

**Facility:** Perry **Task No:** 214-510-01-01  
214-514-04-01

**Task Title:** Withdraw Control Rod-  
Substitute Position  
(Alternate Path) **JPM No:** 2003 NRC B.1.a

**K/A Reference:** 201005 A2.02

**Examinee:** **NRC Examiner:**

**Facility** N/A **Date:**  
**Evaluator:**

**Method of testing**

Simulated **Actual**  
Performance **Performance**

Classroom **Simulator** Plant

**Task Standard:** Candidate withdraws Control Rod 14-47 in accordance with the Special Maneuver Control Rod Movement Sheet to position 26 after performing Rod Position Indication Data Substitution.

**Required Materials:** SOI-C11 (RCIS), Rev 7, PIC 24  
FTI-B0002, Rev 5, PIC 8  
Marked-up copy of Special Maneuver Control Rod Movement Sheet

**General References:** SOI-C11 (RCIS), Rev 7, PIC 24  
FTI-B0002, Rev 5, PIC 8

**Time Critical Task:** NO

**Validation Time:** 25 minutes

**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:** Control Rod 14-47 has been declared OPERABLE following scram accumulator replacement.

**Initiating Cue:** The Unit Supervisor directs you, as the Reactor Operator, to withdraw Control Rod 14-47 in accordance with the Special Maneuver Control Rod Movement Sheet and SOI-C11 (RCIS).

(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as the Concurrent Dual Verifier and SRO for the Candidate.**

- Performance Step:** Review Special Maneuver Control Rod Movement Sheet.
- Standard:** Reviews Special Maneuver Control Rod Movement Sheet.
- Comment:** Note: Candidate may review FTI-B0002, Section 5.6 for Special Maneuver Control Rod Movement Sheets.
- Note: Candidate should note that Control Rod 14-47 is to be withdrawn in the single notch withdrawal mode.
- \* **Performance Step:** 5.1.1.a / 5.2.2.a Depress DRIVE MODE as necessary to select INDIVID DRIVE mode.
- Standard:** Releases DRIVE MODE pushbutton to select INDIVID DRIVE mode.
- Observes INDIVID DRIVE mode white light is lit.
- Comment:**
- \* **Performance Step:** 5.2.2.a Depress (simultaneously) the XX and YY plant coordinates to select Control Rod 14-47.
- Standard:** Depresses (simultaneously) the XX and YY plant coordinates to select Control Rod 14-47.
- Observes Control Rod 14-47 is displayed on the Full Core Display.
- Comment:**

**Note: The next Step 5.2.2.b will be repeated six times until the Rod Position Indication malfunction occurs at Position 12.**

\* **Performance Step:** Momentarily depress WITHDRAW pushbutton.  
**5.2.2.b**

**Standard:** Momentarily depresses the WITHDRAW pushbutton.

Observes the following:

1. The IN white light comes on momentarily and then goes off
2. The OUT white light comes on and then goes off after approximately 2 seconds.
3. The SETTLE white light comes on for approximately 6 seconds and then goes off.
4. The Rod Display Module (RDM) indicates the new Control Rod position for Control Rod 14-47.
5. Expected changes occur in the Nuclear Instrumentation.

**Comment:** Note: Alarm H13-P680-5 (E10), ROD WITHDRAWAL BLOCK, will occur (expected) due to the 4 notch rod withdrawal limiter.

Note: Candidate will de-select Control Rod 14-47 to clear the rod withdrawal block due to the 4 notch rod withdrawal limiter. He will then re-select Control Rod 14-47 in order to continue Control Rod withdrawal.

Note: Candidate will suspend Control Rod 14-47 rod withdrawal at position 12 due to a Data Fault on RCIS Channel 1.

**Note: The following Step documents the Rod Position Indication malfunction at position 12.**

- \* **Performance Step:** 5.4.2 Recognize and diagnose cause of unexpected Alarm H13-P680-5 (E10), ROD WITHDRAWAL BLOCK
- Standard:** Observes Alarm H13-P680-5 (E10), ROD WITHDRAWAL BLOCK occurs (unexpected).
- Observes WITHDRAW BLOCK red status light is blinking on and off.
- Observes WITHDRAW INHIBIT red status light is blinking on and off.
- Observes CHANNEL DISAGREE amber status light is lit.
- Observes DATA FAULT status light is backlit red and blinking on and off.
1. Depresses DATA FAULT pushbutton.
  2. Observes Control Rod 14-47 has a Data Fault ('blank' position indication) on RCIS Channel 1.
  3. Releases DATA FAULT pushbutton.
- Determines a DATA FAULT exists and enters Rod Position Indication Data Substitution to affected RCIS Channel 1.
- Comment:** **Note: The following steps (7.1.1 – 7.1.6) are the Alternate Path for this JPM.**
- SOI-C11 (RCIS), Section 5.4.2.c directs the Candidate to perform Section 7.1, Rod Position Indication Data Substitution.**
- Note: Candidate may reference ONI-C11-1, Inability to Move Control Rods. However, the ONI will not provide any specific direction other than to reference SOI-C11 (RCIS).
- \* **Performance Step:** 7.1.1 Selects Control Rod 14-47 for which the data substitution is to be made.
- Standard:** Depresses (simultaneously) the XX and YY plant coordinates to select Control Rod 14-47.
- Observes Control Rod 14-47 is displayed on the Full Core Display.
- Comment:** Note: Control Rod 14-47 may already be selected from previous Step 5.2.2.a.

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- \* **Performance Step:** 7.1.2 Select the good data channel (RCIS Channel 2).
- Standard:** Releases DATA MODE pushbutton to allow selection of either channel of RACS as a single data input to RIS.
- Operates DATA SOURCE pushbutton to select CHAN 2 DATA.
- Observes CHAN 2 DATA amber status light is on.
- Comment:**
- \* **Performance Step:** 7.1.3 Verify RAW DATA is not selected.
- Standard:** Releases RAW DATA pushbutton.
- Observes RAW DATA amber status light is off.
- Comment:**
- \* **Performance Step:** 7.1.4 Depress ENT SUBST.
- Standard:** Depresses ENT SUBST pushbutton.
- Observes the SUBST POSITION status light is backlit amber.
- Observes Alarm H13-P680-5 (E10), ROD WITHDRAWAL BLOCK, clears (expected).
- Comment:** The CHANNEL DISAGREE light will go off if RAW DATA is not selected.

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|-----------------------------------|---|
| <b>Performance Step:</b><br>7.1.5 | Select the data channel with bad data.  |
| <b>Standard:</b>                  | Operates DATA SOURCE pushbutton to select CHAN 1 DATA.<br><br>Observes CHAN 1 DATA amber status light is on and CHAN 2 DATA amber status light is off.<br><br>Observes the DATA FAULT red status light is on.<br><br>Observes the previous position indication of 'FF' is replaced by the correct position indication (12).<br><br>Confirms the Process Computer (ICS) indicates the correct Control Rod position has been entered. |
| <b>Comment:</b>                   | Note: If the Candidate depresses the SUBST POSITION pushbutton, then the red status LED for affected Control Rod 14-47 will be lit on the Full Core Display to confirm the substitute position is in effect.  |
| <b>Performance Step:</b><br>7.1.6 | Ensures the following:<br><br>a. The position substitution is recorded in the Plant Narrative Log.<br><br>b. The position substitution is recorded on the applicable LCO Tracking Sheet record of OAI-1701.   |
| <b>Standard:</b>                  | Records the position substitution for Control Rod 14-47 at position 12 for RCIS Channel 1 in the Plant Narrative Log.<br><br>Informs the SRO that the position substitution is to be recorded on the applicable LCO Tracking Sheet of OAI-1701.   |
| <b>Comment:</b>                   | <b>Cue: SRO has completed the LCO Tracking Sheet.</b><br><br>Note: Candidate returns to SOI-C11 (RCIS), Section 5.2 to complete the remainder of the Control Rod insertion.   |

**Note: The next Step 5.2.2.b will be repeated seven times until Control Rod 14-47 is finally at position 26.**

**Note: The Candidate may have to re-select Control Rod 14-47 prior to performing the next Step.**

\* **Performance Step:** Momentarily depress WITHDRAW pushbutton.  
**5.2.2.b**

**Standard:** Momentarily depresses the WITHDRAW pushbutton.

Observes the following:

1. The IN white light comes on momentarily and then goes off
2. The OUT white light comes on and then goes off after approximately 2 seconds.
3. The SETTLE white light comes on for approximately 6 seconds and then goes off.
4. The Rod Display Module (RDM) indicates the new Control Rod position for Control Rod 14-47.
5. Expected changes occur in the Nuclear Instrumentation.

**Comment:** Note: The Candidate will observe the following display lights extinguish when Control Rod 14-47 is withdrawn from position 12 to position 14:

- DATA FAULT
- SUBST POSITION
- CHANNEL DISAGREE

Note: Alarm H13-P680-5 (E10), ROD WITHDRAWAL BLOCK, will occur (expected) and immediately clear during the initial rod movement.

