

RESPOND TO A LOSS OF COMPONENT COOLING  
WATER

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K/A REFERENCE: 008K4.02 (2.9/2.7)  
(NUREG-1122) 008A1.04 (3.1/3.2)  
008A2.02 (3.2/3.5)  
008A4.07 (2.9/2.9)  
026 EA1.05 (3.1/3.1)  
026 EA2.02 (2.9/3.6)

ALTERNATE PATH JPM  YES  NO

**PERFORMANCE CHECKLIST:**

**SATISFACTORY** - Properly performed and/or in sequence (if applicable)

**UNSATISFACTORY** - Improperly performed and/or out of sequence (if applicable)

Procedure adequately addresses task elements.  
Enter identifier here: AOP-9B, Rev. 14

Other document adequately describes necessary task elements.  
Enter identifier here: \_\_\_\_\_

Task elements described as attached.

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**DESIRED MODE OF EVALUATION:**

**APPLICABLE EVALUATION SETTING:**

SIMULATE/WALKTHROUGH  DISCUSSION  PERFORM  IN-PLANT  CONTROL ROOM

VALIDATED TIME FOR COMPLETION: 15 MINUTES

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EXAMINEE \_\_\_\_\_ EVALUATOR \_\_\_\_\_

START TIME \_\_\_\_\_ FINISH TIME \_\_\_\_\_

PERFORMANCE  SAT  UNSAT

JOB TITLE:  AOT  COT  SRO  STA

TOOLS/EQUIPMENT/REFERENCES:

AOP-9B, Rev. 14, "Loss of Component Cooling Water"

TASK STANDARDS:

Respond to a loss of component cooling water in excess of make-up capacity in accordance with AOP-9B, "Component Cooling System Malfunction".

SIMULATOR INFORMATION:

TIME	FAIL	COMPONENT	OPTION	VALUE	RAMP	DELAY	ACT	COND
--:--:--	IC-1	100%	Steady State					
	Override	Annunciators	WPS2	1				
--:--:--	Leak	CCW Leak 1	NODE 13	150	300	-	D	-

**NOTE: The JPM administrator should insert the malfunction and bring in the CCW Surge Tank low level alarm, then FREEZE the simulator and administer the JPM (unless set up ahead of time). DO NOT TAKE SIMULATOR TO RUN UNTIL EXAMINEE IS READY TO BEGIN THE JPM. ENSURE RX MAKE-UP WATER SIGN IS PROPERLY POSITIONED ON BACK OF C01. TREND CCW LEVEL FOR NRC RECORD PURPOSES.**

**NOTE: If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.**

**NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.**

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**READ AND PROVIDE TO THE EXAMINEE**

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**THIS SECTION IS READ ONCE FOR THE ENTIRE PACKAGE OF JPMS. IT IS NOT REQUIRED TO REVIEW THIS SECTION FOR EVERY JPM BEING PERFORMED IN THE PACKAGE. THE INITIAL CONDITIONS AND INITIATING CUE(S)/TASKS TO BE PERFORMED SHOULD BE READ AND THEN PROVIDED TO THE EXAMINEE.**

After I read you the initial conditions and initiating cue(s)/task to be performed for this JPM and provide you a copy of the same, you may review and begin. Once you have completed the task, indicate completion by handing back this form to the evaluator unless otherwise told.

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

For all two and three-way communications, make your report to me, the JPM evaluator. I will reply to your reports with the statement, "acknowledge." All actions in the plant are to be simulated and all actions in the simulator will be performed. Ensure you make it clear to me, the evaluator, of all actions you are taking so that credit may be given for completing each step of the task.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

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**INITIAL CONDITIONS:**

- You are the Unit 1 Control Operator.
- Both Units at 100% power.
- The following action/alarms occur:
  - (1) CCW surge tank low level alarm.
  - (2) CCW surge tank level lowering.
  - (3) Auxiliary Building -19 ft sump high level alarm.

**INITIATING CUE(S) / TASK TO BE PERFORMED (SIMULATED):**

The DSS/DOS directs you to respond to the actions/alarms, taking any corrective actions required in accordance with AOP-9B, "Component Cooling System Malfunction."

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PERFORMANCE INFORMATION

**NOTE:** *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

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START TIME \_\_\_\_\_ STEP/SEQUENCE/CRITICAL SAT \_\_\_\_\_  
1 1 N UNSAT \_\_\_\_\_

**ELEMENT:** Check at least one component cooling pump running (1P-11A or 1P-11B).

**STANDARD:** Checked that one CCW pump is running on 1C03.

**CUE:** One CCW pump red light on, green light off (or as indicated on simulator).

**COMMENTS:**

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STEP/SEQUENCE/CRITICAL SAT \_\_\_\_\_  
2 2 Y UNSAT \_\_\_\_\_

**ELEMENT:** Check Component Cooling surge tank level lowering.

- 1LI-618B
- PPCS Point YYLT 618
- {New PPCS point L-618}

**STANDARD:** CCW surge tank level stability checked by at least one of the above noted indications.

**CUE:** CCW surge tank level lowering (or as indicated on simulator).

**COMMENTS:**

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STEP/SEQUENCE/CRITICAL SAT \_\_\_\_\_  
2 3 N UNSAT \_\_\_\_\_

