PSEG Nuclear LLC

Job Performance Measure

PERFORM CONTROL ROOM LOGS (MODES 1-4) IAW S2.OP-DL.ZZ-0003

JPM Number: 21-01 NRC RO-A1.a

Revision Number: 01

Date: 1/10/23

Developed By:	**R. Chan** **Instructor**	**Date:**	1/10/23
Validated By:	**E. Gallagher** **SME or Instructor**	**Date:**	1/10/23
Reviewed By:	**M. Winkelspecht** **Operations Representative**	**Date:**	1/19/23
Approved By:	**M. Wadusky** **Training Department (Print/Sign)**	**Date:**	1/19/23

REVISION RECORD (Summary)

Revision Number	Date	Reason
00	11/9/22	New JPM.
01	1/10/23	Incorporated NRC comments from Prep week. Modified Answer Key to distinguish which readings were previously recorded.

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)
	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(s) S2.OP-DL.ZZ-0003 Rev. 126 Date Checked: 10/13/22
	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

R. Chan	11/9/22
SME/Instructor	Date
SME/Instructor	Date
SME/Instructor	Date

SIMULATOR SETUP INSTUCTIONS

1. Ensure simulator is in IC-246, this is an Admin JPM.
2. Ensure the following overrides are at values desired for the JPM being performed.

ID #	Description	Delay Time	Ramp	RT/ET	CUR/VAL	FINAL VALUE
01	B223 R AO GB223BTI 21 OT DELTA T SETPOINT	N/A	N/A	N/A	75.1	N/A
02	B223 L AO GB223ATI 21 OP DELTA T SETPOINT	N/A	N/A	N/A	67.2	N/A
03	B225 R AO GB223BTI 22 OT DELTA T SETPOINT	N/A	N/A	N/A	78.0	N/A
04	B225 L AO GB223ATI 22 OP DELTA T SETPOINT	N/A	N/A	N/A	70.2	N/A
05	B227 R AO GB223BTI 23 OT DELTA T SETPOINT	N/A	N/A	N/A	80	N/A
06	B227 L AO GB223ATI 23 OP DELTA T SETPOINT	N/A	N/A	N/A	68.1	N/A
07	B229 R AO GB223BTI 24 OT DELTA T SETPOINT	N/A	N/A	N/A	77.1	N/A
08	B229 L AO GB223ATI 24 OP DELTA T SETPOINT	N/A	N/A	N/A	68.2	N/A
09	B224 L AO GB224ATI 21 REACTOR COOLANT LOOP DELTA T	N/A	N/A	N/A	61.3	N/A
10	B226 L AO GB226ATI 22 REACTOR COOLANT LOOP DELTA T	N/A	N/A	N/A	63.9	N/A
11	B228 L AO GB228ATI 23 REACTOR COOLANT LOOP DELTA T	N/A	N/A	N/A	62.1	N/A
12	B230 L AO GB230ATI 24 REACTOR COOLANT LOOP DELTA T	N/A	N/A	N/A	62.9	N/A
13	B234 L AO GB234ATI 21 LOOP AVG TEMPERATURE	N/A	N/A	N/A	573.5	N/A
14	B235 L AO GB235ATI 22 LOOP AVG TEMPERATURE	N/A	N/A	N/A	575.6	N/A
15	B236 L AO GB236ATI 23 LOOP AVG TEMPERATURE	N/A	N/A	N/A	574.3	N/A
16	B237 L AO GB237ATI 24 LOOP AVG TEMPERATURE	N/A	N/A	N/A	573.8	N/A

SPECIAL INSTRUCTIONS

1. Copies of Salem 2 Cycle 26 REM (Rev. 21)
2. Marked up copies of Control Room Logs S2.OP-DL.ZZ-0003, Reactor Coolant Temperatures, pages 22-24
3. Black and Red pens
4. OP-AA-111-101-1001, Rev. 6, USE AND DEVELOPMENT OF OPERATING LOGS

INITIAL CONDITIONS

- Salem Unit 2 is at 100% power
- During the CRS review of the Control Room Logs, it was discovered that the Reactor Coolant Temperatures section of the Control Room Logs was not completed

INITIATING CUE

- You are directed to complete the log readings IAW S2.OP-DL.ZZ-0003, Control Room Logs (Modes 1-4).
- Notify the CRS (lead examiner) the results of the log readings.