Note: Alarm H13-P680-5 (E10), ROD WITHDRAWAL BLOCK, will occur (expected) due to the 4 notch rod withdrawal limiter.

Note: Candidate will de-select Control Rod 14-47 to clear the rod withdrawal block due to the 4 notch rod withdrawal limiter. He will then re-select Control Rod 14-47 in order to continue Control Rod withdrawal.

Note: Candidate may depress ROD SELECT CLEAR pushbutton to de-select Control Rod 14-47 once the Control Rod has reached its final position at 26. Observes ROD SELECT CLEAR blue light is on.

**Performance Step:** Document completion of Special Maneuver Control Rod Movement Sheet.  
**5.6.4**

**Standard:** The 'S.O. INITIAL' block is initialed by the operator when:

- a. The Control Rod is correctly placed at the 'TO' position.
- b. Expected nuclear instrument response was observed.

The 'I.V. INITIAL' block is initialed by a qualified individual to document independent verification.

**Comment:** Note: Candidate may either give the completed Special Maneuver Control Rod Movement Sheet to the SRO or call Reactor Engineering to come and pick it up.

**Terminating Cue:**

When Control Rod 14-47 is at position 26, the evaluation for this JPM is complete.



Job Performance Measure No. 2003 NRC B.1.a

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL  
CONDITIONS:**

Control Rod 14-47 has been declared OPERABLE following scram accumulator replacement.

**INITIATING  
CUE:**

The Unit Supervisor directs you, as the Reactor Operator, to withdraw Control Rod 14-47 in accordance with the Special Maneuver Control Rod Movement Sheet and SOI-C11 (RCIS).

# FOR TRAINING USE ONLY

## SPECIAL MANEUVER CONTROL ROD MOVEMENT SHEET

PNPP No. 9076 Rev. 8/10/95

Page 1

FTI-B02

CYCLE 9

SEQUENCE A

STARTUP NUMBER 58

| MOVEMENT AUTHORIZATIONS  |       |          |
|--|-------|----------|
| STEP AND CONDITIONS  | RXENG | DATE     |
| Step 1 – Withdraw Control Rod 14-47 in the single notch withdrawal mode. | OPJ   | zz/yy/zz |
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| STEP | ROD   | FROM | TO | S.O.<br>INITIAL | I.V.<br>INITIAL | COMMENTS |
|------|-------|------|----|-----------------|-----------------|----------|
| 1    | 14-47 | 00   | 26 |                 |                 |          |
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RX ENG.: APPROVAL OPJ 122/11/22 DATE      CONCURRENCE JK Smith 127/11/22 DATE

# FOR TRAINING USE ONLY

**Facility:** Perry **Task No:** 222-505-01-01

**Task Title:** Manual Startup of the Containment Vessel Cooling System (Alternate Path) **JPM No:** 2003 NRC B.1.b

**K/A Reference:** 295011 AA1.01

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

Simulated Performance **Actual Performance**

Classroom **Simulator** Plant

**Task Standard:** Candidate identifies Containment Vessel Cooling Fan B malfunction, shifts to a standby Containment Vessel Cooling fan, and completes the manual startup of the Containment Vessel Cooling System.

**Required Materials:** SOI-M11, Rev 5  
ARI-H13-P800-0003, Rev 3, PIC 1

**General References:** SOI-M11, Rev 5  
ARI-H13-P800-0003, Rev 3, PIC 1

**Time Critical Task:** NO

**Validation Time:** 10 minutes

**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 Station Blackout has occurred. ONI-R10, Loss of AC Power, has been entered. Off-site power has been restored to all AC electrical distribution busses. Containment Vessel Chilled Water System (P50) is in operation.

**Initiating Cue:** The Unit Supervisor directs you, as the Reactor Operator, to perform a manual startup of the Containment Vessel Cooling System (M11) in accordance with SOI-M11.

(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as the SRO for the Candidate.**

**Note: As the SRO, if asked, inform the Candidate that a manual shutdown of the Containment Vessel Cooling System has previously been performed in accordance with SOI-M11, Section 6.1.**

**Note: The following evolution will place the system in the normal operating lineup with two fans operating on each side of Containment.**

\* **Performance Step:** 4.1.1 Take the CNTMT VESSEL CLG FAN A (B, C), 1M11-B001A (B, C), control switch to START.

**Standard:** Takes the CNTMT VESSEL CLG FAN A (B, C), 1M11-B001A (B, C), control switch from OFF to START.

Observes red light is on, green light is off.

**Comment:**

\* **Performance Step:** 4.1.2 Take the CNTMT VESSEL CLG FAN B (C, A), 1M11-B001B (C, A), control switch to START.

**Standard:** Takes the CNTMT VESSEL CLG FAN B (C, A), 1M11-B001B (C, A), control switch from OFF to START.

Observes red light is on, green light is off.

**Comment:**

**Note: The following Steps document the malfunction of Containment Vessel Cooling fan B in accordance with ARI-H13-P800-3 (B5).**

\* **Performance Step:** ARI-H13-P800-3 (B5) Recognize unexpected Alarm H13-P800-3 (B5), CNTMT VESSEL CLG FAN B FLOW LOW

**Standard:** Observes Alarm H13-P800-3 (B5), CNTMT VESSEL CLG FAN B FLOW LOW.

Refers to ARI-H13-P800-3 (B5).

**Comment:** **Note: Candidate is not required to diagnose the cause of the fan low flow condition.**

Note: Candidate may inform the SRO of the unexpected alarm.

- \* **Performance Step:** Stop Containment Vessel Cooling Fan B, 1M11-B001B, unless in Maximizing Containment Cooling operation.  
**ARI-H13-P800-3 (B5) 4.0.1**
- Standard:** Takes the CNTMT VESSEL CLG FAN B, 1M11-B001B, control switch from START to OFF.  
  
Observes green light is on, red light is off .
- Comment:** **Note: Maximizing Containment Cooling operation is performed during PEI-T23, Containment Control. PEI-T23 has not been entered.**  
  
Note: Alarm H13-P800-3 (B5) will clear (expected) when the fan is shutdown.
- \* **Performance Step:** Shift to Containment Vessel Cooling Fan C, per SOI-M11.  
**ARI-H13-P800-3 (B5) 4.0.2**
- Standard:** Takes the CNTMT VESSEL CLG FAN C, 1M11-B001C, control switch from OFF to START.  
  
Observes red light is on, green light is off .
- Comment:** **Note: Candidate can accomplish this action by either referring back to SOI-M11, Section 4.1 or SOI-M11, Section 5.1, Step 1.**
- \* **Performance Step:** Take the CNTMT VESSEL CLG FAN D (E, F), 1M11-B001D (E, F), control switch to START.  
**4.1.3**
- Standard:** Takes the CNTMT VESSEL CLG FAN D (E, F), 1M11-B001D (E, F), control switch from OFF to START.  
  
Observes red light is on, green light is off .
- Comment:**

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- \* **Performance Step:** Take the CNTMT VESSEL CLG FAN E (F, D), 1M11-B001E (F, D), control switch to START.
- 4.1.4**
- Standard:** Takes the CNTMT VESSEL CLG FAN E (F, D), 1M11-B001E (F, D), control switch from OFF to START.
- Comment:** Observes red light is on, green light is off .

**Terminating Cue:**

When SOI-M11, Section 4.1 is completed, the evaluation for this JPM is complete.

Job Performance Measure No. 2003 NRC B.1.b

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_



**INITIAL  
CONDITIONS:**

A Station Blackout has occurred. ONI-R10, Loss of AC Power, has been entered. Off-site power has been restored to all AC electrical distribution busses. Containment Vessel Chilled Water System (P50) is in operation.

**INITIATING  
CUE:**

The Unit Supervisor directs you, as the Reactor Operator, to perform a manual startup of the Containment Vessel Cooling System (M11) in accordance with SOI-M11.

**Facility:** Perry **Task No:** 259-571-05-01

**Task Title:** Feedwater Injection  
Prevention – MFP FCV  
Malfunction (Alternate Path) **JPM No:** 2003 NRC B.1.c

**K/A Reference:** 259001 A4.01

**Examinee:** **NRC Examiner:**

**Facility  
Evaluator:** N/A **Date:**

**Method of testing**

Simulated Performance **Actual  
Performance**

Classroom **Simulator** Plant

**Task Standard:** Candidate identifies the preferred method of Feedwater Injection Prevention cannot be completed due a MFP FCV malfunction. Candidate then completes Feedwater Injection prevention using either of the less preferred methods.

**Required Materials:** PEI-SPI 5.3, Rev 0

**General References:** PEI-SPI 5.3, Rev 0

**Time Critical Task:** NO

**Validation Time:** 8 minutes

**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:** An ATWS is in progress. PEI-B13, RPV Control (ATWS) has been entered. Emergency Depressurization is required.

