OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: Liquid Radwaste System

TASK: Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001

TASK NUMBER: N0685140104

JPM NUMBER: 16-01 NRC IP-k

ALTERNATE PATH: [ ]

K/A NUMBER: 068 A2.04

IMPORTANCE FACTOR: 3.3 (RO) 3.3 (SRO)

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

EVALUATION SETTING/METHOD: In Plant / Simulate

REFERENCES: S2.OP-SO.WL-0001, Rev. 28 (checked 10-2-17)
S2.OP-TM.ZZ-0002, Rev. 8

TOOLS AND EQUIPMENT: S2.OP-TM.ZZ-0002 Tank Capacity Data

VALIDATED JPM COMPLETION TIME: 20 mins

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

Developed By: R. Chan Rudolph Chu **Date:** 12-14-17
Instructor

Validated By: N/A R 12-14-17 **Date:** N/A R
SME or Instructor

Approved By: McHugh **Date** 12/15/17
Training Department

Approved By: **Date:** 12/15/17
Operations Department MERS

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME:

PERFORMED BY:

GRADE: [ ] SAT [ ] UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: **DATE:**

PSEG CONFIDENTIAL – Possession Requires Specific Permission from Nuclear Training

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

REVISION HISTORY

JPM NUMBER: **16-01 NRC IP-k**

Rev #	Date	Description	Validation Required
00	10-2-17	Added revision history and simulator setup pages. Editorial comments from IP 71111.11 FASA.	Yes
01	12-14-07	Incorporated NRC Prep week comments. Changed validation time to 20 minutes. Added cue to provide SAP screenshots if requested for location of 2WR59 valve. Step 5.5.9 cannot be credited towards critical step and alternate path since no action is performed by operator in the field. Also revised outline (ES-301-2) to change this JPM as not an alternate path JPM.	No

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Liquid Radwaste System

TASK: Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001

TASK NUMBER: N0685140104

SIMULATOR IC: **N/A**

MALFUNCTIONS / REMOTES:

N/A

OVERRIDES: N/A

SPECIAL INSTRUCTIONS:

- **This JPM is located inside the RCA**.
- **ENSURE** Lead Evaluator has a copy of S2.OP-TM.ZZ-0002, Tank Capacity Data, to provide to Operator when requested. Note: Field Copy does exist at the Radwaste Operator desk by the 104 Panel.
- **ENSURE** Evaluator has the two (2) SAP screenshots for 2WR59 location information.

PSEG CONFIDENTIAL – Possession Requires Specific Permission from Nuclear Training

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Liquid Radwaste System

TASK: Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001

TASK NUMBER: N0685140104

INITIAL CONDITIONS:

- Preparations for a release of 21 CVCS Monitor Tank via Unit 2 SW system to Unit 1 CW system is in progress IAW S2.OP-SO.WL-0001, RELEASE OF RADIOACTIVE LIQUID WASTE FROM 21 CVCS MONITOR TANK.
- Chemistry has granted permission to release 21 CVCS MT at a Maximum Release Rate of 45 gpm due to the high curie content of the tank.
- 2R18 and 2FR1064 Flow Recorder are both OPERABLE.
- All Unit 1 CW pumps are in service.

INITIATING CUE:

- You are the extra NCO.
- The CRS directs you to release 21 CVCS MT IAW Section 5.5 of S2.OP-SO.WL-0001.

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. **Controls the discharge of 21 CVCS MT to less than the Maximum Release rate.**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: **Liquid Radwaste System**

TASK: **Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001**

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Provide candidate with marked up procedure (partial procedure) S2.OP-SO.WL-0001, RELEASE OF RADIOACTIVE LIQUID WASTE FROM 21 CVCS MONITOR TANK.	Give operator marked up copy of S2.OP-SO.WL-0001.		
	CUE:	Fill in the JPM Start Time when the student acknowledges the Initiating Cue. **START TIME:**_____			
	5.5	**Release of 21 CVCS MT via SW System to CW System**			
	5.5.1	IF 2FR1064, RADWASTE OVERBOARD DISCH FLOW RECORDER is INOPERABLE, THEN **INITIATE** Attachment 4, Section 4.0.	Marks step N/A; 2FR1064 is OPERABLE.		
*	5.5.2	**DIRECT** Unit 2 NCO to OPEN 2WL51, LIQUID RELEASE STOP VALVE	Operator simulates using the plant page or phone to call control room. **Operator DIRECTS Unit 2 NCO to OPEN 2WL51.** **Cue**: Unit 2 NCO reports 2WL51 is OPEN.		
	5.5.3	**DIRECT** second Operator to PERFORM Independent Verification of 2WL51, LIQUID RELEASE STOP VALVE, position in Attachment 2, Step 4.1.2 OR 4.2.2, as applicable (ODCM).	**Cue:** IV has been performed.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: **Liquid Radwaste System**

TASK: **Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001**

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.5.4	THROTTLE **OPEN** 2WR59, MT PMPS OB STOP VALVE, to obtain less than or equal to Maximum Release Rate recorded in Attachment 2, Step 2.2.2.	**Operator locates 2WR59 and simulates opening valve by turning valve hand wheel in the counterclockwise direction. [location: Gas Stripper Feed Pump Room, 64' El. Aux Bldg.]** **Cue:** The 2WR59 is full open. **Cue**: **IF** the operator has problems locating this valve and requests to access SAP to obtain location information on this valve, THEN provide the SAP screenshots for location info on 2WR59. **Cue**: When operator checks the 2FR1064 flow recorder on the 104 panel, THEN report; flow is reading 5 gpm.		
	5.5.5	**DIRECT** second Operator to PERFORM Independent Verification of 2WR59, MT PMPS OB STOP VALVE, position in Attachment 2, Step 4.1.3 OR 4.2.3, as applicable (ODCM).	**Cue:** IV has been performed.		
	Caution	Completely closing 21WR53 will NOT provide sufficient recirculation to protect the pump should 2WL51 isolate due to high radiation alarm.	Operator reads Caution and continues on.		

