

NUCLEAR POWER BUSINESS UNIT  
TRAINING JOB PERFORMANCE MEASURES

JPM P000.023COT  
Revision 0 DRAFT  
July 11, 2000  
TOTAL REWRITE

RESPOND TO LOSS OF CONTAINMENT SUMP  
RECIRCULATION CAPABILITY

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K/A REFERENCE: E11 EK1.2 (3.6/4.1)  
(NUREG-1122) E11 EK3.3 (3.8/3.8)  
E11 EA2.2 (3.4/4.2)

ALTERNATE PATH JPM \_\_\_\_\_ YES  X  NO

**PERFORMANCE CHECKLIST:**

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

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

X  Procedure adequately addresses task elements.  
Enter identifier here:  ECA-1.1, Rev. 22

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

X  Task elements described as attached.

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**DESIRED MODE OF EVALUATION:**

**APPLICABLE EVALUATION SETTING:**

SIMULATE/WALKTHROUGH  X  DISCUSSION   PERFORM  X  IN-PLANT   CONTROL ROOM  X

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:

ECA-1.1, Rev. 22, "Loss of Containment Sump Recirculation"

TASK STANDARDS:

1. Delay depletion of the RWST, during loss of Containment Sump Recirculation Capability using ECA 1.1, "Loss of Containment Recirculation".

SIMULATOR INFORMATION:

TIME	FAIL	COMPONENT	OPTION	VALUE	RAMP	DELAY	ACT	COND
---	IC-1	100%	Steady State					
OVR	VLV	RHR14(850A)	6	0		----	D	----
	SCS	RHR1	1		850A Green On			
OVR	VLV	RHR15(850B)	6	0		----	D	----
	SCS	RHR7	1		850B Green ON			
	MAL	RCS1	----	----	----	----	D	----

**NOTE:** Instructor must perform immediate actions of EOP-0, transition to EOP-1, transition to ECA-1.1 when RWST < 60%, complete Steps 1-15 of ECA-1.1, then freeze simulation.

**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.

Unit 1 has tripped due to a large break LOCA.

The crew had transitioned to EOP-1.3, "Transfer to Containment Sump Recirculation".

The crew then transitioned to ECA-1.1, "Loss of Containment Sump Recirculation," when it was discovered that SI-850A and SI-850B would not open.

Steps 1-15 of ECA-1.1 have been completed.

Both SI and RHR pumps are running.

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

The DOS directs you to delay depletion of the RWST and depressurize the RCS to minimize break flow by continuing with ECA-1.1, "Loss of Containment Sump Recirculation," starting at Step 16 of the procedure.

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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	Y	UNSAT

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**ELEMENT:** Establish one train of SI flow:

- 1) Only one SI pump running (1P-15A or 1P-15B)
- 2) RCS pressure < [425 psig] 200 psig.
- 3) Only one RHR pump running (1P-10A or 1P-10B).

**STANDARD:** One train of SI flow established. P-15A or P-15B and P-10A or 10B taken to stop.

**CUE:**

- 1) One SI pump red light on, green lights off (or as indicated on simulator).  
One SI pump green light on, red light off (or as indicated on simulator).
- 2) PT-420 reads 10 psig (or as indicated on simulator).
- 3) One RHR pump red light on, green light off (or as indicated on simulator).  
One RHR pump green light on, red light off (or as shown on simulator).

**COMMENTS:**

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STEP/SEQUENCE/CRITICAL			SAT
2	2	Y	UNSAT

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**ELEMENT:** Verify No Backflow From RWST To Sump.

- 1) Check Train A RHR pump suction from containment sump "B" MOVs at least one SHUT 1SI-850A or 1SI-851A.
- 2) Check Train B RHR pump suction from containment sump "B" MOVs at least one SHUT 1SI-850B or 1SI-851B.

**STANDARD:** 1SI-850A&B are shut.

**CUE:** 1SI-850A&B green lights are on, red lights are off (or as indicated on simulator).

**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.*

STEP/SEQUENCE/CRITICAL  
3 3 N

SAT  
UNSAT

**ELEMENT:** Check if an RCP should be started.  
1) Check RCPs both Stopped.  
2) RCS subcooling > [80 °F] 35 °F based on core exit thermocouples, if not go to Step 21.