**Initiating Cue:** The Unit Supervisor directs you, as the Reactor Operator, to terminate and prevent Feedwater injection into the RPV using the preferred method in accordance with PEI-SPI 5.3.

**Cue: If asked, it is not necessary to perform this operation from memory.**

(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as the SRO for the candidate.**

**Performance Step:** Perform Step 2.0 or Step 3.0 or Step 4.0 of this instruction.  
**1.0**

**Standard:** None

**Comment:** **Note: Candidate was directed to perform Step 2.0 (the preferred method) per the Initiating Cue.**

**Note: Step 2.0 (2.1 – 2.4) provides the preferred method of feedwater injection prevention.**

\* **Performance Step:** Terminate and prevent feedwater injection as follows:  
**2.1**

Verify the following pumps are tripped:

- RFPT A
- RFPT B

**Standard:** Depresses RFPT A TRIP, 1N27-S24, pushbutton.

Depresses RFPT B TRIP, 1N27-S28, pushbutton.

**Comment:** Note: The following Alarms are expected to occur:

- H13-P680-3 (D6), RFPT A TRIP
- H13-P680-3 (D7), RFPT B TRIP

Note: Candidate may also confirm that RFPT A(B) speed is decreasing on RFPT A(B) RPM, 1N27-R411A(B).

**Performance Step:** Verify FDW PUMPS BYPASS VALVE N27-F200 is closed.  
**2.2**

**Standard:** Confirms FDW PUMPS BYPASS VALVE N27-F200 is closed.

Observes red light is off, green light is on.

**Comment:** Note: This valve is normally closed.

|                                   |   |
|-----------------------------------|---|
| <b>Performance Step:</b><br>2.3   | Place STARTUP RX LEVEL CONTROL C34-R602 in MANUAL and adjust output to minimum.   |
| <b>Standard:</b>                  | Depresses STARTUP RX LEVEL CONTROL C34-R602 MANUAL mode pushbutton.<br><br>Observes MAN mode amber status light is on and AUTO mode green status light is off.<br><br>Adjusts STARTUP RX LEVEL CONTROL C34-R602 horizontal output meter to 0% using the CLOSE pushbutton.   |
| <b>Comment:</b>                   | Note: This step is not critical because the expected results in the next step (2.4) will not occur for N27-F010/F110.   |
| * <b>Performance Step:</b><br>2.4 | Verify the following valves are closed: <ul style="list-style-type: none"><li>• MFP FULL FLOW CONTROL VALVE N27-F010</li><li>• MFP LOW FLOW CONTROL VALVE N27-F110</li><li>• RFP A DISCH VALVE N27-F100A</li><li>• RFP B DISCH VALVE N27-F100B</li></ul>  |
| <b>Standard:</b>                  | Observes MFP FULL FLOW CONTROL VALVE N27-F010 and MFP LOW FLOW CONTROL VALVE N27-F110 are <u>not</u> closed.<br><br>Observes red and green lights are on for each valve.<br><br>Confirms MFP FULL FLOW CONTROL VALVE N27-F010 and MFP LOW FLOW CONTROL VALVE N27-F110 cannot be closed.<br><br>Determines the preferred method of feedwater injection prevention <u>cannot</u> be properly completed in preparation for Emergency Depressurization.<br><br>Confirms RFP A DISCH VALVE N27-F100A and RFP B DISCH VALVE N27-F100B are closed.<br><br>Observes red light is off, green light is on for each valve. |
| <b>Comment:</b>                   | Note: RFP A(B) DISCH VALVE N27-F100A(B) automatically closed when RFPT A(B) was tripped. The valves have a stroke time of 2 minutes.<br><br><b>Cue: As the SRO, if asked, Feedwater injection prevention is still required.</b>   |

**Note: The following step (either Step 3.0 or Step 4.0) is the Alternate Path for this JPM.**

**Note: Candidate can perform either Step 3.0 / 3.1 or Step 4.0 / 4.1 in order to successfully complete Feedwater injection prevention.**

\* **Performance Step:**      Terminate and prevent feedwater injection as follows:  
**3.0 / 3.1**

Close the following feedwater shutoff valves:

- FDW HDR A SHUTOFF B21-F065A
- FDW HDR B SHUTOFF B21-F065B

**Standard:**                      Takes valve control switches to the CLOSE position.

Observes red light is off, green light is on for each valve.

**Comment:**

\* **Performance Step:**      Terminate and prevent feedwater injection as follows:  
**4.0 / 4.1**

Place the following Reactor Feed Booster Pump control switches in OFF:

- RFBP A N27-C001A
- RFBP B N27-C001B
- RFBP C N27-C001C
- RFBP D N27-C001D

**Standard:**                      Places pump control switches in the OFF position.

Observes red light is off, green light is on for each pump.

**Comment:**

**Terminating Cue:**

When PEI-SPI 5.3, Step 3.0 or Step 4.0 is completed, the evaluation for this JPM is complete.

Job Performance Measure No. 2003 NRC B.1.c

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL CONDITIONS:** An ATWS is in progress. PEI-B13, RPV Control (ATWS) has been entered. Emergency Depressurization is required.

**INITIATING CUE:** The Unit Supervisor directs you, as the Reactor Operator, to terminate and prevent Feedwater injection into the RPV using the preferred method in accordance with PEI-SPI 5.3.

**Facility:** Perry **Task No:** 264-521-01-01

**Task Title:** Remotely Transfer Bus EH12 to the Alternate Preferred Source from the DG **JPM No:** 2003 NRC B.1.d

**K/A Reference:** 264000 A4.05

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

Simulated Performance **Actual Performance**

Classroom **Simulator** Plant

**Task Standard:** Candidate transfers Bus EH12 from the Division 2 Diesel Generator to the Alternate Preferred Source. The Division 2 Diesel Generator is then unloaded in preparation for shutdown.

**Required Materials:** SOI-R43, Rev 9

**General References:** SOI-R43, Rev 9

**Time Critical Task:** NO

**Validation Time:** 12 minutes

**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:** The Division 2 Diesel Generator is supplying Bus EH12. Control of the Diesel Generator is from the Control Room. Mechanical governor control is not being used.

An NLO (Bill Smith) is on station at the Division 2 Diesel Generator.

**Initiating Cue:** The Unit Supervisor directs you, as the Reactor Operator, to remotely transfer Bus EH12 to the Alternate Preferred source from the Diesel Generator and unload the Diesel Generator in preparation for shutdown in accordance with SOI-R43.



(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as NLO (Bill Smith) and the SRO for the Candidate.**

- Performance Step:** If the Diesel Generator is being controlled locally, perform  
**5.4.1** Transferring Control to the Control Room (Remote Control).
- Standard:** No operator action is required.
- Comment:**
- 
- \* **Performance Step:** Perform one of the following as applicable:  
**5.4.2**
- a. If placing Bus EH12 on the Alternate Preferred Source, place SYNCH SEL SWITCH in TH21.
  - b. If placing Bus EH12 on the Preferred Source, place SYNCH SEL SWITCH in TH1.
- Standard:** Places SYNCH SEL SWITCH to the TH21 position.  
Observes Synchroscope is activated.
- Comment:**
- 
- \* **Performance Step:** Adjust the following as necessary:  
**5.4.3**
- a. DIESEL GEN GOVERNOR such that SYNCHROSCOPE, 1R43-R032B, is moving slow in the FAST direction.
  - b. DIESEL GEN VOLTAGE RGLTR to match Bus EH12 VOLTS, INCOMING, 1R22-R031B; and RUNNING, 1R22-R032B.
- Standard:** Operates Governor control switch to ensure synchroscope is moving slowly in the FAST direction.  
Operates Voltage Regulator control switch to match Bus EH12 incoming and running voltages.
- Comment:**

- \* **Performance Step:** 5.4.4 With SYNCHROSCOPE, 1R43-R032B moving slow in the FAST direction, at approximately the 2 minutes to 12 o'clock position, perform one of the following as applicable:
- If placing Bus EH12 on the Alternate Preferred Source, close Brkr EH1213, ALTN PREFERRED SOURCE BRKR.
  - If placing EH12 on the Preferred Source, close Brkr EH1212, PREFERRED SOURCE BRKR.
- Standard:** Takes Brkr EH1213, ALTN PREFERRED SOURCE BRKR, control switch to CLOSE when the synchroscope points to 2 minutes before 12 o'clock.
- Observes red light is on, green light is off.
- Operates Governor control switch as necessary to prevent a reverse power condition.
- Comment:**
- Performance Step:** 5.4.5 Place SYNCH SEL SWITCH in OFF.
- Standard:** Places SYNCH SEL SWITCH to the OFF position.
- Comment:**
- Performance Step:** 5.4.6 If it is desired to operate the Diesel generator in parallel with the grid, exit this section and operate per Operations Parallel to the Grid section.
- Standard:** Determines this step is not applicable and continues on to Step 7.
- Comment:** **Cue: As the SRO, if asked, inform the Candidate it is not desired to operate the Diesel Generator in parallel with the grid.**
- Performance Step:** 5.4.7 If a rapid load reduction is necessary, adjust DIESEL GEN GOVERNOR to achieve approximately 100 KW on DG LOADING KILOWATTS, 1R43-R023B and DIESEL GEN VOLTAGE RGLTR to achieve approximately 100 KVAR on DG LOADING KILOVARs, 1R43-R022B.
- Standard:** No operator action is required.
- Comment:** **Cue: As the SRO, if asked, rapid load reduction is not necessary.**

\* **Performance Step:** If a rapid load reduction is not necessary, adjust the DIESEL GEN GOVERNOR (load) and DIESEL GEN VOLTAGE RGLTR (vars) concurrently or alternately as follows:  
**5.4.8**

- a. Lower generator load to 2500 KW and 1250 KVAR at the rate of 150 – 200 KW and 75 – 100 KVAR per minute.

