

**NRC Job Performance Measure "K"**

Facility: **Vogtle**

Task No: V-LO-TA-12004

Task Title: Placing the RHR 25kVA Inverter 1DD1I6 in Service

JPM No: V-NRC-JP-13405-HL17

K/A Reference: 063G2.1.30 RO 4.4 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 will provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**Initial Conditions:** Unit 1 is in Mode 4 and preparing for cooldown and entry into Mode 5. The operators are preparing to place RHR Train "A" in service for continued cooldown. 1DD1B is already in service.

**Initiating Cue:** The Shift Supervisor has directed you to place RHR loop inlet isolation inverter 1DD1I6 in service and energize 1-HV-8702A starting with step 4.4.3 of 13011-1, Residual Heat Removal System.

**Task Standard:** Loop 4 RHR 1-HV-8702A energized from associated inverter 1DD116.

**Required Materials:** 13011-1, "Residual Heat Removal System"  
13405-1, "125V DC 1E Electrical Distribution System"

**Time Critical Task:** No

**Validation Time:** 10 minutes

## Performance Information

### *Critical steps denoted with an asterisk*

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Step 4.4.3 of 13011-1, "Residual Heat Removal System", selected.

Step 4.4.3     Restore power to RHR PMP-B SUCTION FROM HOT LEG LOOP 4 Inlet Isolations and air to RHR System Flow Control Valves as follows:

- a.     If shutdown, place Inverter 1DD116 in service per 13405-1, "125V DC 1E ELECTRICAL DISTRIBUTION SYSTEM."

Standard:     Refers to 13405-1, "125V DC 1E Electrical Distribution System", section 4.1.11 for placing 1DD116 in service.

Comment:

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Step 4.1.11     Placing the RHR 25kVA Inverter 1CD115 or 1DD116 in Service

#### NOTE

Inverters 1CD115 and 1DD116 are NOT analyzed loads for batteries 1CD1B and 1DD1B respectively in MODES 1, 2, or 3. Inverter 1CD115 and 1DD116 may be placed in service in MODES 1, 2, or 3 for pre-outage testing, however they should be attended while in service. In the event of an emergency condition or a condition that requires 1CD115 and 1DD116 be left unattended in MODES 1, 2, or 3, 1CD115 and 1DD116 must be removed from service in accordance with Section 4.3.2.

Standard:     Section 4.1.11 chosen and Note is read.

Comment:

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4.1.11.1 To place 1CD1I5 in service, perform the following:

Standard: All sub-steps of 4.1.11 are N/A for 1CD1I5. Proceeds to step 4.1.11.2 for 1DD1I6.

Comment:

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4.1.11.2 To place 1DD1I6 in service, perform the following:

- a. Verify the 125V DC Battery 1DD1B in service per Section 4.1.2.4 of this procedure.

**CUE: *If asked, "Refer to initial conditions"***

Standard: Battery 1DD1B already in service per initial conditions.

Comment:

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4.1.11.2 b. Verify the following:

- Inverter 1DD1I6 DC Input Breaker Open.
- Inverter 1DD1I6 AC Output Breaker Open.

**Note to examiner: *Breaker switches indicate Down position when open.***

Standard: Verifies Inverter DC Input and AC Output breakers open.

Comment:

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- 4.1.11.2 c. In the Main Control Room, install the Annunciator card associated with ALB34-F07 and check ALB34-F07 illuminates.

**CUE:** ***“SS reports ALB34-F07 annunciator card is installed and alarm is illuminated”***

Standard: Annunciator card installed and alarm illuminated.

Comment:

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- \*4.1.11.2 d. **Close Inverter 1DD1I6 DC Switchgear Breaker:**

**1DD1-08      HS-1DD1-08**

Standard: Simulates closing HS-1DD108, by turning Handswitch clockwise. Breaker located on 125V dc switchgear 1DD1 in same room as inverter.