**ELEMENT:** Start reactor makeup water pump aligned for service

- P-23A
- P-23B

**STANDARD:** Start either P-23A or P-23B, whichever is aligned for services, behind C01.

**CUE:** P-23A or B red light is lit, green light is off (or as indicated on simulator).

**COMMENTS:**

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**PERFORMANCE INFORMATION**

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	STEP/SEQUENCE/CRITICAL			SAT
	2	4	N	UNSAT
<b>ELEMENT:</b>	Station a level 2 dedicated operator with instructions to immediately shut ICC-17 upon notification of Unit 1 CI or SI signal.			
<b>STANDARD:</b>	Requests a level 2 dedicated operator be stationed.			
<b>CUE:</b>	When asked, a level 2 dedicated operator has been stationed.			
<b>COMMENTS:</b>				

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	STEP/SEQUENCE/CRITICAL			SAT
	2	5	N	UNSAT
<b>ELEMENT:</b>	Ensure component cooling surge tank vent (1CC-17) open.			
<b>STANDARD:</b>	Open 1CC-17 on 1C03 (red indicating light is on and green light is off).			
<b>CUE:</b>	1CC-17 red indicating light is on (or as indicated on simulator).			
<b>COMMENTS:</b>				

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	STEP/SEQUENCE/CRITICAL			SAT
	2	6	N	UNSAT
<b>ELEMENT:</b>	Cycle emergency make-up value (1CC-815) as necessary to maintain level between 20% and 60%			
<b>STANDARD:</b>	Cycle 1CC-815 and monitor component cooling surge tank level trend. Recognizes that CCW level is trending lower.			
<b>CUE:</b>	Component cooling surge tank level is still slowly lowering. (or as shown on simulator).			
<b>NOTE:</b>	<i>If component cooling surge tank level lowers to 10% the trainee should perform Step 3 of AOP-9B. Examiner should go to step 4, sequence 9 of JPM on page 7 of 7.</i>			
<b>COMMENTS:</b>				

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STEP/SEQUENCE/CRITICAL  
2 7 N

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

**ELEMENT:** Isolate leak per Attachment A, "leak isolation for lowering surge tank level", while continuing with this procedure.

**STANDARD:** Using Attachment A, control room alarms/indications, and reports, identify that system Leakage to Atmosphere (A3) applies.

**CUE:** The PAB AO reports that water spraying from the common discharge pipe in the area below C-59 by the shortline and that no isolation valves exist to stop the leakage.

**NOTE:** *The examinee upon recognizing that the leak cannot be isolated and with full CCW make-up, is insufficient to maintain Surge Tank level, should recommend a plant shutdown or a plant trip. Examinee may raise concerns about chromate's spill however should not be distracted from this AOP by concurrently entering into the hazardous spill AOP.*

**COMMENTS:**

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STEP/SEQUENCE/CRITICAL  
2 8 Y

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

**ELEMENT:** Check component cooling surge tank level stable

**STANDARD:** Recognize that component cooling surge tank level is NOT STABLE and continue with the procedure.

**CUE:** Surge tank level is as indicated based on position of 1CC-815.

**COMMENTS:**

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**PERFORMANCE INFORMATION**

**NOTE:** *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

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	STEP/SEQUENCE/CRITICAL			SAT
	3	9	Y	UNSAT
<b>ELEMENT:</b>	Check surge tank level greater than 10%			
	<ul style="list-style-type: none"><li>• ILI-618B</li><li>• PPCS Point YYLT618</li><li>• (New PPCS point L-618)</li></ul>			
<b>STANDARD:</b>	Check surge tank level using one of the above indicators.			
<b>CUE:</b>	Surge tank level is as indicated (continuous action).			

**NOTE:** *If surge tank level is > 10%, examinee should continue with procedure. Level will continue to lower. Examinee MUST recognize when level drops below 10% and perform step 3 RNO actions of the AOP. If examinee gets to step 9 of AOP without recognizing level is < 10%, then terminate the JPM.*

**COMMENTS:**

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	STEP/SEQUENCE/CRITICAL			SAT
	4	10	Y	UNSAT
<b>ELEMENT:</b>	Perform the following:			
	<ul style="list-style-type: none"><li>• Place 1P-11A and 1P-11B, component cooling water pumps in PULL-OUT.</li><li>• Trip reactor, stabilize plant with EOPs while continuing with AOP-9B.</li><li>• Stop RCPs</li><li>• Transfer Condenser Steam Dump Mode Selector switch to MANUAL.</li></ul>			
<b>STANDARD:</b>	Place Component Coolant Water pumps to PULL-OUT on 1C03. Trip the reactor on 1C04 or C01.			
<b>CUE:</b>	After reactor is tripped, this completes this JPM.			

**COMMENTS:**

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**TERMINATION CUE:** THIS COMPLETES THIS JPM.

**COMPLETION TIME:** \_\_\_\_\_