TASK STANDARD:

The task is satisfactorily met when the applicant completes the control room logs, determines that 23 RC Loop OTΔT setpoint channel check is outside the REM OTΔT Setpoint band, and records the reading as UNSAT.

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Information for Evaluators Use:

UNSAT requires written comments on the respective step.

(*) **Denotes critical steps**

If Time Critical, estimated time is the Time Critical time.

The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The time clock starts when the candidate acknowledges the initiating cue.

ANSWER KEY (optional):

MONDAY DATE: ___/___/___

ANS KEY

CONTROL ROOM LOG (MODES 1-4)

DESCRIPTION	SURV. RQMT	INSTR NO.	UNITS	MIN	MAX	MON 1830	MON 0630	TUE 1830	TUE 0630	WED 1830	WED 0630	THU 1830	THU 0630	FRI 1830	FRI 0630	SAT 1830	SAT 0630	SUN 1830	SUN 0630
REACTOR COOLANT SYSTEM PRESSURE																			
PRESSURE CHANNEL I-IV CHECK	4.3.1.1.9 4.3.1.1.10 4.3.2.1.1.d	---	---	UNSAT	SAT	SAT													
* IF the difference between operable channels is <= 28psig, THEN RECORD "SAT".																			
REACTOR COOLANT SYSTEM PRESSURE RECORDE																			
GROUP NOTE - SAT - Channel is within 100 psig of 2PI405 AND recorder is opera ... corner rotating). IF UNSAT, THEN Reference S2.OP-ST.INST-0001 AND T.S.A.S 3.3.3.7																			
2PR-403 Hot Leg Pressure Recorder	4.3.3.7	---		UNSAT	SAT	SAT													
REACTOR COOLANT TEMPERATURES																			
GROUP NOTE: LOOP OPDT, OTDT, and ACTUAL DT Applicable in Modes 1 & 2 only. **GROUP NOTE: LOOP AVERAGE TEMPS, S/R 4.2.5.1 is app in Mode 1 with 4 loops in operation. T/S 3.1.1.4 is app in Mode 1 and 2. IF the Reactor is critical, TAVE is less than 551 Deg F, AND TAVE-TREF in alarm, THEN REFER to S2.OP-AR.ZZ-0012(Q).**																			
21 - 24 LOOP ACTUAL DT	4.3.1.1.7 4.3.1.1.8	---	---	UNSAT	SAT **	SAT													
* IF for each loop actual D/T = (Reactor Engineering Manual Data Table 1 Full Power D/T) x (Corrected % Power) ±2.0°F , THEN RECORD "SAT". ** IF the average operable loop D/T is greater than (REM Data average operable Table 1 Full Power D/T) x (Corrected % Power) +0.3F, THEN REDUCE RTP IAW S2.OP-IO.ZZ-0004. During Tave coast down IAW S2.OP-IO.ZZ-0004 att 9 ONLY, IF average operable loop D/T is greater than (REM Data average operable Table 1 Full Power D/T) x (Corrected % Power) +0.2F THEN direct RE to provide new full power D/T values IAW SC.RE-RA.ZZ-0004. (Corrected % Power = [Average NIS Power + S2.RE-RA.ZZ-0012 Figure 9 Correction] / 100). *** IF this is the first startup following a refueling, THEN refer to SC.RE-IO.ZZ-0002(Q), Low Power Physics Testing and Power Ascension for 21-24 LOOP Actual DT validation. Table 1 of Reactor Engineering Manual Data is not updated until after 100% pwr and state point data is collected.																			
21 LOOP OPDT STPT CHAN CHECK	4.3.1.1.8	TI411B	°F	*	*	67													
* RECORD Console OPDT indication. Must be within REM (Reactor Engineering Manual Data) OPDT Setpoint (±1.5 °F).																			

Previously recorded readings.