**CUE:** ***“HS-1DD108 indicates Red Flag with Red Light lit, Green Light off”***

Comment:

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**NOTES**

- The Precharge light must be lit for  $\approx 5$  seconds OR DC voltage as read on the Inverter DC Voltmeter must be reading  $\approx 125$  VDC and stable for  $\approx 5$  seconds, to allow closing the DC INPUT Breaker. The 5 seconds will allow time to fully charge the capacitor bank.
- The Precharge Pushbutton has a strong spring and will require a firm push to operate.
- If using the Precharge light above, and it extinguishes prior to closing the DC INPUT Breaker, Step 4.1.11.2.e will need to be repeated.
- If the inverter has just been shutdown, wait at least 60 seconds before restarting the inverter.

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- \*4.1.11.2 e. Press the Precharge Pushbutton, and maintain depressed for at least five seconds after the Precharge light illuminates OR the inverter DC Voltmeter is stable at ~ 125 VDC, then release.

**CUE:** *“Indicate Precharge light lit if Precharge Pushbutton is held for five seconds OR indicate that DC Input voltmeter indicates ~ 125 VDC”*

Standard: Precharge light illuminated and 125 VDC indicated on DC Input Voltmeter.

Comment:

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- \*4.1.11.2 f. Close the inverter DC INPUT Breaker (within 3 seconds after releasing the Precharge Pushbutton).

**CUE:** *“If performed correctly, Indicate DC INPUT Breaker in close (UP) position”*

**Note to examiner:** *Breaker switches indicate UP position when closed.*

Standard: DC Input Breaker in closed position.

Comment:

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- 4.1.11.2 g. Check proper inverter operation by observing approximately 480 VAC on the INVERTER OUTPUT Voltmeters and 60 Hz on the INVERTER OUTPUT frequency meter.

**CUE:** *“Indicate ~ 480 VAC on Inverter Output Voltmeters and 60 Hz on Inverter Output frequency meter”*

Standard: Inverter indicates ~ 480 VAC and 60 Hz.

Comment:

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- \*4.1.11.2 h. Close the INVERTER OUTPUT Breaker.

**CUE:** *“Indicate Inverter Output Breaker in close position”*

Standard: Inverter output breaker closed.

Comment:

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- 4.1.11.2 i. MOMENTARILY press the PRESS TO RESET ALARMS pushbutton.

**CUE:** *“All alarm lights are as you see them”*

Standard: Simulate lifting cover and Alarm reset pushbutton depressed.

Comment:

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4.1.11.2 j. Check ALB34-F07 extinguishes.

**CUE: “SS reports ALB34-F07 alarm is clear”**

Standard: Control Room alarm window is clear.

Comment:

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**Step 4.4.3 of 13011-1, “Residual Heat Removal System”**

4.4.3 b. Install the annunciator card associated with ALB34-E07 and check ALB34-E07 illuminates.

**CUE: “SS reports ALB34-E07 annunciator card is installed and alarm is illuminated”**

Standard: Alarm card installed and illuminated.

Comment:

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\*4.4.3 c. At 1DD1I6N unlock and close disconnect for 1-HV-8702A.

**CUE: “Indicate starter input breaker is in close position”**

**Note to Examiner: Disconnect is locked with a company “B” lock.  
Discussion of key check out from C & T may be appropriate.**

Standard: Simulation of placing Disconnect in on (Handle up) position. (Disconnect located on wall in same room as inverter).

Comment:

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4.4.3 d. Check ALB34-E07 extinguishes.

**CUE:** *“SS reports ALB34-E07 alarm is clear”*

Standard: Control Room alarm window is clear.

**CUE:** *“Extra operator will perform the rest of section 4.4”*

Comment:

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**Terminating cue:** Student returns initiating cue sheet.

**Verification of Completion**

Job Performance Measure No: V-NRC-JP-13405-HL17

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: \_\_\_\_\_

**Initial Conditions:** Unit 1 is in Mode 4 and preparing for cooldown and entry into Mode 5. The operators are preparing to place RHR Train "A" in service for continued cooldown. 1DD1B is already in service.

**Initiating Cue:** The Shift Supervisor has directed you to place RHR loop inlet isolation inverter 1DD1I6 in service and energize 1-HV-8702A starting with step 4.4.3 of 13011-1, Residual Heat Removal System.