NOTE: The diesel generator should be shutdown within 5 minutes after reaching 2500 KW. Load reduction limitations do not apply below 2500 KW.

- b. Lower KVARs to approximately 100 KVAR on DG LOADING KILOVARS, 1R43-R022B
- c. Lower KW to approximately 100 KW on DG LOADING KILOWATTS, 1R43-R023B.

**Standard:** Operates Voltage Regulator control switch to achieve 100 KVARs.  
Operates Governor control switch to achieve 100 KW.

**Comment:**

\* **Performance Step:** Take Brkr EH1201, DIESEL GEN BRKR, to TRIP.  
**5.4.9**

**Standard:** Takes Brkr EH1201, DIESEL GEN BRKR, control switch to the TRIP position.

Observes red light is off, green light is on.

**Comment:** **Cue: As the SRO, inform the Candidate that another Reactor Operator has been assigned to shutdown the Division 2 Diesel Generator.**

**Terminating Cue:**

When SOI-R43, Section 5.4, is completed, the evaluation for the JPM is complete.

Job Performance Measure No. 2003 NRC B.1.d

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

INITIAL CONDITIONS: The Division 2 Diesel Generator is supplying Bus EH12. Control of the Diesel Generator is from the Control Room. Mechanical governor control is not being used.

An NLO (Bill Smith) is on station at the Division 2 Diesel Generator.

INITIATING CUE: The Unit Supervisor directs you, as the Reactor Operator, to remotely transfer Bus EH12 to the Alternate Preferred source from the Diesel Generator and unload the Diesel Generator in preparation for shutdown in accordance with SOI-R43.

**Facility:** Perry **Task No:** 202-547-01-01

**Task Title:** Shift Reactor Recirculation Pump from Slow to Fast Speed **JPM No:** 2003 NRC B.1.e

**K/A Reference:** 202001 A4.01

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

Simulated Performance **Actual Performance**

Classroom **Simulator** Plant

**Task Standard:** Candidate transfers Reactor Recirculation Pump B from slow to fast speed.

**Required Materials:** SOI-B33, Rev. 8

**General References:** SOI-B33, Rev. 8

**Time Critical Task:** NO

**Validation Time:** 20 minutes

**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 plant startup is in progress. Reactor Recirculation Pump A has just been transferred from slow to fast speed in accordance with SOI-B33, Section 5.1, Steps 1 through 7.

**Initiating Cue:** The Unit Supervisor, with concurrence from Reactor Engineering, directs you, as the Reactor Operator, to transfer Reactor Recirculation Pump B from slow to fast speed in accordance with SOI-B33, Section 5.1, Step 8.

(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as SRO, Reactor Engineer, I&C Technician, and NLO for the Candidate.**

**Cue: As the SRO, if a reactivity brief is requested, inform the Candidate that you will provide SRO oversight for the reactivity manipulation.**

**Cue: As the SRO, if asked, another Reactor Operator has been assigned to raise core flow to 58 Mlbm/hr following completion of the Reactor Recirculation Pump shift.**

**Performance Step:** Transfer RCIRC PUMP B, 1B33-C001B, from slow to fast speed by  
**5.1.8** reperforming Steps 2 through 7 for Rcirc Pump B.

**Standard:** Returns to Step 5.1.2 for Reactor Recirculation Pump B.

**Comment:**

**Performance Step:** Verify CBs 3B and 4B are closed.  
**5.1.2**

**Standard:** Confirms CBs 3B and 4B are closed.

Observes red light is on and green light is off for each CB.

**Comment:**

**Performance Step:** Take the CAVITATION/FCV LIMIT RCIRC RESET switch,  
**5.1.3** 1B33-S111, to A then to B.

**Standard:** Takes the CAVITATION/FCV LIMIT RCIRC RESET switch,  
1B33-S111, to A and then to B.

Observes white lights are out (above switch 1B33-S111) and Alarms H13-P601-4 (A3) & (A12) are clear.

**Comment:** **Note: This Step is not critical because it was previously performed prior to shifting Reactor Recirculation Pump A to fast speed.**

- Performance Step:** 5.1.4 If Reactor engineer recommends bypassing the power interlock:
- a. Consider the following items:
- ICS Computer point N27ME008, Total Rx Feedwater Flow (suct-recirc), indication (normally  $\geq 3.43$  Mlbm/hr), and
  - ICS Computer point C34EA013, Total Rx Steam Flow, indication (normally  $\geq 3.1$  Mlbm/hr), and
  - The CAVITATION/FCV LIMIT RCIRC RESET lights status.
- b. Place the following switches in BYPASS on Auxiliary Relay Panel, 1B33-P001A and B:
- 1) POWER INTERLOCK, 1B33-S126A.
  - 2) POWER INTERLOCK, 1B33-S126B.
  - 3) TOTAL FEEDWATER LOW FLOW INTERLOCK, 1B33-S127A.
  - 4) TOTAL FEEDWATER LOW FLOW INTERLOCK, 1B33-S127B.
- Standard:** Candidate evaluates the above listed items and contacts the Reactor Engineer for his recommendation.
- Comment:** **Cue: As the Reactor Engineer, when asked, inform the Candidate that you do not recommend bypassing the power interlock.**
- Note: An I&C Technician may be required to support performance of the next Step.
- \* **Performance Step:** 5.1.5 Operate RCIRC LOOP B FLOW CONTROL, 1B33-K603B, slide switch on P680 to obtain  $\leq 10\%$  VALVE TRAVEL.
- Standard:** Operates the RCIRC LOOP B FLOW CONTROL, 1B33-K603B, slide switch on P680 to obtain  $\leq 10\%$  VALVE TRAVEL.
- Comment:** Note: As the I&C Technician, you may be contacted to monitor terminal pt. 103 and ground on Rack 2 in 1H13-P634 for FCV B. A positive voltage (changes from 0 to 68 vdc) will confirm when the valve position permissive is met.
- Cue: As the I&C Technician, when FCV B is at the 9% open position, inform the Candidate that a positive voltage of 68 vdc is indicated for FCV B in panel 1H13-P634.**



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|--|--|
| <b>Performance Step:</b><br><b>5.1.6</b>   | If RCIRC B TEMP INTERLOCK is locked in, perform SVI-B33-T1168, Idle Recirculation Loop Temperature and Flow.   |
| <b>Standard:</b>                           | Determines the Step is <u>not</u> applicable because Alarm H13-P680-4 (D13), RECIRC B TEMP INTERLOCK, is <u>not</u> locked in.   |
| <b>Comment:</b>                            |  |
| <br>                                       |  |
| * <b>Performance Step:</b><br><b>5.1.7</b> | Take RCIRC PUMP B BRKR 5B control switch on P680 to START and verify the following:<br><br>a. LFMG B SUPPLY BRKR 1B and LFMG B OUTPUT BRKR 2B on P680 open.<br>b. RCIRC PUMP B BRKR 5B on P680 closes and RCIRC B PUMP SPEED, 1B33-R651B, increases to 1800 RPM.   |
| <b>Standard:</b>                           | Takes RCIRC PUMP B BRKR 5B control switch on P680 to the START position.<br><br>Confirms LFMG B SUPPLY BRKR 1B and LFMG B OUTPUT BRKR 2B are open.<br><br>Observes red light is off and green light is on for BRKR 1B & 2B.<br><br>Confirms RCIRC PUMP B BRKR 5B closes.<br><br>Observes red light is on and green light is off for BRKR 5B.<br><br>Observes Reactor Recirculation Pump B speed increases to 1800 rpm on RCIRC B PUMP SPEED, 1B33-R651B. |
| <b>Comment:</b>                            | Note: During the slow to fast speed transfer, expected Alarm H13-P870-1 (E2), BUS H12 BREAKER TRIP will occur due to the automatic trip of LFMG B Supply Breaker 1B.<br><br><b>Cue: As the SRO, if asked, notifications to SCC, HP, and Chemistry were previously completed prior to transferring Reactor Recirculation Pump A.</b>  |