**STANDARD:** RCS Subcooling < 35 F, proceed to Step 21.

**CUE:** 1) TI-970 reads 5.5 °F, TI-971 reads 5.7 °F on ASIP (or as indicated on simulator).

**COMMENTS:**

STEP/SEQUENCE/CRITICAL  
4 4 N

SAT  
UNSAT

**ELEMENT:** Check if SI should be terminated.  
1) Check Reactor Vessel Level from table below satisfied:

RCPS RUNNING	REQUIRED REACTOR VESSEL LEVEL
1	Wide Range > [100] 95 feet.
0	Narrow Range > [30] 27 feet.

2) Check RCS Subcooling based on CET > [130] 85 °F.

**STANDARD:** SI Termination Criteria Check. Termination conditions not met due to subcooling and RNO is referenced.

**CUE:** TI-970 reads 5.5 °F and TI-971 reads 5.7 °F on ASIP (or as indicated on simulator).

**NOTE:** *This is a Continuous Action Step.*

**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.*

	STEP/SEQUENCE/CRITICAL	SAT
	5 5 Y	UNSAT
<b>ELEMENT:</b>	Establish minimum injection flow to remove decay heat. 1) Determine minimum injection flow required for decay heat removal from Figure 1. 2) Establish minimum injection flow using charging flow IHC-142 3) Reduce SI flow on running SI Train as much as possible while maintaining minimum injection flow using 1SI-866A or 1SI-866B. 4) Go to Step 25.	
<b>STANDARD:</b>	Determine based on plant conditions that 100 gpm is required per Figure 1 and reduce total flow to not less than 100 gpm is critical.	
<b>CUE:</b>	Two hours has elapsed since reactor trip.	
<b>NOTE:</b>	<i>Based on time being 2 hours after the reactor trip and using Figure 1, the trainee should determine that 100 gpm injection flow is required for decay heat removal for this step to be considered SAT.</i>	
<b>COMMENTS:</b>		

	STEP/SEQUENCE/CRITICAL	SAT						
	6 6 N	UNSAT						
<b>ELEMENT:</b>	Verify adequate injection flow: 1) Check reactor vessel level indication: <table border="1"><thead><tr><th>RCPS RUNNING</th><th>REQUIRED REACTOR VESSEL LEVEL</th></tr></thead><tbody><tr><td>1</td><td>Narrow Range &gt; [100] 95 feet.</td></tr><tr><td>0</td><td>Wide Range &gt; [30] 27 feet.</td></tr></tbody></table> 2) Core exit thermocouples stable or trending lower.	RCPS RUNNING	REQUIRED REACTOR VESSEL LEVEL	1	Narrow Range > [100] 95 feet.	0	Wide Range > [30] 27 feet.	
RCPS RUNNING	REQUIRED REACTOR VESSEL LEVEL							
1	Narrow Range > [100] 95 feet.							
0	Wide Range > [30] 27 feet.							
<b>STANDARD:</b>	Adequate injection flow verified. If trending higher, than raise injection flow as necessary to lower CETs.							
<b>CUE:</b>	1) LI-496 (LI-497) reads approximately 33 ft (or as indicated on simulator). 2) Core exit thermocouples are stable or may be trending slightly higher.(or as indicated on simulator).							
<b>NOTE:</b>	<i>This is a Continuous Action Step.</i>							
<b>COMMENTS:</b>								

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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  
7 7 Y

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

**ELEMENT:** Depressurize RCS to minimize RCS Subcooling:  
1) Checks RCS subcooling based on core exit thermocouples > [80 °F] 35 °F

**STANDARD:** RCS subcooling checked on 1TI-970 or 1TI-971 and verified to be >(80 F) 35 F. Examinee recognizes a depressurization is NOT necessary and goes to step 27.

**CUE:** 1) 1TI-970 reads 6.8 °F, 1TI-971 reads 6.2 °F on ASIP (or as indicated on simulator).  
This completes this JPM.

**COMMENTS:**

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**TERMINATION CUE:** This completes this JPM.

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