OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: Containment Spray System

TASK: Manually Initiate Containment Spray and Open Phase B Valves in EOP-TRIP-1 During a LOCA

TASK NUMBER: N1150500502

JPM NUMBER: 19-01 NRC Sim-e

ALTERNATE PATH: [X]

K/A NUMBER: 026 A4.01

IMPORTANCE FACTOR:	4.5	4.3
	RO	**SRO**

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

EVALUATION SETTING/METHOD: Simulator / Perform

REFERENCES: 2-EOP-TRIP-1, Rev. 33 (checked 1-13-20)

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 8 Minutes

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 Representative**	**Date:**

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: **DATE:**

REVISION HISTORY

JPM NUMBER: 19-01 NRC Sim-e

Rev #	Date	Description	Validation Required
00	5-30-17	Added revision history and simulator setup pages. Editorial comments from IP 71111.11 FASA.	No
01	4-16-18	Corrected minor editorial errors and added Figure 1 to provide snapshot of EOP section used during JPM and added improved malfunctions table.	Yes
02	9-17-19	**MODIFIED** JPM to add 2CS16 and 2CS17 NaOH valves fail to open.	Yes

SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Containment Spray System

TASK: Manually Initiate Containment Spray and Open Phase B Valves in EOP-TRIP-1

TASK NUMBER: N1150500502

SIMULATOR IC: **IC-204**

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	RC0001A, RCS Rupture of RC Loop 21	N/A	N/A	N/A	N/A	N/A
02	VL0087, 2CC131 Fails to Position	N/A	N/A	N/A	N/A	100
03	VL0056, 2CC190 Fails to Position	N/A	N/A	N/A	N/A	100
04	RP0277A, Auto CS fails to actuate	N/A	N/A	N/A	N/A	N/A
05	RP0277B, Auto CS fails to actuate	N/A	N/A	N/A	N/A	N/A
06	RP0276A, Auto Phase B fails to actuate	N/A	N/A	N/A	N/A	N/A
07	RP0276B, Auto Phase B fails to actuate	N/A	N/A	N/A	N/A	N/A
08	VL0013, 2CS16 fails to position	N/A	N/A	N/A	N/A	0
09	VL0014, 2CS17 fails to position	N/A	N/A	N/A	N/A	0

3. These malfunctions will simulate failure of CS to actuate. The operator will be required to manually actuate Phase B and CS using key switches. [**Alternate Path**] The operator will recognize that not all Phase B/CS valves are in their safeguards positions. The operator will manually reposition the valves to their safeguards position (closes 2CC131 and 2CC190, opens 2CS16 and 2CS17).

OVERRIDES / REMOTES:

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

EVENT TRIGGERS:

ET#	Description	Command
1	KA617TCM, 2CC131 Closed PB	DMF VL0087
2	KA618TCM. 2CC190 Closed PB	DMF VL0056
3	KA404PNT, 2CS16 Open PB	DMF VL0013
4	KA406PNT, 2CS17 Open PB	DMF VL0014

SPECIAL INSTRUCTIONS: None

NAME: _____

DATE: _____

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TASK: Manually Initiate Containment Spray and Open Phase B Valves in EOP-TRIP-1

TASK NUMBER: N1150500502

INITIAL CONDITIONS:

- A Large Break LOCA has occurred.
- The Reactor Automatically Tripped and SI was actuated
- The crew has completed Steps 1 through 10 of 2-EOP-TRIP-1, Rx Trip or Safety Injection.

INITIATING CUE:

- You are the Reactor Operator.
- The CRS directs you to continue on with EOP-TRIP-1 starting at **STEP 11**.
- Your evaluator will respond to any alarms not associated with 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.

Task Standard for Successful Completion:

1. Manually initiates Containment Spray using key switches.
3. Closes 2CC131 OR 2CC190 Phase B valves.
4. Opens 2CS16 OR 2CS17 NaOH Discharge Valves

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* #	STEP No.	STEP (Shaded area denotes Critical Step) (* Critical Step) (# Sequential 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**:_____			
		The following steps are from 2-EOP-TRIP-1, Major Action for "Containment Spray Actuation Verification", Step 11. **Examiner's Note: Figure 1 is a snapshot that shows the exact EOP steps to follow along.**	**Evaluator's Note**: The following EOP CAS actions were already implemented: ♦ STOP RCPs ♦ CLOSE charging pump mini flows		
	Step 11	Has Containment Pressure remained less than 15 psig	**NO**, Operator determines containment pressure has NOT remained less than 15 psig.		
*	Step 11	Initiate Phase B and Spray Actuation	**Operator uses both Safeguards Keys and simultaneously rotates both keys on 2CC1 to actuate Phase B and Spray Actuation on at least one Safeguards train.** **Examiner's Note:** Operator can use one key at a time so long as the key switch is not rotated back to the initial position prior to removing the key.		
	Step 11.2	Did any available CNMT Spray pump fail to start	No, Operator determines that both CS pumps are running.		