- Performance Step:** 5.1.8 Transfer RCIRC PUMP A(B), 1B33-C001A(B), from slow to fast speed by reperforming Steps 2 through 7 for RCIRC PUMP A(B).
- Standard:** Determines no operator action is required.
- Comment:**
- Performance Step:** 5.1.9 After the transfers are complete, reset bus H11 and H12 breaker trip annunciators by:
- a. Take LFMG A SUPPLY BRKR 1A control switch to TRIP then back to NORM.
  - b. Take LFMG B SUPPLY BRKR 1B control switch to TRIP then back to NORM.
- Standard:** Takes LFMG A SUPPLY BRKR control switch to the TRIP position.
- Takes LFMG B SUPPLY BRKR control switch to the TRIP position.
- Confirms alarms H13-P870-1 (E1), BUS H11 BREAKER TRIP, and (E2), BUS H12 BREAKER TRIP, clear.
- Comment:** Note: Alarms H13-P870-1 (E1), BUS H11 BREAKER TRIP, and (E2), BUS H12 BREAKER TRIP, will clear (expected) due to acknowledging the automatic trip of LFMG A & B Supply Breakers 1A & 1B.
- Note: An I&C Technician is required to support performance of the next Step.

|                                     |  |
|-------------------------------------|--|
| <b>Performance Step:<br/>5.1.10</b> | <p>When ICS Computer point N27ME009, Total Rx Feedwater Flow (venturi), indicates consistently &gt; 3.43 Mlbm/hr:</p> <ol style="list-style-type: none"><li>a. Verify Recirc Flow Control Cavitation Runback is reset.</li><li>b. Verify Feedwater Cavitation Interlock relay contacts closed at 1H13P612, card 1C34K618A(B) as follows:<ul style="list-style-type: none"><li>• Terminals 9 &amp; 10</li><li>• Terminals 13 &amp; 14</li></ul></li><li>c. Verify the following switches in NORMAL on Auxiliary Relay Panel, 1B33-P001A and B:<ol style="list-style-type: none"><li>1) POWER INTERLOCK, 1B33-S126A.</li><li>2) POWER INTERLOCK, 1B33-S126B.</li><li>3) TOTAL FEEDWATER LOW FLOW INTERLOCK, 1B33-S127A.</li><li>4) TOTAL FEEDWATER LOW FLOW INTERLOCK, 1B33-S127B.</li></ol></li></ol> |
| <b>Standard:</b>                    | <p>Confirms Recirc Flow Control Cavitation Runback is reset by observing Alarms H13-P680-4 (B4), RCIRC A FCV RUNBACK, and (B13), RCIRC B FCV RUNBACK, are reset.</p> <p>Contacts I&amp;C Technician to confirm Feedwater Cavitation Interlock Relay contacts (Terminals 9 &amp; 10 (13 &amp; 14)) at 1H13P612, card 1C34K618A(B) are closed.</p> <p>Contacts NLO to confirm the POWER INTERLOCK, 1B33-S126A and B, and TOTAL FEEDWATER LOW FLOW INTERLOCK, 1B33-S127A and B, switches are in the NORMAL position on Auxiliary Relay Panel, 1B33-P001A and B.</p>   |
| <b>Comment:</b>                     | <p><b>Cue: As the I&amp;C Technician, when contacted, inform the Candidate that the FDW Cavitation Interlock Relay contacts are closed.</b></p> <p><b>Cue: As the NLO, when contacted, inform the Candidate that the POWER INTERLOCK and TOTAL FEEDWATER LOW FLOW INTERLOCK switches are in the NORMAL position.</b></p>   |

**Performance Step:** Perform independent verification of required components.  
**5.1.11**

**Standard:** Contacts NLO to perform independent verification of required components.

**Comment:** **Cue: As the NLO, inform the Candidate that you will perform the independent verification of the required components.**

**Terminating Cue:**

When SOI-B33, Section 5.1 is completed, the evaluation for this JPM is complete.

Job Performance Measure No. 2003 NRC B.1.e

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL CONDITIONS:** A plant startup is in progress. Reactor Recirculation Pump A has just been transferred from slow to fast speed in accordance with SOI-B33, Section 5.1, Steps 1 through 7.

**INITIATING CUE:** The Unit Supervisor, with concurrence from Reactor Engineering, directs you, as the Reactor Operator, to transfer Reactor Recirculation Pump B from slow to fast speed in accordance with SOI-B33, Section 5.1, Step 8.

**Facility:** Perry **Task No:** 248-513-01-01

**Task Title:** Shift EHC Hydraulic Pumps **JPM No:** 2003 NRC B.1.f

**K/A Reference:** 241000 A4.10

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

Simulated Performance **Actual Performance**

Classroom **Simulator** Plant

**Task Standard:** Candidate shifts EHC Hydraulic Pumps from A to B, including testing of the automatic start feature of the standby pump.

**Required Materials:** SOI-N32/39/41/51, Rev 6

**General References:** SOI-N32/39/41/51, Rev 6

**Time Critical Task:** NO

**Validation Time:** 8 minutes

**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:** The plant is operating at 35% power. EHC Hydraulic Pump A has developed a small hydraulic oil leak (2 drops per minute).

**Initiating Cue:** The Unit Supervisor directs you, as the Reactor Operator, to shift EHC Hydraulic Pumps from A to B in accordance with SOI-N32/39/41/51.

(Denote Critical Steps with an asterisk)

**Note: The Simulator Driver will have to role-play as the Non-Licensed Operator.**

- \* **Performance Step:** Station an operator at the EHC skid in communication with the Control Room operator.  
**5.1.1.1**
- Standard:** Dispatches a Non-Licensed Operator (NLO) to the EHC skid.  
Establishes communications with the Non-Licensed Operator at the EHC skid.
- Comment:** **Cue: As NLO, if requested, report that EHC Hydraulic Pump B is ready for startup.**
- \* **Performance Step:** Place EHC HYDRAULIC PUMP B, 1N32-C001B, switch on P870 to ON. Locally observe pump discharge pressure increases to 1600 psig on 1N32-R155B.  
**5.1.1.2**
- Standard:** Places EHC HYDRAULIC PUMP B, 1N32-C001B, control switch to ON.  
Observes red light is on, green light is off.  
Contacts NLO to confirm local pump discharge pressure increases to 1600 psig as indicated on 1N32-R155B.
- Comment:** **Cue: As NLO, report that local pump discharge pressure has increased to 1600 psig as indicated on 1N32-R155B.**
- \* **Performance Step:** Place EHC HYDRAULIC PUMP A, 1N32-C001A, switch on P870 to OFF and then to STBY.  
**5.1.1.3**
- Standard:** Places EHC HYDRAULIC PUMP A, 1N32-C001A, control switch to OFF and then to STBY.  
Observes red light is off, green light is on.
- Comment:**



- \* **Performance Step:** Test the automatic start of the Standby pump as follows:  
**5.1.1.4**
- a. At the EHC skid, momentarily press the HFPM-A pushbutton.
  - b. Locally observe pump discharge pressure on 1N32-R155A rises to 1600 psig in 30 seconds.
  - c. Place EHC HYDRAULIC PUMP A, 1N32-C001A, switch to OFF and then to STBY.
- Standard:** Directs the NLO to momentarily press the HFPM-A pushbutton at the EHC skid to test the automatic start of the Standby pump.
- Observes red light is on, green light is off.
- Contacts NLO to confirm local pump discharge pressure increases to 1600 psig as indicated on 1N32-R155A.
- Cue: As NLO, report that local pump discharge pressure has increased to 1600 psig as indicated on 1N32-R155A.**
- Places EHC HYDRAULIC PUMP A, 1N32-C001A, control switch to OFF and then to STBY.
- Observes red light is off, green light is on.
- Comment:** Note: SOI Step 5.1.1.5 is not required to be performed because the EHC SYSTEM FILTER A/B DIFF PRESS HI alarm was not received on P870 during this evolution.
- Terminating Cue:**
- When SOI-N32/39/41/51, Section 5.1.1, Step 4 is completed, the evaluation for this JPM is complete.

