

**OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE**

STATION:	SALEM		
SYSTEM:	Reactor Pressure Control (SF 3) – Pressurizer Pressure Control System		
TASK:	Respond to Spray Valve Failing to Close during RCS Depressurization in EOP-SGTR-1		
TASK NUMBER:	N1150190501		
JPM NUMBER:	'17-01 NRC Sim-c		
ALTERNATE PATH:	<input checked="" type="checkbox"/>	K/A NUMBER:	010 A2.02
APPLICABILITY:		IMPORTANCE FACTOR:	
EO <input type="checkbox"/>	RO <input checked="" type="checkbox"/>	STA <input type="checkbox"/>	SRO <input checked="" type="checkbox"/>
EVALUATION SETTING/METHOD:	Simulator / Perform		
REFERENCES:	2-EOP-SGTR-1, Rev 32 (checked 6-22-18)		
TOOLS AND EQUIPMENT:	None		
VALIDATED JPM COMPLETION TIME:	<u>10 min</u>		
TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:	<u>N/A</u>		
Developed By:	R. Chan Instructor	<i>Rudolph Chan</i>	Date: 12-4-18
Validated By:	Spencer / Wathey (Rev. 0) SME or Instructor		Date: 6-22-18
Approved By:	<i>[Signature]</i> Training Department		Date: 12/11/18
Approved By:	<i>[Signature]</i> Operations Department		Date: 12/7/18
ACTUAL JPM COMPLETION TIME:			
ACTUAL TIME CRITICAL COMPLETION TIME:			
PERFORMED BY:			
GRADE:	<input type="checkbox"/> SAT	<input type="checkbox"/> UNSAT	
REASON, IF UNSATISFACTORY:			
EVALUATOR'S SIGNATURE:			DATE:

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REVISION HISTORY

JPM NUMBER: 17-01 NRC Sim-c

Rev #	Date	Description	Validation Required
00	6-22-18	This is a NEW JPM.	Yes
01	12-4-18	Incorporated NRC Prep week comments. Changed cue on page 6 to PZR level is now 79% and slowly rising. This is a minor change and re-validation is not required.	No

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SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Reactor Pressure Control (SF 3) – Pressurizer Pressure Control System

TASK: Respond to Spray Valve Failing to Close during RCS Depressurization in EOP-SGTR-1

TASK NUMBER: N1150190501

SIMULATOR IC: IC-232 [6-11-18, 12:00:52]

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	PR0019B, PZR Spray valve 2PS3 fails open	N/A	N/A	N/A	ET-1	N/A
02	SG0078B, 22 SG Tube Rupture	N/A	N/A	N/A	N/A	1200

3. These malfunctions will simulate a SGTR in 22 SG and the operator is directed to perform RCS depressurization at Step 19 of EOP-SGTR-1. **ALTERNATE PATH:** 2PS3 will fail to close following reaching RCS depressurization criteria in Table D. The operator will be required to stop both 21 and 23 RCPs.

OVERRIDES / REMOTES:

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

EVENT TRIGGERS:

ET#	Description	Command
01	KB216TWI, 2PS3 Decrease (Close) PB	
02	MPC Pressure Increase PB	IMF PR0019B

SPECIAL INSTRUCTIONS:

- Make sure EOP-SGTR-1 is marked up to Step 19.

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NAME: _____

DATE: _____

SYSTEM: Reactor Pressure Control (SF 3) – Pressurizer Pressure Control System

TASK: Respond to Spray Valve Failing to Close during RCS Depressurization in EOP-SGTR-1

TASK NUMBER: N1150190501

INITIAL CONDITIONS:

- Unit 2 was manually tripped at 100% power due to Steam Generator Tube Rupture (SGTR) on 22 SG.
- Safety Injection (SI) was initiated successfully on both trains.
- The crew is implementing 2-EOP-SGTR-1.
- The crew has just completed the RCS cooldown to the target temperature and the steam dumps are in Auto in MS Mode.

INITIATING CUE:

- You are the Reactor Operator.
- The CRS has directed you to **PERFORM** RCS depressurization using normal spray starting at Step 19 of 2-EOP-SGTR-1
- 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. **Performs RCS depressurization IAW EOP-SGTR-1 Step 19.**
2. **Identifies one PZR Spray Valve failed to close and Stops 21 and 23 RCPs.**

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TASK: Respond to Spray Valve Failing to Close during RCS Depressurization in EOP-SGTR-1

* #	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: _____			
	CUE	The following are Steps from 2-EOP-SGTR-1, Steam Generator Tube Rupture.			
	19	IS NORMAL SPRAY AVAILABLE	YES, Operator determines from Initial Cue that CRS directed use of Normal Spray.		
	19.1	<u>WHEN ANY</u> CONDITION IN TABLE D OCCURS, <u>THEN</u> CLOSE THE PZR SPRAY VALVES	Operator reads Continuous Action Step and continues on.		
*	19.1 Contd.	FULLY OPEN BOTH PZR SPRAY VALVES	Operator depresses the open PB for 2PS1 and 2PS3 and verifies open bezel illuminates.		
	19.2	IS PZR SPRAY REDUCING RCS PRESSURE	YES. Operator checks RCS pressure is lowering.		
	19.2 Contd.	HAS <u>ANY</u> CONDITION IN TABLE D OCCURRED	NO. Operator checks parameters listed in Table D and determines that conditions are not met yet.		

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* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	19.3	CONTINUE DEPRESSURIZATION	Operator continues the depressurization. Evaluator's Note: During validation it took approx. 5-7 minutes until conditions in Table D were met. RCS pressure less than ruptured SG pressure AND PZR level > 11% (19% ADVERSE) was the first condition met during validation.		
	19.3 Contd.	RETURN TO STEP 19.2	Evaluator's Note: At the discretion of the Lead Evaluator to save time use the following: CUE: PZR Level is now 79% and rising slowly		
	19.2 Contd.	HAS ANY CONDITION IN TABLE D OCCURRED	YES. Operator determines that a condition of Table D has occurred. Evaluator's Note: Operator may also use <u>Step 19.1</u> to stop the depressurization. Evaluator's Note: Condition in Table D is met for RCS pressure < ruptured SG pressure <u>WHEN</u> both RCS pressure and ruptured SG pressure are lowering together.		

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* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	19.2 Contd.	CLOSE BOTH PZR SPRAY VALVES	Operator depresses CLOSE PB for 2PS1 and 2PS3 and verifies CLOSE PB illuminates. Operator identifies that 2PS3 will not close.		
[ALTERNATE PATH STARTS HERE:]			2PS3 Fails to Close		
	19.4	ARE <u>BOTH</u> PZR SPRAY VALVES CLOSED	NO, Operator reports that 2PS3 will NOT CLOSE.		
*	19.4 Contd.	STOP 21 AND 23 RCPS	Operator depresses STOP PBs for 21 and 23 RCPs and verifies STOP bezel illuminates.		
	19.4 Contd.	IS RCS PRESSURE DROPPING UNCONTROLLED	NO. Operator reports that RCS pressure is rising.		
	19.4 Contd.	GO TO STEP 27	Operator goes to Step 27. CUE: JPM is Complete.		
	CUE:	JPM is Complete RECORD the STOP TIME. STOP TIME: _____	Terminate the JPM when the operator goes to Step 27.		

OPERATIONS DEPARTMENT
JOB PERFORMANCE MEASURE

TQ-AA-106-0303

JPM: 17-01 NRC Sim-c

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.

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

SME/Instructor: *NA R 12-4-18* Date: _____

SME/Instructor: _____ Date: _____

SME/Instructor: _____ Date: _____

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