

Job Performance Measure "F"

Facility: Vogtle

Task No: V-LO-TA-29013

Task Title: Dilute Containment With Service Air

JPM No: V-NRC-JP-13130-HL17

K/A Reference: 028A4.01 RO 4.0 SRO 4.0

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance _____ Actual Performance _____

Classroom _____ Simulator _____ Plant _____

Read to the examinee:

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions: A LOCA has occurred on Unit 1. The crew is performing 19010-C. The TSC has requested that the Hydrogen concentration of the Containment atmosphere be reduced.

Initiating Cue: The SS has directed you to "Dilute the Containment hydrogen concentration using service air per 13130-1".

Task Standard: Containment dilution using service air is properly initiated per 13130-1.

Required Materials: 13130-1, "Post Accident Hydrogen Control" Ver. 19.0.

General References: None

Time Critical Task: No

This JPM is a repeat from Exam 2010-301. The JPM number was V-NRC-JP-13130-001.

Validation Time: 10 minutes

SIMULATOR SETUP:

Simulator Setup: Reset to IC #216 for HL-17 NRC Exam.

Simulator Setup from Scratch:

1. Reset to IC # 14 (MOL 100%)
2. Insert malfunction RC05C at 50% (Hot Leg Break).
3. Throttle AFW flow to 600 gpm.
4. Use Remote Function ED08 to set CNMT H₂ at 4.5%.
5. Use Remote Function ED07 to override CNMT H₂.
6. Trip RCPs.
7. Verify RCS pressure rising.
8. Reset SI.
9. Stop RHR pumps.
10. Place both CNMT H₂ monitors in service per 13130-1.
11. Ack/Reset alarms.
14. Freeze simulator

Setup time from scratch: 20 minutes

Performance Information

Critical steps denoted with an asterisk and bolded.

Candidate determines that 13130-1, "Post-Accident Hydrogen Control" is applicable.

Standard: Candidate selects 13130-1, section 4.4.2 for "Diluting Containment Hydrogen Concentration Using The Service Air System".

Comment:

NOTE: Note stating Containment design pressure is 52 psig.

CAUTION: Do not perform this section if containment pressure is greater than 40 psig unless so directed by the Emergency Director.

Standard: Candidate reviews NOTE and CAUTION prior to step 4.4.2.1 and determines that they are not applicable.

Comment:

Step *4.4.2.1 Reset CIA by taking the following hand switches to RESET and observe ALB06-E06 extinguished.

- **1HS-40120**
- **1HS-40122**

Standard: Candidate rotates 1HS-40120 to the RESET position.

Candidate rotates 1HS-40122 to the RESET position.

Candidate verifies annunciator ALB06-E06 orange window light is OFF.
(CNMT ISO PHASE A ACTUATION)

Comment:

Step *4.4.2.2 Open SERVICE AIR CNMT HDR ISOL 1-HV-9385 as follows:

- a. **Place 1-HS-9385A on Main Control Room Panel QPCP to OPEN.**
- b. **Hold 1-HS-9385B on Panel QPCP in OPEN until 1-HV-9385 is fully open.**

NOTE to examiner: The candidate must manipulate the hand switches in the proper sequence stated above or the valve will not open. It is a single valve with a dual hand switch.

Standard: Candidate manipulates HV-9385 in proper sequence to open the valve.

- a. 1-HS-9385A rotated to OPEN first.
- b. 1HS-9385B rotated to OPEN and HELD until valve opens.
- c. HV-9385, red light LIT, green light OFF.

Comment:

Step *4.4.2.3 Open one SERVICE AIR CNMT POST LOCA PURGE valve using its Control Switch on QPCP.

1-HV-9380A

OR

1-HV-9380B

Standard: Candidate rotates either 1-HV-9380A or 1-HV-9380B to the open position.

1-HV-9380A red light LIT, green light OFF

OR

1-HV-9380B red light LIT, green light OFF.

Note: Not critical to open both valves.

Note to Simulator Operator: Start ramping H2 concentration to < 3.5% in preparation for step 4.4.2.8.

Comment:

Step 4.4.2.4 Check Service Air Header 1-PI-9377 and Instrument Air Dryer to SCS Equipment 1-PI-9361 pressures on Main Control Room Panel QMCB.

Standard: Candidate checks Service and Instrument air pressures on referenced instruments.

Comment:

Step 4.4.2.5 IF air pressures fall to 80 psig or less, SERVICE AIR DRYER SUPPLY OUTLET ISO 1-PV-9375 isolates service air to dryers; restore purge air flow as follows:

- a. Reset 1-PV-9375 per 13710-1 to restore Service Air Supply.
- b. Throttle Service Air Dryer Bypass Valve 1-2401-U4-551, as necessary to maintain air pressure 1-PI-9377 and 1-PI-9361 greater than 85 psig.

Standard: Candidate determines header pressure has remained above 80 psig and this step is not applicable.

1-PI-9377, Service Air Header pressure remain > 80 psig.

1-PI-9361 Instrument Air Header pressure remains > 80 psig.

Comment:

Step 4.4.2.6 Monitor containment hydrogen concentration through sampling and per Section 4.2.1 and/or 4.2.2 of this procedure.

CUE: “An extra RO will initiate monitoring of H2 concentration, the SS will notify Chemistry to begin sampling”.

Standard: Candidate informs SS of necessity for sampling.

Comment:

Step 4.4.2.7 Monitor containment pressure 1-PI-0934, 1-PI-0935, 1-PI-0936, and 1-PI-0937.
IF, containment pressure rises to 40 psig OR to the value specified by the Emergency Director, terminate dilution per step 4.4.2.8.

CUE: After Candidate observes Containment pressure < 40 psig, “30 minutes have passed and you are at step 4.4.2.8”.

Standard: Candidate observes Containment pressure is < 40 psig on Containment pressure instruments.

Comment:

***Step 4.4.2.8 WHEN containment hydrogen concentration falls to 3.5%, terminate dilution as follows:**

CUE: “H2 concentration is now reading 3.0%”.

- a. **Close SERVICE AIR CNMT HDR ISOL 1-HV-9385 using either 1-HS-9385A or 1-HS-9385B on Control Room Panel QPCP.**
- b. **Verify closed both Service Air Containment Post-LOCA Purge Valves using their Control Switches on Panel QPCP:**
 - (1) **1-HV-9380A**
 - (2) **1-HV-9380B**

Standard: Candidate closes 1-HV-9385 and 1-HV-9380A and/or 1-HV-9380B as applicable.

Comment:

Step 4.4.2.9 Periodically monitor containment hydrogen concentration and repeat this section as required to maintain the concentration below 4.0%.

CUE: “The SS will direct another operator to monitor containment H2 concentration”.

Standard: N/A

Comment:

Terminating cue: Candidate returns initiating cue sheet and / or informs SS that the Containment has been diluted with Service Air per 13130-1.

Verification of Completion

Job Performance Measure No. V-NRC-JP-13130H-L17

Examinee's Name:

Examiner's Name:

Date Performed:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

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