Job Performance Measure No. 2003 NRC B.1.f

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_



|                            |  |
|----------------------------|--|
| <b>Initial Conditions:</b> | The plant is operating at 48% power. Reactor Engineering is making preparations to perform TIP operations later in the shift. The TIP Drive Area Radiation Monitor (ARM), 1D21-K062, is currently shutdown in accordance with SOI-D21. The TIP Drive Area ARM should be in operation before TIP operations commence. |
| <b>Initiating Cue:</b>     | The Unit Supervisor directs you, as the Reactor Operator, to startup the TIP Drive Area ARM, 1D21-K062, in accordance with SOI-D21.  |

(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as a Health Physics (HP) Supervisor and I&C Supervisor for the Candidate.**

|                                    |   |
|------------------------------------|---|
| <b>Performance Step:<br/>2.0.3</b> | Inform Health Physics prior to starting up any portion of the D21 System.   |
| <b>Standard:</b>                   | Informs Health Physics Supervisor that he is going to startup the TIP Drive Area ARM, 1D21-K062, in accordance with SOI-D21.  |
| <b>Comment:</b>                    | <b>Cue: As the Health Physics Supervisor, inform the Candidate that Health Physics is notified.</b><br><br>Note: This step is Precaution & Limitation 2.0.3 in SOI-D21. This is a P&L; therefore, it is not critical if this notification isn't made.                         |
| <b>Performance Step:<br/>3.0.2</b> | I&C verification that the TIP Drive Area ARM readout module is in service.  |
| <b>Standard:</b>                   | Confirms with I&C that the TIP Drive Area ARM readout module is in service.   |
| <b>Comment:</b>                    | <b>Cue: As I&amp;C Supervisor, inform the Candidate that the TIP Drive Area ARM readout module is in service.</b><br><br>Note: This step is Prerequisite 3.0.2 in SOI-D21. It is not critical if this verification isn't made since the readout module is already in service. |
| <b>Performance Step:<br/>4.1.1</b> | Verify the function switch is in the OFF position.  |
| <b>Standard:</b>                   | Confirms the function switch is in the OFF position.  |
| <b>Comment:</b>                    |   |

- \* **Performance Step:** 4.1.2 Turn the function switch to the ALARM position. Check that the needle rests at the lowest graduation.
- Standard:** Turns the function switch to the ALARM position.  
Observes that the needle rests at the lowest graduation.
- Comment:**
- \* **Performance Step:** 4.1.3 Depress the ALERT pushbutton and observe the meter reading increases.
- Standard:** Depresses the ALERT pushbutton.  
Observe the meter reading increases.
- Comment:** Note: The meter reading increases to approximately 13 mR/hr.
- \* **Performance Step:** 4.1.4 Depress the HIGH pushbutton and observe the meter reading increases.
- Standard:** Depresses the HIGH pushbutton.  
Observe the meter reading increases.
- Comment:** Note: The meter reading increases to approximately  $1 \times 10^2$  mR/hr.
- \* **Performance Step:** 4.1.5 Turn the function switch to the OPER. position and verify the FAIL/C.S. light energizes.
- Standard:** Turns the function switch to the OPER. position.  
Confirms the FAIL/C.S. white light energizes.
- Comment:** Note: Alarm H13-P680-7 (A9), AREA RAD P803, will clear (expected).

|                                     |  |
|-------------------------------------|--|
| <b>Performance Step:</b><br>4.1.6   | Note the meter reading.  |
| <b>Standard:</b>                    | Observes the meter is reading approximately 3 mR/hr.   |
| <b>Comment:</b>                     |  |
| * <b>Performance Step:</b><br>4.1.7 | Depress and hold the ALARM TRIP TEST pushbutton and observe the following: <ul style="list-style-type: none"><li>• Meter reading goes to full scale</li><li>• Yellow ALERT light flashing</li><li>• Red HIGH light flashing.</li></ul>                                       |
| <b>Standard:</b>                    | Depresses and holds the ALARM TRIP TEST pushbutton.<br><br>Observes the following: <ul style="list-style-type: none"><li>• Meter reading goes to full scale</li><li>• Yellow ALERT light is flashing</li><li>• Red HIGH light is flashing.</li></ul>                         |
| <b>Comment:</b>                     | Note: Alarm H13-P680-7 (A9), AREA RAD P803, will occur (expected).   |
| * <b>Performance Step:</b><br>4.1.8 | With the ALARM TRIP TEST pushbutton depressed, depress the ALARM ACK. pushbutton and observe the following: <ul style="list-style-type: none"><li>• The ALERT alarm light on continuously</li><li>• The HIGH alarm light on continuously</li></ul>                           |
| <b>Standard:</b>                    | With the ALARM TRIP TEST pushbutton <u>still</u> depressed, depresses the ALARM ACK. pushbutton.<br><br>Observes the following: <ul style="list-style-type: none"><li>• The ALERT alarm light is on continuously</li><li>• The HIGH alarm light is on continuously</li></ul> |
| <b>Comment:</b>                     | Note: Alarm H13-P680-7 (A9), AREA RAD P803, will clear (expected) due to acknowledging the local ALERT and HIGH alarms on the readout module.  |

- 
- \* **Performance Step:** 4.1.9 Release the ALARM TRIP TEST pushbutton.
- Standard:** Releases the ALARM TRIP TEST pushbutton.
- Comment:** Note: The ALERT and HIGH alarm lights remain on.
- 
- \* **Performance Step:** 4.1.10 Depress and hold the FAIL/C.S. pushbutton and observe the meter reading increasing.
- Standard:** Depresses and holds the FAIL/C.S. pushbutton.  
Observes the meter reading increasing.
- Comment:** Observes the meter is reading approximately  $2 \times 10^1$  mR/hr.
- 
- \* **Performance Step:** 4.1.11 Release the FAIL/C.S. pushbutton and ensure the meter reading returns to approximately the value noted in Step 6.
- Standard:** Releases the FAIL/C.S. pushbutton.  
Observes the meter reading returns to approximately the value noted in Step 6 (3 mR/hr).
- Comment:** **Note: Observation that the meter reading returns to the approximate value noted in Step 6 is not a critical part of this Step because as soon as the Candidate releases the FAIL/C.S. pushbutton the meter reading will automatically return to its previous value without any further action by the Candidate.**



- \* Performance Step:** Depress the following:  
**4.1.12**
- ALARM ACK. pushbutton
  - ALERT pushbutton
  - HIGH pushbutton
- Standard:**
- Depresses the ALARM ACK. pushbutton.
- Depresses the ALERT pushbutton.
- Observes the ALERT alarm light extinguishes.
- Depresses the HIGH pushbutton.
- Observes the HIGH alarm light extinguishes.
- Comment:** Note: No lights change when the ALARM ACK. pushbutton is depressed (expected).
- Performance Step:** Observes the following:  
**4.1.13**
- the ALERT alarm light extinguished
  - the HIGH alarm light extinguished
- Standard:**
- Confirms the ALERT alarm light is extinguished.
- Confirms the HIGH alarm light is extinguished.
- Comment:**
- \* Performance Step:** Depress the HORN SILENCE pushbutton.  
**4.1.14**
- Standard:** Depresses the HORN SILENCE pushbutton.
- Comment:** Note: The horn is located at the local readout module in the plant. There is no audible effect in the Control Room to be heard.

**Terminating Cue:**

When SOI-D21, Step 4.1.14 is completed, the evaluation for this JPM is complete.

Job Performance Measure No. 2003 NRC B.1.g

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL CONDITIONS:** The plant is operating at 48% power. Reactor Engineering is making preparations to perform TIP operations later in the shift. The TIP Drive Area Area Radiation Monitor (ARM), 1D21-K062, is currently shutdown in accordance with SOI-D21. The TIP Drive Area ARM should be in operation before TIP operations commence.

**INITIATING CUE:** The Unit Supervisor directs you, as the Reactor Operator, to startup the TIP Drive Area ARM, 1D21-K062, in accordance with SOI-D21.

**Facility:** Perry **Task No:** 211-522-05-01

**Task Title:** SLC Transfer Tank Preparation for Alternate Boron Injection **JPM No:** 2003 NRC B.2.a

**K/A Reference:** 295037 EA1.10

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

**Simulated Performance** Actual Performance

Classroom Simulator **Plant**

**Task Standard:** Candidate (simulates) completes the in-plant preparation of the SLC Transfer Tank for Alternate Boron Injection.

**Required Materials:** PEI-SPI 1.8 Rev 1 (Provided by Evaluator)  
PEI-SPI 1.8 Tools (From OSC PEI File Cabinet - simulated)  
PEI-SPI 1.8 Chemicals & Chemical Handling Equipment (IB 620' I/05)

**General References:** PEI-SPI 1.8 Rev 1

**Time Critical Task:** NO

**Validation Time:** 20 minutes

**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:** An ATWS has occurred. PEI-B13, RPV Control (ATWS) has been entered. Alternate Boron Injection is required. PEI-SPI 1.8, Steps 1.0 and 2.0 have been completed.

**Initiating Cue:** The Unit Supervisor directs you, as an In-Plant Operator, to prepare the SLC Transfer Tank for Alternate Boron Injection in accordance with PEI-SPI 1.8, Step 3.0.