NAME: _____

DATE: _____

SYSTEM: **Liquid Radwaste System**

TASK: **Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001**

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.5.6	IF Maximum Release Rate recorded in Attachment 2, Step 2.2.2, NOT obtained with 2WR59, MT PMPS OB STOP VALVE, fully open, THEN **THROTTLE** 21WR53, MT RECIRC V, to obtain less than or equal to Maximum Release Rate recorded in Attachment 2, Step 2.2.2.	**Operator locates 21WR53 and simulates throttling valve CLOSED by turning the hand wheel in the clockwise direction to raise flow. [location: CVCS MT Room, 64' EL. Aux Bldg. 21WR53 is about 7 feet above the floor]** Cue: When operator checks the 2FR1064 flow recorder on the104 panel after going in the CLOSED direction, THEN report; flow is 50 gpm. **When flow is > 45 gpm, the operator lowers flow by OPENING 21WR53 in the counterclockwise direction until flow is less than 45 gpm.** Cue: When the operator adjusts the 21WR53 in the OPEN direction, THEN report that flow is reading 40 gpm. Note: During actual releases, the best flow achieved during this evolution is about 50 gpm.		
	5.5.7	IF 2FR1064 flow monitor is OPERABLE, THEN **RECORD** time, date, and tank identification on recorder.	Operator simulates annotating recorder with time, date and tank.		
	5.5.8	**COMPLETE** Attachment 2, Section 5.1 21 CVCS MT Release Initial Data:	Operator Records data IAW with the provide information below.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: **Liquid Radwaste System**

TASK: **Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001**

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		▪ 21 CVCS MT Level (2LIS180)	**Cue:** When operator reads 21 CVCS Monitor Tank Level on the 104 panel, state; 2LIS-180 indicates 90%.		
		▪ 21 CVCS MT Volume (1) (1) Obtain tank volume from S2.OP-TM.ZZ-0002(Q), Tank Capacity Data.	**Cue**: When operator reports the need to obtain S2.OP-TM.ZZ-0002, Tank Capacity Data (Note 1), THEN provide the data sheet for CVCS Monitor Tank. Operator uses provided data sheet and determines a tank volume of 19,500 gallons (acceptable range between 19,200 to 19,800 gallons).		
		▪ Dilution Flow Rate	**Cue:** Chemistry paperwork indicates dilution water flowrate is 200,000 gpm. Records Dilution Water Flowrate of 200,000 gpm. Initial conditions stated all circulators were in service. 2 Circulators used x 100,000 = 200,000.		
		▪ Discharge Flow Rate (3) (2FR1064)	Records 40 gpm for Discharge Flow Rate. **Cue**: 2FR1064 reads 40 gpm.		

PSEG CONFIDENTIAL – Possession Requires Specific Permission from Nuclear Training

NAME: _____

DATE: _____

SYSTEM: Liquid Radwaste System

TASK: Perform a Radioactive Liquid Release and TCAF High Radiation Monitor Alarm during release IAW S2.OP-SO.WL-0001

* #	STEP NO.	STEP (Shaded area denotes Critical Step) (* Critical Step)	STANDARD (Bolded area identifies Task Standard)	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		▪ 2R18 Monitor Reading (5)	**Cue**: When operator reads the 2R18 on the 104 panel state; 2R18 reads 10^5 counts per minute and the 2R18 High Radiation light is illuminated.		
	5.5.9	IF any of the following occur during release, THEN **DIRECT** NCO to CLOSE 2WL51, LIQUID RELEASE STOP VALVE: ❖ LOSS of dilution water flow ❖ 2FR1064 becomes inoperable ❖ 2R18 Monitor ALARMS ❖ MT Pump pressure falls below MDP allowed IAW Attachment 4	Operator simulates calling the main control room to report that the 2R18 is in ALARM and DIRECTS the NCO to CLOSE 2WL51. **Cue**: Unit 2 NCO reports that the 2WL51 is CLOSED.		
	CUE:	JPM is complete when the task is complete OR at the direction from the Lead Evaluator. **RECORD** the STOP TIME. **STOP TIME:**_____	**Terminate the JPM when the Control Room reports that 2WL51 is CLOSED.**		

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

JPM #: 16-01 NRC IP-k

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.

_____ 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.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

SME/Instructor:_____ Date: _____

SME/Instructor:_____ Date: _____

SME/Instructor:_____ Date: _____

INITIAL CONDITIONS:

- Preparations for a release of 21 CVCS Monitor Tank via Unit 2 SW system to Unit 1 CW system is in progress IAW S2.OP-SO.WL-0001, RELEASE OF RADIOACTIVE LIQUID WASTE FROM 21 CVCS MONITOR TANK.
- Chemistry has granted permission to release 21 CVCS MT at a Maximum Release Rate of 45 gpm due to the high curie content of the tank.
- 2R18 and 2FR1064 Flow Recorder are both OPERABLE.
- All Unit 1 CW pumps are in service.

INITIATING CUE:

- You are the extra NCO.
- The CRS directs you to release 21 CVCS MT IAW Section 5.5 of S2.OP-SO.WL-0001.