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* #	STEP No.	STEP (Shaded area denotes Critical Step) (* Critical Step) (# Sequential Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	Step 11.3	Initiate Loop 21 thru 24 Main Steam Isolation	Determines Loops 21 thru 24 Main Steam Isolation previously actuated. (From hi-hi containment pressure signal)		
	Step 11.3	Stop 21 thru 24 RCPs	Operator reports 21-24 RCPs are stopped.		
		ALTERNATE PATH STARTS HERE:	**2CC131 and 2CC190 failed to close on Phase B AND 2CS16 and 2CS17 fail to open on CS signal.**		
	Step 11.4	Are valve groups in Table D in Safeguards positions	NO, operator identifies that 2CC131 and 2CC190 remain OPEN AND 2CS16 and 2CS17 remain CLOSED.		
*	Step 11.4	Place Valves in Safeguards position **Simulator Operator**: **ENSURE** the following Event Triggers are TRUE, this will delete the following malfunctions to enable the valves to reposition: **ET-1: VL0013 for 2CS16** **ET-2: VL0014 for 2CS17** **ET-3: VL0087 for 2CC131** **ET-4: VL0056 for 2CC190**	**Operator depresses CLOSED pushbutton for 2CC131 and 2CC190 and verifies CLOSED bezel are illuminated.** **Operator depresses the OPEN pushbutton for 2CS16 and 2CS17 and verifies OPEN bezel are illuminated.** **CUE: JPM is Complete** **Examiner's Note:** Selecting Manual for 2CC131 is NOT required to close the valve.		

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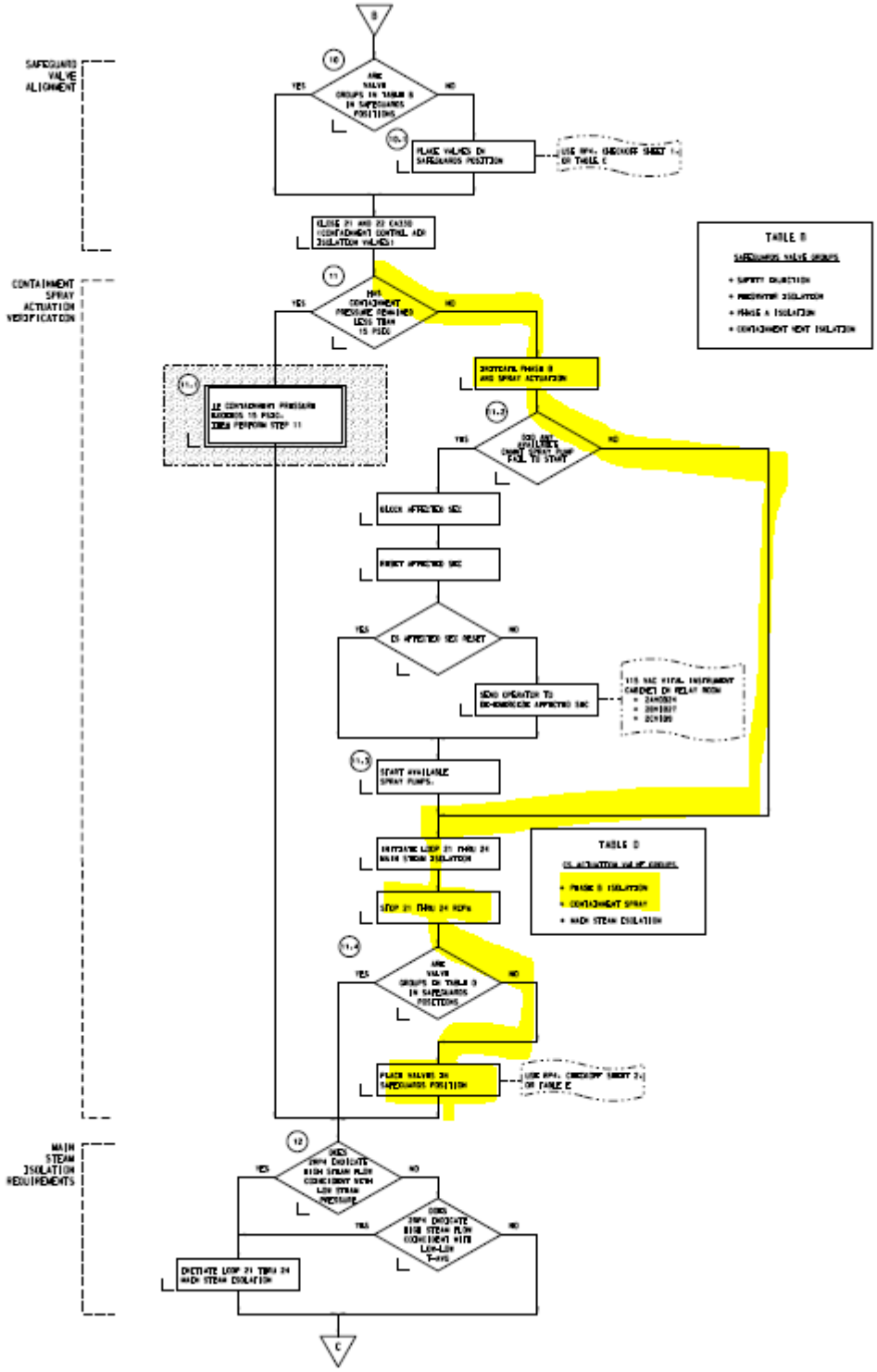
	CUE:	WHEN operator informs you the task is complete, OR the JPM has been terminated for other reasons, THEN **RECORD** the STOP TIME. **STOP TIME**:_____	**Terminate JPM when operator repositions Phase B/CS valves of EOP-TRIP-1.**		

Figure 1 (EOP-TRIP-1, Sheet 2):



JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

JPM#: 19-01 NRC Sim-e

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. __33___ 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

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