(Denote Critical Steps with an asterisk)

- Performance Step:** Candidate obtains procedure and necessary equipment for the task.
- Standard:** Locates copy of procedure at the OSC PEI File Cabinet or Control Room.
- Comment:** **Cue: When Candidate has stated where procedure is located (Control Room or OSC PEI File Cabinet), then provide Candidate with copy of procedure.**

- \* **Performance Step:** At IB 620, I/05,  
**3.0** If all of the following conditions exist:
- SLC Transfer Tank Level is 100% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B
  - SLC Transfer Tank Temperature is between 90 °F and 145 °F as indicated on SLC Tank Temperature C41-N405
  - At SLC Transfer Tank Agitator/Heater Panel H51-P926, the SLC Transfer Tank Agitator/Heater C41-D010 is operating
  - The required amount of boric acid and borax has been added to the SLC Transfer Tank
- Then proceed to Step 5.0 of this instruction.
- Standard:** Confirms SLC Transfer Tank Level is not 100% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.
- Confirms SLC Transfer Tank Temperature is not between 90 °F and 145 °F as indicated on SLC Tank Temperature C41-N405.
- Confirms the SLC Transfer Tank Agitator/Heater C41-D010 is not operating at SLC Transfer Tank Agitator/Heater Panel H51-P926.
- Confirms the required amount of boric acid and borax has not been added to the SLC Transfer Tank.
- Determines he must not proceed to Step 5.0.
- Determines that he must perform Step 4.0.
- Comment:** Note: Candidate is not required to confirm every condition is not met before proceeding to Step 4.0.
- Cue: SLC Transfer Tank Level is ‘as indicated’ on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.**
- Cue: SLC Transfer Tank Temperature is ‘as indicated’ on SLC Tank Temperature C41-N405.**
- Cue: The SLC Transfer Tank Agitator/Heater C41-D010 is off at SLC Transfer Tank Agitator/Heater Panel H51-P926.**
- Cue: The required amount of boric acid and borax has not been added to the SLC Transfer Tank.**
- Cue: As the Control Room, if informed by the Candidate that the SLC Transfer Tank is not prepared, then inform the Candidate to continue with PEI-SPI 1.8.**

**Note: The following Steps (4.1, 4.2, 4.3, and 4.4) will ultimately prepare the SLC Transfer Tank for Alternate Boron Injection.**

**Note: The following Step (4.1) will fill the SLC Transfer Tank.**

- \* **Performance Step:** At IB 620', I/05,  
**4.1.1**  
Open Dem Wtr Supply Line Isol Vlv C41-F533.
- Standard:** Opens (simulates) valve by turning handwheel in the counterclockwise direction.
- Comment:** **Cue: Valve C41-F533 is open.**  
  
Note: Candidate may also explain that he will listen for flow noise when C41-F533 is opened.  
  
**Cue: If prompted, flow noise is heard.**
- \* **Performance Step:** At IB 620', I/05,  
**4.1.2**  
When SLC Transfer Tank level reaches 80% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B,  
  
Then close Dem Wtr Supply Line Isol Vlv C41-F533.
- Standard:** Observes SLC Transfer Tank Level increases to 80% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.  
  
Closes (simulates) valve by turning handwheel in the clockwise direction.
- Comment:** **Cue: SLC Transfer Tank Level is 80% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.**  
  
**Cue: Valve C41-F533 is closed.**

- \* **Performance Step:** 4.2 At SLC Transfer Tank Agitator/Heater Panel H51-P926, start SLC Transfer Tank Agitator/Heater C41-D010.
- Standard:** Places SLC Transfer Tank Agitator/Heater C41-D010 control switch in the ON position.
- Observes red light is on and green light is off for the SLC Transfer Tank Agitator.
- Observes red light is on and green light is off for the SLC Transfer Tank Heater.
- Comment:** **Cue: Red light is on, green light is off. The SLC Transfer Tank Agitator is running.**
- Cue: Red light is on, green light is off. The SLC Transfer Tank Heater is energized.**

**Note: The following Step (4.3) will establish the proper amount of chemicals.**

- \* **Performance Step:** 4.3.1 When the SLC Transfer Tank is between 90 °F and 145 °F as indicated on SLC Tank Temperature C41-N405,
- Then establish the proper amount of chemicals as follows:
- Remove the SLC Transfer Tank manway cover.
- Standard:** Observes SLC Transfer Tank temperature increases to between 90 °F and 145 °F as indicated on SLC Tank Temperature C41-N405.
- Removes (simulates) the SLC Transfer Tank manway cover.
- Comment:** Note: Candidate may describe use of the crescent wrenches or drive ratchet/socket to remove the manway cover.
- Note: Candidate may discuss HP requirements to access the ladder and elevated platform in preparation for removing the manway cover.
- Cue: SLC Transfer Tank temperature is 100 °F and slowly increasing as indicated on SLC Tank Temperature C41-N405.**
- Cue: The SLC Transfer Tank manway cover is removed.**



- \* **Performance Step:** 4.3.2 Commence to slowly add a bucket of borax and a bucket of boric acid alternately until three and one-half barrels of each chemical have been added
- Standard:** Locates each type of chemical (borax and boric acid) in its respective barrel.
- Removes (simulates) the lid from each required barrel of borax and boric acid.
- Slowly adds (simulates) a bucket of borax and a bucket of boric acid alternately until three and one-half barrels of each chemical have been added to the SLC Transfer Tank via the open manway cover.
- Comment:** Note: The Candidate should describe the use of a face shield or goggles and rubber gloves when handling the boric acid.
- Note: The Candidate should describe the use of the two 5 gallon buckets and scoop in order to transfer the borax and boric acid from their respective barrel to the SLC Transfer Tank.
- Note: This chemical mix is an endothermic reaction. Adding chemicals too fast will decrease water temperature. The warmer the water, the faster the chemicals will enter solution.
- Note: The Candidate may describe monitoring of SLC Transfer Tank temperature because mixing of the chemicals is an endothermic reaction which can cause SLC Transfer Tank temperature to decrease if chemicals are added too fast.
- Cue: Three and one-half barrels of each chemical have been added to the SLC Transfer Tank.**

- \* **Performance Step:** 4.4.1 Perform the following to fill the SLC Transfer Tank while maintaining SLC Transfer Tank temperature between 60 °F and 145 °F:
- Open Dem Wtr Supply Line Isol Vlv C41-F533.
- Standard:** Opens (simulates) valve by turning handwheel in the counterclockwise direction.
- Confirms SLC Transfer Tank Temperature is being maintained between 60 °F and 145 °F as indicated on SLC Tank Temperature C41-N405.
- Comment:** **Cue: Valve C41-F533 is open.**
- Note: Candidate may also explain that he will listen for flow noise when C41-F533 is opened.
- Cue: If prompted, flow noise is heard.**
- Cue: SLC Transfer Tank temperature is 120 °F and slowly decreasing as indicated on SLC Tank Temperature C41-N405.**
- Cue: SLC Transfer Tank Level is 100% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.**

\* **Performance Step:** 4.4.2 When SLC Transfer Tank level reaches 100% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B,

Then close Dem Wtr Supply Line Isol Vlv C41-F533.

**Standard:** Confirms SLC Transfer Tank Temperature is being maintained between 60 °F and 145 °F as indicated on SLC Tank Temperature C41-N405.

Observes SLC Transfer Tank Level increases to 100% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.

Closes (simulates) valve by turning handwheel in the clockwise direction.

**Comment:** **Cue: SLC Transfer Tank Level is 100% as indicated on SLC Transfer Tank Level C41-N415A or SLC Transfer Tank Level C41-N415B.**

**Cue: Valve C41-F533 is closed.**

**Cue: If requested, SLC Transfer Tank temperature is 100 °F and stable as indicated on SLC Tank Temperature C41-N405.**

Note: Candidate should inform the Control Room when Step 4.0 is completed.

**Cue: As the Control Room, when informed by the Candidate that Step 4.0 is completed, then inform the Candidate that he is to return to the Control Room. Non-Licensed Operators have been assigned to complete the in-plant lineup.**

**Terminating Cue:**

When PEI-SPI 1.8, Step 4.4.2 is completed, the evaluation for this JPM is complete.

Job Performance Measure No. 2003 NRC B.2.a

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL CONDITIONS:** An ATWS has occurred. PEI-B13, RPV Control (ATWS) has been entered. Alternate Boron Injection is required. PEI-SPI 1.8, Steps 1.0 and 2.0 have been completed.

**INITIATING CUE:** The Unit Supervisor directs you, as an In-Plant Operator, to prepare the SLC Transfer Tank for Alternate Boron Injection in accordance with PEI-SPI 1.8, Step 3.0.

**Facility:** Perry **Task No:** 286-518-04-01

**Task Title:** Initiate Control Room Subfloor CO2 from Outside Control Room (Alternate Path) **JPM No:** 2003 NRC B.2.b

**K/A Reference:** 286000 A2.08

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

**Simulated Performance** Actual Performance

Classroom Simulator **Plant**

**Task Standard:** Candidate (simulates) manual initiation of the CO2 System and determines that CO2 discharge flow did not occur when the Selector Valve for the Control Room West Subfloor Area was opened. Candidate opens the Master Valve to successfully initiate CO2 discharge flow.

