

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

<b>STATION:</b>	SALEM		
<b>SYSTEM:</b>	Containment Cooling System		
<b>TASK:</b>	Perform 22 CFCU Surveillance Test IAW S2.OP-ST.CBV-0003		
<b>TASK NUMBER:</b>	N0220130201		
<b>JPM NUMBER:</b>	16-01 NRC Sim-f		
<b>ALTERNATE PATH:</b>	<input type="checkbox"/>	<b>K/A NUMBER:</b>	022 A1.04
<b>APPLICABILITY:</b>	<b>IMPORTANCE FACTOR:</b>		
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
			3.2                      3.3
			RO                      SRO
<b>EVALUATION SETTING/METHOD:</b>	Simulator / Perform		
<b>REFERENCES:</b>	S2.OP-ST.CBV-0003, Rev 19 (checked 9-10-17)		
<b>TOOLS AND EQUIPMENT:</b>	None		
<b>VALIDATED JPM COMPLETION TIME:</b>	<u>6</u> <sup>R 9-18-17</sup> min		
<b>TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:</b>	<u>N/A</u>		
<b>Developed By:</b>	R. Chan Instructor	<i>Rudolph Chan</i>	Date: 9-18-17
<b>Validated By:</b>	<i>Duffy Raymond</i> SME or Instructor		Date: 9/18/17
<b>Approved By:</b>	<i>Frank Rossetti</i> Training Department	<i>Rick White</i>	Date: 10/4/17
<b>Approved By:</b>	<i>Don McHugh</i> Operations Department	<i>Don McHugh</i>	Date: 10/4/17
<b>ACTUAL JPM COMPLETION TIME:</b>			
<b>ACTUAL TIME CRITICAL COMPLETION TIME:</b>			
<b>PERFORMED BY:</b>			
<b>GRADE:</b>	<input type="checkbox"/> SAT	<input type="checkbox"/> UNSAT	
<b>REASON, IF UNSATISFACTORY:</b>			
<b>EVALUATOR'S SIGNATURE:</b>			<b>DATE:</b>

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REVISION HISTORY

JPM NUMBER: 16-01 NRC Sim-f

Rev #	Date	Description	Validation Required
00	9-18-17	Added revision history and simulator setup pages. Editorial comments from IP 71111.11 FASA.	Yes

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**SIMULATOR SETUP INSTRUCTIONS**

**SYSTEM:** Containment Cooling System

**TASK:** Perform 22 CFCU Surveillance Test IAW S2.OP-ST.CBV-0003

**TASK NUMBER:** N0220130201

**SIMULATOR IC:** IC-245

**MALFUNCTIONS / REMOTES:**

1. Reset the simulator to IC-245
2. Verify the following events on the Summary/ET Trigger Lists:
  - **ET-1: KAD06PBR, 22 CFCU LOW SPEED Start PB. INSERTS MALF: VL0570**
  - **MALF: VL0570, 22 SW223, RAMP = 15 seconds, FINAL = 89 (SW flow 1786 +/- 5 gpm)**
3. This malfunction will simulate an issue with the 22SW223 valve to properly obtain the required SW flow rate when in LOW SPEED. The malfunction attempts to have SW flow approx. 1786 gpm. This was chosen in case the operator chooses the incorrect Min Flow Rate of 1769 gpm for a SW DP at 105 psi.
4. This completes the setup for this JPM.

**OVERRIDES:** None

**SPECIAL INSTRUCTIONS:**

- Provide operator marked up copy of S2.OP-ST.CBV-0003.

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

DATE: \_\_\_\_\_

**SYSTEM:** Containment Cooling System

**TASK:** Perform 22 CFCU Surveillance Test IAW S2.OP-ST.CBV-0003

**TASK NUMBER:** N0220130201

**INITIAL CONDITIONS:**

- Unit 2 is at 100% power.
- No major equipment out of service and no active Tech Specs are in effect.