COMMENTS:

ANS KEY

ANS KEY

MONDAY DATE: ____/____/____

CONTROL ROOM LOG (MODES 1-4)

DESCRIPTION	SURV. RQMT	INSTR NO.	UNITS	MIN	MAX	MON 1830	MON 0630	TUE 1830	TUE 0630	WED 1830	WED 0630	THU 1830	THU 0630	FRI 1830	FRI 0630	SAT 1830	SAT 0630	SUN 1830	SUN 0630
REACTOR COOLANT TEMPERATURES																			
22 LOOP OPDT STPT CHAN CHECK	4.3.1.1.1.8	TI421B	°F	*	*	69.9													
* RECORD Console OPDT indication. Must be within REM (Reactor Engineering Manual Data) OPDT Setpoint (±1.5 °F).																			
23 LOOP OPDT STPT CHAN CHECK	4.3.1.1.1.8	TI431B	°F	*	*	67.8													
* RECORD Console OPDT indication. Must be within REM (Reactor Engineering Manual Data) OPDT Setpoint (±1.5 °F).																			
24 LOOP OPDT STPT CHAN CHECK	4.3.1.1.1.8	TI441B	°F	*	*	67.7													
* RECORD Console OPDT indication. Must be within REM (Reactor Engineering Manual Data) OPDT Setpoint (±1.5 °F).																			
21 LOOP OTDT STPT CHAN CHECK	4.3.1.1.1.7	TI411C	°F	*	*	74.7													
* RECORD Console OTDT indication. Must be within REM (Reactor Engineering Manual Data) OTDT Setpoint Band.																			
22 LOOP OTDT STPT CHAN CHECK	4.3.1.1.1.7	TI421C	°F	*	*	77.6													
* RECORD Console OTDT indication. Must be within REM (Reactor Engineering Manual Data) OTDT Setpoint Band.																			
23 LOOP OTDT STPT CHAN CHECK	4.3.1.1.1.7	TI431C	°F	*	*	79.6													
* RECORD Console OTDT indication. Must be within REM (Reactor Engineering Manual Data) OTDT Setpoint Band.																			
24 LOOP OTDT STPT CHAN CHECK	4.3.1.1.1.7	TI441C	°F	*	*	76.5													
* RECORD Console OTDT indication. Must be within REM (Reactor Engineering Manual Data) OTDT Setpoint Band.																			
LOOP 21 AVERAGE TEMP	4.2.5.1 3.1.1.4	TI-412	°F	541	579.9	573.4													

23 LOOP OPDT STPT

UNSAT READING

COMMENTS:

ANS KEY

ANS KGY

MONDAY DATE: ___/___/___

CONTROL ROOM LOG (MODES 1-4)

DESCRIPTION	SURV. RQMT	INSTR NO.	UNITS	MIN	MAX	MON 1830	MON 0630	TUE 1830	TUE 0630	WED 1830	WED 0630	THU 1830	THU 0630	FRI 1830	FRI 0630	SAT 1830	SAT 0630	SUN 1830	SUN 0630
REACTOR COOLANT TEMPERATURES																			
LOOP 22 AVERAGE TEMP	4.2.5.1 3.1.1.4	TI-422	°F	541	579.9	575.1													
LOOP 23 AVERAGE TEMP	4.2.5.1 3.1.1.4	TI-432	°F	541	579.9	574.8													
LOOP 24 AVERAGE TEMP	4.2.5.1 3.1.1.4	TI-442	°F	541	579.9	573.9													
21 - 24 AVE TEMP CHANNEL CHECK	4.3.2.1.1.1.f 4.3.2.1.1.4.d	---	---	UNSAT	SAT	SAT													
* S/R 4.3.2.1.1 is applicable in Modes 1, 2, & 3. IF all 4 loop avg temperatures are within 3°F, THEN RECORD "SAT"																			
RX VESSEL FLANGE TEMP	4.4.7.2.1.e	TI-401	°F	---	300	95													
PRIMARY WATER STORAGE TANK																			
PWST Level	---	LA-5873	%	20	98	60.1													
20% PWST level required for FLEX capability, IF <20% THEN REFER to OP-SA-108-115-1001																			
PRESSURIZER TEMPERATURES																			
PZR Vapor Temperature	---	TI-454	°F	---	668	652													
Spray Loop 21 Temperature	---	TI-451	°F	475	---	544													
Spray Loop 23 Temperature	---	TI-452	°F	500	---	543													

Previously recorded readings.

