OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

TASK NUMBER: N0060040101

JPM NUMBER: 19-01 NRC Sim-d

ALTERNATE PATH: [ ]

K/A NUMBER: 006 A4.07

IMPORTANCE FACTOR: 4.4 (RO) 4.4 (SRO)

APPLICABILITY:
EO [ ] **RO** [X] **STA** [ ] **SRO** [X]

EVALUATION SETTING/METHOD: Simulator / Perform

REFERENCES: S2.OP-SO.SJ-0002, Rev. 24 (checked 1-13-20)

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 10 min

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: **R. Chan** **Instructor** **Date: 1-13-20**

Validated By: **Moore / Klein** **SME or Instructor** **Date: 1-13-20**

Approved By: **N/A** **Training Department** **Date:**

Approved By: **N/A** **Operations Department** **Date:**

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
REVISION HISTORY

JPM NUMBER: 19-01 NRC Sim-d

Rev #	Date	Description	Validation Required
00	8-15-19	006 K/A A4.07: Ability to manually operate and/or monitor in the control room: ECCS pumps and valves	Yes

SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

TASK NUMBER: N0060040101

SIMULATOR IC: IC-203

MALFUNCTIONS:

1. Reset the simulator to the above IC #.
2. Verify the following events on the Summary/ET Trigger Lists:

MALF ID #	Description	Delay Time	Initial Value	Ramp Time	Trigger	Severity
01						

3. No malfunctions are required for this JPM. Setup IC with 21 SI Accumulator level approx. 56%.

OVERRIDES / REMOTES:

ID #	Description	Delay Time	Initial Value	Ramp Time	Trigger	Condition/ Severity
01						

EVENT TRIGGERS:

ET#	Description	Command
1		
2		
3		
4		

SPECIAL INSTRUCTIONS:

- Additional instructor to assist in silencing alarms following reactor trip.

NAME: _____

DATE: _____

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

TASK NUMBER: N0060040101

INITIAL CONDITIONS:

- The Unit 2 is operating at 100% power with no major equipment out of service.

INITIATING CUE:

- You are the Reactor Operator.
- **RAISE** level in 21 SI Accumulator Tank to at least 60% IAW IAW Section 5.2 of S2.OP-SO.SJ-0002, Accumulator Operations, using 21 SI pump.
- Your evaluator will respond to all alarms not related to your task.

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. Raises level in 21 SI Accumulator to at least 60% or as directed IAW S2.OP-SO.SJ-0002.

OPERATIONS TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

* #	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. **START TIME**:_____			
	5.2	**Accumulator Make-up using 21 Safety Injection Pump with RCS Temperature >312°F OR the Reactor Vessel Head is Removed**			
	5.2.1	**ENSURE** either of the following conditions exist: • ALL RCS Cold Leg Temperatures >312°F OR • The Reactor Vessel Head is Removed.	Operator determines RCS Cold Leg temperatures are > 312 F and continues on.		
	NOTE	**CAUTION** Closing 21SJ134 may require entry into TSAS 3.5.2.	Operator reads note and continues on.		

NAME: _____

DATE: _____

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

* #	STEP No.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	5.2.2	IF RCS pressure is <2000 psig, THEN **ENSURE** CLOSED 21SJ134, COLD LEG DISCHARGE	Operators determines RCS is > 2000 psig and marks step as N/A.		
	NOTE	**CAUTION** A maximum of one Safety Injection Pump OR one Centrifugal Charging Pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is #312°F. This restriction also applies in Modes 5-6 when the head is on the reactor vessel.	Operator reads note and continues on.		
*	5.2.3	**START** 21 Safety Injection Pump.	**Operator depresses the START pushbutton for 21 SI Pump.**		
*	5.2.4	**OPEN** 2SJ53, 21 SI PUMP DISCHARGE TEST LINE VALVE.	**Operator depresses the OPEN pushbutton for 2SJ53.**		
*	5.2.5	**OPEN** 2SJ123, TEST LINE TO CVCS HUT.	**Operator depresses the OPEN pushbutton for 2SJ123.**		

OPERATIONS TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

* #	STEP No.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	NOTE	**CAUTION** Do NOT cross-tie Accumulators at any time OPERABILITY is required (e.g.; filling, draining, venting or pressurizing more than one Accumulator at a time).	Operator reads note and continues on.		
*	5.2.6	**OPEN** associated Accumulator fill valve: ___ 21SJ20, ACCUM FILL ___ 22SJ20, ACCUM FILL ___ 23SJ20, ACCUM FILL ___ 24SJ20, ACCUM FILL	**Operator depresses the OPEN pushbutton for 21SJ20.**		
*	5.2.7	When desired level is reached, **CLOSE** the associated Accumulator fill valve: ___ 21SJ20, ACCUM FILL ___ 22SJ20, ACCUM FILL ___ 23SJ20, ACCUM FILL ___ 24SJ20, ACCUM FILL.	**Operator depresses the CLOSE pushbutton for 21SJ20 WHEN level is at least 60% or greater.** **Optional CUE:** *Level is 60%*		
	5.2.8	If required, **REPEAT** Steps 5.2.6 and 5.2.7 to fill additional Accumulators.	Operator marks as N/A		