**INITIATING CUE:**

- You are the Reactor Operator.
- The CRS has directed you to **PERFORM** a scheduled surveillance test on 22 CFCU IAW S2.OP-ST.CBV-0003, Containment Systems – Cooling Systems.
- All Prerequisites are completed SAT and all required M&TE are installed in the field.
- A field NEO is standing by to provide SW header differential pressure when directed.

**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).

**Task Standard for Successful Completion:**

1. **PERFORMS** surveillance test IAW S2.OP-ST.CBV-0003 and determines 22 CFCU Test Results is **UNSAT**.

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**SYSTEM:** Containment Cooling System

**TASK:** Perform 22 CFCU Surveillance Test IAW S2.OP-ST.CBV-0003

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	CUE	Fill in the JPM Start Time when the student acknowledges the Initiating Cue.  <b>START TIME:</b> _____			
	3.0	<b>PRECAUTIONS AND LIMITATIONS</b>  3.4 After recording Differential Pressure (DP) reading, select corresponding minimum flow value specified in Exhibit 1. <ul style="list-style-type: none"> <li>• IF measured DP value is between DP values specified in Exhibit 1, THEN select minimum flow value for next higher DP value listed (e.g., if measured DP is 101 psid, use minimum flow required at 105 psid).</li> </ul>	Operator reads and initials all P&Ls.  <b>Evaluator's Note:</b> Understanding P&L 3.4 is important to properly determining which DP value to choose from Exhibit 1.		
	4.0	<b>EQUIPMENT/MATERIAL REQUIRED</b>	<b>Cue:</b> Completed SAT by I&C Technicians.		
	5.1	CFCU Operability and Service Water Flow Verification			
	5.1.1	PERFORM test on each Containment Fan Coil Unit required to be tested IAW the following instructions:			
*	5.1.1.A	<b>ENSURE</b> CFCU being tested is in <b>LOW SPEED</b> IAW S2.OP-SO.CBV-0001(Q), Containment Ventilation Operation.	<b>Operator places CFCU in LOW SPEED IAW S2.OP-SO.CBV-0001.</b>  Operator <b>GOES TO</b> S2.OP-SO.CBV-0001		
		<b>These next steps are from S2.OP-SO.CBV-0001, Containment Ventilation Operation.</b>			

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	5.1.2	IF shifting CFCU(s) from High Speed to Low Speed, THEN for each CFCU to be shifted:			
*	5.1.2.A	<b>PRESS FAN HIGH SPEED STOP</b> bezel.	<b>Operator depresses HIGH SPEED STOP bezel for 22 CFCU and verifies STOP bezel illuminates.</b>		
	NOTE	Steps 5.1.2B and 5.1.2C should be coordinated for 25 second delay prior to energizing slow speed windings.	Operator reads the Note and continues on.		
	5.1.2.B	<b>ENSURE FAN STOP</b> bezel is illuminated.	Operator verifies HIGH SPEED STOP bezel is illuminated.		
*	5.1.2.C	When 25 seconds have elapsed from pressing HIGH SPEED STOP bezel, <b>PRESS FAN LOW SPEED START</b> bezel.	<b>Operator waits 25 seconds from when HIGH SPEED STOP bezel was depressed.</b>  <b>Operator depresses LOW SPEED START bezel for 22 CFCU and verifies START bezel illuminates.</b>		
	5.1.2.D	<b>ENSURE</b> following dampers are in indicated positions:  <ul style="list-style-type: none"> <li>▪ ROUGH FLTR DAMPER CLOSED</li> <li>▪ HEPA INLET DAMPER OPEN</li> <li>▪ HEPA OUTLET DAMPER OPEN</li> </ul>	Operator verifies the following for 22 CFCU:  <ul style="list-style-type: none"> <li>▪ ROUGH FLT DAMPER CLOSED bezel extinguished.</li> <li>▪ HEPA INLET DAMPER OPEN bezel illuminated.</li> <li>▪ HEPA OUTLET DAMPER OPEN bezel illuminated.</li> </ul>		

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**SYSTEM:** Containment Cooling System