COMMENTS:

ANS KGY

RECORD JPM Start Time:_____

STEP	CRITICAL	ELEMENT	STANDARD	GRADE (S/U)
N/A		**RECORD** the JPM Start Time when the operator acknowledges READY TO START JPM.		N/A
Cue: Provide marked up copy of Control Room Log to applicant. Examiners Note: None Comments: N/A				
1.0	*	Records 21-24 LOOP ACTUAL DT	Determines all LOOP ACTUAL DTs readings are SAT.	
Cue: N/A Examiners Note: None Comments:				
2.0	*	Records LOOP 21-24 OPDT STPT CHAN CHECKs	Determines all OPDT setpoints are within the REM +/- 1.5 °F criteria and Channel Checks are SAT.	
Cue: N/A Examiners Note: None Comments:				
3.0	*	Records LOOP 21-24 OTDT STPT CHAN CHECKs	Determines all OTΔT setpoints are within the REM Fig 5A-D and Channel Checks are SAT, **EXCEPT** for 23 OTΔT which the setpoint is outside the REM Fig 5C and notes that channel as UNSAT.	
Cue: N/A Examiners Note: UNSAT reading should be red circled				

STEP	CRITICAL	ELEMENT	STANDARD	GRADE (S/U)
Comments:				
4.0	*	Records 21-24 LOOP AVERAGE TEMPs	Determines all LOOP AVERAGE TEMPs are SAT.	
Cue: N/A Examiners Note: None Comments:				
5.0	*	Records LOOP 21-24 AVE TEMP CHANNEL CHECK	Determines 21-24 AVE TEMP CHANNEL CHECK is SAT.	
Cue: N/A Examiners Note: None Comments:				
6.0	*	Records RX VESSEL FLANGE TEMP	Determines RX VESSEL FLANGE TEMP is SAT.	
Cue: N/A Examiners Note: None Comments:				
Terminating Cue		**JPM COMPLETE when the applicant submits the LOGS to the Lead Examiner.**		N/A

RECORD JPM Stop Time: _____

Operator's Name: _____ **Job Title:** RO **X** SRO _____

Facility: Salem **JPM No.:** 21-01 NRC RO-A1.a **Revision No.:** 01

Task Title: Perform Control Room Logs (Modes 1-4) IAW S2.OP-DL.ZZ-0003

Task No.: N1150410501 **Source:**

System: Conduct of Operations (Generic) Bank _____ New X Mod _____

K/A Number / Description: G2.1.25 Ability to interpret reference materials, such as graphs, curves, tables (reference Potential)

K/A Rating RO 3.9 SRO 4.2

Task Applicability: SRO Only _____ RO/SRO X AO/RO/SRO _____ Other _____

Time-Critical: Yes _____ No X **Alternate Path:** Yes _____ No X

Estimated Time to Complete: **10** Minutes **Actual Time Used:** Minutes

Method of Testing: Simulated Performance _____ Actual Performance X

Location: Classroom _____ Simulator X In-Plant _____ RCA _____

Required Materials: S2.OP-DL.ZZ-0003 pages 22-24

Reference(s): S2.OP-DL.ZZ-0003 (R126)

EVALUATION SUMMARY:

Were all the Critical Elements (steps) performed satisfactorily? Yes ____ No ____

The operator's performance was evaluated against the standards contained in this JPM, and has been determined to be: Satisfactory _____ Unsatisfactory _____

Comments:

Evaluator's Name: _____

Evaluator's Signature: _____ **Date:** _____

STUDENT HANDOUT

INITIAL CONDITIONS

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INITIATING CUE

- You are directed to complete the log readings IAW S2.OP-DL.ZZ-0003, Control Room Log (Modes 1-4).
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