NAME: _____

DATE: _____

SYSTEM: Emergency Core Cooling System

TASK: Raise Level in 21 SI Accumulator IAW S2.OP-SO.SJ-0002

* #	STEP No.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	5.2.9	**CLOSE** 2SJ53	Operator depresses CLOSE pushbutton for 2SJ53		
	5.2.10	**CLOSE** 2SJ123	Operator depresses CLOSE pushbutton for 2SJ123.		
	5.2.11	**STOP** 21 Safety Injection Pump.	Operator depresses STOP pushbutton for 21 SI Pump. **CUE: JPM is Complete**		
	CUE:	WHEN operator informs you the task is complete, OR the JPM has been terminated for other reasons, THEN **RECORD** the STOP TIME. **STOP TIME**:_____	**Terminate JPM when operator stops 21 SI Pump.**		

S2.OP-SO.SJ-0002:

5.2 **Accumulator Make-up using 21 Safety Injection Pump with RCS Temperature >312°F OR the Reactor Vessel Head is Removed**

___ 5.2.1 **ENSURE** either of the following conditions exist:

- ALL RCS Cold Leg Temperatures >312°F

  OR

- The Reactor Vessel Head is Removed.

CAUTION
___ Closing 21SJ134 may require entry into TSAS 3.5.2.

___ 5.2.2 IF RCS pressure is <2000 psig,
THEN **ENSURE** CLOSED 21SJ134, COLD LEG DISCHARGE.

CAUTION [C0575]
___ A maximum of one Safety Injection Pump OR one Centrifugal Charging Pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is ≤312°F. This restriction also applies in Modes 5-6 when the head is on the reactor vessel.

___ 5.2.3 **START** 21 Safety Injection Pump.

___ 5.2.4 **OPEN** 2SJ53, 21 SI PUMP DISCHARGE TEST LINE VALVE.

___ 5.2.5 **OPEN** 2SJ123, TEST LINE TO CVCS HUT.

CAUTION
___ Do NOT cross-tie Accumulators at any time OPERABILITY is required (e.g.; filling, draining, venting or pressurizing more than one Accumulator at a time).

___ 5.2.6 **OPEN** associated Accumulator fill valve:

- ___ 21SJ20, ACCUM FILL
- ___ 22SJ20, ACCUM FILL
- ___ 23SJ20, ACCUM FILL
- ___ 24SJ20, ACCUM FILL

___ 5.2.7 When desired level is reached, **CLOSE** the associated Accumulator fill valve:

___ ♦ 21SJ20, ACCUM FILL

___ ♦ 22SJ20, ACCUM FILL

___ ♦ 23SJ20, ACCUM FILL

___ ♦ 24SJ20, ACCUM FILL.

___ 5.2.8 If required, **REPEAT** Steps 5.2.6 and 5.2.7 to fill additional Accumulators.

___ 5.2.9 **CLOSE** 2SJ53.

___ 5.2.10 **CLOSE** 2SJ123.

___ 5.2.11 **STOP** 21 Safety Injection Pump.

___ 5.2.12 IF in Modes 1, 2, or 3 AND 21SJ134 was CLOSED in Step 5.2.2,
THEN **OPEN** 21SJ134.

___ 5.2.13 If required, **BLEED** off the SI Pump discharge pressure by performing the following:

___ A. **OPEN** 2SJ123, TEST LINE TO CVCS HUT.

___ B. **OPEN** 2SJ60, TEST LINE TO CVCS HUT.

___ C. **OPEN** 2SJ158, SI HEADER COMMON DISCH.

___ D. When 2SJ158 is open for at least 30 seconds
OR PI923 and PI919 pressure decreases to 30-50 psig:

___ 1. **CLOSE** 2SJ158.

___ 2. **CLOSE** 2SJ60.

___ 3. **CLOSE** 2SJ123.

___ 5.2.14 Direct a second Operator to **PERFORM** Independent Verification IAW Attachment 1, Section 2.0.

___ 5.2.15 IF TSAS 3.5.2 was entered,
THEN **REVIEW** continued applicability of this Action Statement.

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.

RC 1. Task description and number, JPM description and number are identified.

RC 2. Knowledge and Abilities (K/A) references are included.

RC 3. Performance location specified. (in-plant, control room, or simulator)

RC 4. Initial setup conditions are identified.

RC 5. Initiating and terminating Cues are properly identified.

RC 6. Task standards identified and verified by SME review.

RC 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

RC 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure: Procedure Rev. __24___ Date ____1-13-20_____

RC 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	R. Chan	Date:	1-13-20
SME/Instructor:	R. Moore	Date:	1-13-20
SME/Instructor:	J. Klein	Date:	1-13-20

INITIAL CONDITIONS:

- The Unit 2 is operating at 100% power with no major equipment out of service.

INITIATING CUE:

- You are the Reactor Operator.
- **RAISE** level in 21 SI Accumulator Tank to at least 60% IAW IAW Section 5.2 of S2.OP-SO.SJ-0002, Accumulator Operations, using 21 SI pump.
- Your evaluator will respond to all alarms not related to your task.