**TASK:** Perform 22 CFCU Surveillance Test IAW S2.OP-ST.CBV-0003

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.1.2.E	<p><u>IF</u> Service Water flow is less than 1465 gm, <u>THEN:</u></p> <ol style="list-style-type: none"> <li>1. STOP the CFCU</li> <li>2. REFER to S2.OP-SO.SW-0005, SW System Operability Guidelines</li> </ol>	Operator determines that SW flow is > 1465 gpm and marks step <b>N/A</b> and continues on.		
	5.1.2.F	<p><b>ENSURE</b> Service Water flow greater than or equal to 1465 gpm.</p> <p><b>Operator returns to S2.OP-ST.CBV-0003:</b></p>	Operator verifies that SW flow is > 1465 gpm.		
	5.1.1.B	<p><b>RECORD</b> Start Time in applicable Attachment(s), Section 3.0, for CFCU being tested.</p>	Operator records START time.		

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*	5.1.1.C	<p>WHEN at least 15 minutes has elapsed, THEN <b>RECORD</b> the following in applicable Attachment, Section 3.0, for CFCU being tested:</p> <ul style="list-style-type: none"> <li>• Stop Time</li> <li>• Cooling Water Flow Rate (gpm)</li> <li>• IF testing 21 OR 22 CFCU, THEN <b>RECORD</b> 21 SW HDR DP.</li> <li>• IF testing 23 CFCU, THEN <b>RECORD</b> both 21 SW HDR DP <u>AND</u> 22 SW HDR DP (Refer to Step 3.5).</li> <li>• IF testing 24 <u>OR</u> 25 CFCU, THEN <b>RECORD</b> 22 SW HDR DP.</li> <li>• <b>RECORD</b> Test Results by initialing the SAT OR UNSAT column IAW Acceptance Criteria stated in the attachment.</li> </ul>	<p><b>Cue:</b> Inform operator that 15 minutes have elapsed.</p> <p>Operator records STOP time.</p> <p><b>Operator records SW flow on 22 CFCU (1786 +/- 5 gpm)</b></p> <p><b>Cue:</b> When field operator is contacted; report 21 SW Header DP is reading <u>106 psi.</u></p> <p><b>Operator contacts field NEO and Records SW header DP of 106 psi</b></p> <p>Operator determines that 23, 24, and 25 CFCUs are not being tested.</p> <p><b>Operator records Test Results as UNSAT.</b> 22 CFCU is Inoperable based on Cooling Water Flow Rate is less than the Minimum Flow Rate (1811 gpm) required in Exhibit 1 selecting a SW DP of 110 psi (refer to P&amp;L 3.4).</p> <p>P&amp;L 3.3 requires CFCU SW flow rate <math>\geq</math> 1465 gpm AND <math>\geq</math> Min Flow Rate specified in Exhibit 1 to be Operable.</p> <p><b>See Answer Key for completed Attachment 2, Section 3.0</b></p>		

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	CUE:	JPM is Complete.  RECORD the STOP TIME.  STOP TIME: _____	Terminate the JPM when the operator Records Test Results as SAT or UNSAT.		

OPERATIONS DEPARTMENT  
JOB PERFORMANCE MEASURE

TQ-AA-106-0303

JPM: 16-01 NRC Sim-f

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 and 11 below.

- DL 1. Task description and number, JPM description and number are identified.
- DL 2. Knowledge and Abilities (K/A) references are included.
- DL 3. Performance location specified. (in-plant, control room, or simulator)
- DL 4. Initial setup conditions are identified.
- DL 5. Initiating and terminating Cues are properly identified.
- DL 6. Task standards identified and verified by SME review.
- DL 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (\*).
- DL 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure: Procedure Rev. 19 Date 9/18/17
- DL 9. Pilot test the JPM:  
a. verify Cues both verbal and visual are free of conflict, and  
b. ensure performance time is accurate.
- N/A 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- N/A 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

SME/Instructor: [Signature]

Date: 9/18/17

SME/Instructor: [Signature]

Date: 9/18/17

SME/Instructor: \_\_\_\_\_

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

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**INITIAL CONDITIONS:**

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**INITIATING CUE:**

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