHX is selected as the release path in Attachment 2, Step 2.2.3, THEN UNLOCK AND OPEN 21SW222, WASTE DISPOSAL OVERBOARD VLV TO 21 DISCHARGE HDR.	Locates and opens valve <u>Cue:</u> Valve is open.		
	5.3.6	<u>IF</u> 22 CCHX is selected....	Identifies that 22 CCHX is NOT the release path and NA's step.		

*= Critical Step

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

*	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
	5.3.7	<p><u>IF</u> 2R18 Monitor is OPERABLE, <u>THEN</u>:</p> <p>A. ENSURE CLOSED 2WL473, 2R18 DRAIN VALVE</p> <p>B. ENSURE OPEN 2WL484, 2R0355 INLET ROOT VALVE</p> <p>C. ENSURE OPEN 2WL471 RAD MON 2R18 INLET ISOL VLV</p> <p>D. ENSURE OPEN 2WL472, RAD MON 2R18 OUTLET ISOL VLV</p> <p>E. ENSURE OPEN 2WL485, 2R0355 OUTLET ROOT VLV</p>	<p>Locates valve and ensures in proper position.</p> <p><u>Cue</u>: For each valve, cue correct position after it has been located.</p>		
	5.3.8	<p><u>IF</u> 21 CCHX is selected as the release path, <u>THEN</u>:</p> <p>A. ENSURE the following valves are aligned as follows:</p> <ol style="list-style-type: none"> 1. <u>IF</u> the SW Room Cooler Header is cross-tied... 2. <u>IF</u> the SW Room Cooler Header is <u>NOT</u> cross-tied, <u>THEN</u> 21SW468, 21 SW RM CLR RETURN HDR X-TIE ISOL VLV is LOCKED CLOSED. 3. 21SW472, 21 SW RM CLR RET HDR ISOL VLV, is LOCKED OPEN <p>B. Direct a second operator to PERFORM an Independent Verification IAW Attachment 2, Step 4.1.1 (ODCM)</p>	<p>Stem identifies NOT cross-tied.</p> <p>Locates valve and identifies as locked closed.</p> <p>Locates valve and identifies as locked closed.</p> <p><u>Cue</u>: IV has been performed.</p>		
	5.3.9	<u>IF</u> 22 CCHX is selected as the release path....	NA's step since it is not selected		

*= Critical Step

OPERATOR TRAINING PROGRAM **JOB PERFORMANCE MEASURE**

*	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
	5.3.10	<u>IF</u> 2FR1064.....are INOPERABLE....	NA's step since both 2FR1064 and 2R18 are OPERABLE.		
	5.5.1	<u>IF</u> 2FR1064 is INOPERABLE....	NA's step since 2FR1064 is OPERABLE.		
*	5.5.2	Direct unit 2 NCO to OPEN 2WL51, LIQUID RELEASE STOP VALVE.	Locates plant page or phone to call control room. <u>Cue:</u> Unit 2 NCO reports 2WL51 has been opened.		
	5.5.3	Direct a second operator to PERFORM an Independent Verification for 2WL51 position IAW Attachment 2, Step 4.1.2 OR 4.2.2 as applicable (ODCM)	 <u>Cue:</u> IV has been performed.		
*	5.5.4	THROTTLE OPEN 2WR59, MT PMPS OB STOP VALVE, <u>NOT</u> to exceed the Maximum Release Rate recorded in attachment 2, Step 2.2.2	Candidate locates 2WR59 and opens valve. When candidate checks flow indication on 104 panel, <u>Cue:</u> With the valve fully open, flow is 90 gpm.		
	5.5.5	Direct a second operator to PERFORM an Independent Verification for 2WR59 position IAW Attachment 2, Step 4.1.3 OR 4.2.3 as applicable (ODCM)	 <u>Cue:</u> IV has been performed.		
*	5.5.6	<u>IF</u> the Maximum Release Rate recorded in attachment 2, Step 2.2.2 can <u>NOT</u> be obtained, <u>THEN</u> THROTTLE CLOSED 21WR53 MT RECIRC V, <u>NOT</u> to exceed the Maximum Release Rate.	Candidate locates 21WR53 and throttles valve closed. When candidate checks flow on 104 panel, <u>CUE:</u> Flow is 140 gpm.		

*= Critical Step

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

*	STEP No.	STEP	STANDARD	EVAL S/U	COMMENTS
	5.5.7	IF 2FR1064 flow monitor is OPERABLE, <u>THEN</u> RECORD time, date, and tank identification on recorder.	Candidate annotates recorder.		
	5.5.8	COMPLETE Attachment 2, Section 5.1	Candidate records data. Cue: When candidate reads 2R18 indication on 104 panel, state, "2R18 reads 10 ⁵ counts, the RED HI RAD light is lit."		
*	5.5.9	IF any of the following occur during the release <u>THEN</u> direct the NCO to CLOSE 2WL51, LIQUID RELEASE STOP VALVE. 2R18 Monitor ALARMS	Candidate calls control room to inform them of HI RADIATION condition and directs NCO to shut 2WL51. Cue: Once direction is given to NCO, Terminate JPM.		

*= Critical Step

OPERATOR TRAINING PROGRAM JOB PERFORMANCE MEASURE

INITIAL CONDITIONS:

The unit is at 100% power.

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Recirculation and preparation for release of the Monitoring tank have been completed.

Chemistry has authorized a maximum allowable release rate of 150 gpm.

2R18 and the Overboard Flow monitor are OPERABLE.

SW Room Cooler Headers are NOT cross-tied.

INITIATING CUE:

You have been directed to perform a release of 21 CVCS Monitor Tank to Unit 1

Circ Water via Unit 2 Service Water using #21 CCW Heat Exchanger IAW

S2.OP-SO.WL-0001, commencing with Step 5.3.2