**Required Materials:** SOI-P54 (Gas) Rev 0, PIC-11

**General References:** SOI-P54 (Gas) Rev 0, PIC-11

**Time Critical Task:** NO

**Validation Time:** 25 minutes

**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:** An electrical fire in the Control Room West Subfloor Area required the evacuation of the Control Room. All immediate actions for ONI-C61, Evacuation of the Control Room, have been completed.

**Initiating Cue:** The Unit Supervisor directs you, as an In-Plant Operator, to manually initiate the Carbon Dioxide System for the Control Room West Subfloor Area in accordance with SOI-P54 (GAS).

(Denote Critical Steps with an asterisk)

- Performance Step:** Candidate obtains procedure necessary for the task.
- Standard:** Locates copy of procedure in the Control Room.
- Comment:** **Cue: When Candidate has stated where procedure is located (Control Room), then provide Candidate with copy of procedure.**
- Performance Step:** 5.4.1 If there is a fire in a Reactor Recirc Pump, verify open CNTMT CO2 SUPPLY OTBD ISOL, 1P54-F340, per ONI-P54.
- Standard:** No operator action is required.
- Comment:**
- \* **Performance Step:** 5.4.1a Open the Selector Valve by smashing the breakglass and rotating the pilot valve clockwise.
- Standard:** Locates Selector Valve Pilot Valve 1P54-F3451 (CC 638' C/02).  
Smashes (simulates) the breakglass and rotates (simulates) Selector Valve Pilot Valve 1P54-F3451 in the clockwise direction.
- Comment:** **Cue: Selector Valve Pilot Valve 1P54-F3451 is open.**  
Note: The correct Selector Valve Pilot Valve is the upper one (of 3).
- \* **Performance Step:** 5.4.2 Hold the Selector Valve pilot valve open for the discharge time as listed in Attachment 3, then close the pilot valve.
- Standard:** Holds (simulates) Selector Valve Pilot Valve 1P54-F3451 in the open position for 4 minutes, then closes the pilot valve.  
Determines CO2 was not discharged.
- Comment:** **Note: The Candidate is expected to describe the indications for CO2 discharge flow (i.e., flow noise).**  
**Cue: 4 minutes have elapsed and no CO2 discharge flow noise was heard.**  
**Note: If the Candidate closes the Selector Valve Pilot Valve, the valve will be re-opened in the next Step.**

**Note: The following Step is the Alternate Path for this JPM.**

- \* **Performance Step:** If no CO2 discharge occurs, leave the Selector Valve pilot valve open and open the Master Valve by smashing the breakglass and rotating the pilot valve clockwise and perform the following:
- 5.4.3**
- a. Hold the Master Valve open for the discharge time specified in Attachment 3.
  - b. Close the Master Valve pilot valve.
  - c. Close the Selector Valve pilot valve.

**Standard:** Leaves / opens (simulates) Selector Valve Pilot Valve 1P54-F3451 in the open position.

Locates Master Valve Pilot Valve P54-F3441 (CC 620' E/05).

Smashes (simulates) the breakglass, rotates (simulates) the Master Valve Pilot Valve P54-F3441 clockwise and holds (simulates) the Master Valve Pilot Valve open for 4 minutes.

Closes (simulates) Master Valve Pilot Valve P54-F3441.

Closes (simulates) Selector Valve Pilot Valve 1P54-F3451.

**Comment:** **Cue: Master Valve Pilot Valve P54-F3441 is open.**

**Note: The Candidate is expected to describe the indications for CO2 discharge flow (i.e., flow noise).**

**Cue: 4 minutes have elapsed and CO2 discharge flow noise was heard.**

**Cue: Master Valve Pilot Valve P54-F3441 is closed.**

**Cue: Selector Valve Pilot Valve 1P54-F3451 is closed.**

**Terminating Cue:**

When SOI-P54 (GAS), Step 5.4.3, is completed, the evaluation for this JPM is complete.



Job Performance Measure No. 2003 NRC B.2.b

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL CONDITIONS:** An electrical fire in the Control Room West Subfloor Area required the evacuation of the Control Room. All immediate actions for ONI-C61, Evacuation of the Control Room, have been completed.

**INITIATING CUE:** The Unit Supervisor directs you, as an In-Plant Operator, to manually initiate the Carbon Dioxide System for the Control Room West Subfloor Area in accordance with SOI-P54 (GAS).

**Facility:** Perry **Task No:** 007-505-04-01

**Task Title:** Level Control Using RCIC from the Remote Shutdown Panel **JPM No:** 2003 NRC B.2.c

**K/A Reference:** 295016 AA1.06

**Examinee:** **NRC Examiner:**

**Facility Evaluator:** N/A **Date:**

**Method of testing**

**Simulated Performance** Actual Performance

Classroom Simulator **Plant**

**Task Standard:** RCIC is in operation from the Division 1 Remote Shutdown Panel. Reactor water level is being maintained 185 to 215 inches.

**Required Materials:** IOI-11, Rev 6, PIC 11

**General References:** IOI-11, Rev 6, PIC 11

**Time Critical Task:** NO

**Validation Time:** 15 minutes

**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.

|                            |  |
|----------------------------|--|
| <b>Initial Conditions:</b> | A toxic gas condition exists in the Control Room. ONI-C61, Evacuation of the Control Room, has been completed. IOI-11, Shutdown from Outside Control Room, has been entered. Offsite power is available. The Containment has been evacuated. Control Transfer to the Division 1 Remote Shutdown Panel has been completed. Reactor water level is 180 inches and slowly lowering. |
| <b>Initiating Cue:</b>     | The Unit Supervisor directs you, as the Reactor Operator, to restore and maintain reactor water level to 185 to 215 inches using the RCIC System in accordance with IOI-11.  |

(Denote Critical Steps with an asterisk)

**Note: The Evaluator will role-play as the Health Physics Supervisor, Chemistry Supervisor, Security, and SRO for the Candidate.**

**Note: Candidate will locate a copy of IOI-11 at the Remote Shutdown Panel.**

**Performance Step:** Notify Health Physics and Chemistry prior to conducting any RCIC operations so that survey / sample frequency may be increased as necessary.  
**1.0.6**

**Standard:** (Simulates) notifies HP and Chemistry.

**Comment:** **Cue: As the Health Physics Supervisor and Chemistry Supervisor, inform the Candidate that notifications have been made.**

Note: This step is Precaution & Limitation 1.0.6 in Attachment 18. This is a P&L; therefore, it is not critical if this notification isn't made.

**Performance Step:** Evacuate any personnel in the Reactor Building Annulus and prevent access to the Reactor Building Annulus.  
**2.0.1**

**Standard:** Contacts (simulates) Health Physics, the SRO, or Security to evacuate any personnel in the Reactor Building Annulus and prevent access to the Reactor Building Annulus.

**Comment:** **Cue: As Health Physics, the SRO, or Security, inform the Candidate that there are no personnel in the Reactor Building Annulus and further access will be prevented.**

**Performance Step:** Verify Attachment 20, Control Transfer to Division 1 Remote Shutdown Panel, has been completed.  
**2.0.2**

**Standard:** No operator action is required.

**Comment:** Note: Attachment 20 was completed as part of the Initial Conditions.

Note: Attachment 19 is completed as part of Attachment 20.

**Cue: As the SRO, if asked, inform the Candidate that Attachment 20 is completed.**

|  |   |
|--|---|
| <b>Performance Step:</b><br><b>2.0.3</b>   | Deleted   |
| <b>Standard:</b>                           | <u>No</u> operator action is required.  |
| <b>Comment:</b>                            |   |
| <b>Performance Step:</b><br><b>2.0.4</b>   | Verify RHR A HEAD SPRAY ISOL, 1E12-F023, shut.  |
| <b>Standard:</b>                           | Confirms (simulates) RHR A HEAD SPRAY ISOL, 1E12-F023, is closed.<br><br>Observes red light is off, green light is on.  |
| <b>Comment:</b>                            | <b>Cue: Red light is off, green light is on.</b>  |
| <b>Performance Step:</b><br><b>2.0.5</b>   | Take RCIC TURBINE GLAND SEAL COMP, 1E51-C004, to START.   |
| <b>Standard:</b>                           | Takes (simulates) RCIC TURBINE GLAND SEAL COMP, 1E51-C004, control switch to the START position.<br><br>Observes red light is on, green light is off.   |
| <b>Comment:</b>                            | <b>Cue: Red light is on, green light is off.</b><br><br>Note: This step is not critical because the Note states that the RCIC Turbine Gland Seal Compressor is <u>not</u> required for RCIC System operation. |
| * <b>Performance Step:</b><br><b>2.0.6</b> | Verify RCIC PUMP FLOW CONTROLLER, C61-R001, in automatic and set for 700 gpm.   |
| <b>Standard:</b>                           | Shifts (simulates) RCIC PUMP FLOW CONTROLLER, C61-R001, from the Manual mode to the Automatic mode.<br><br>Adjusts the tapeset to 700 gpm.  |
| <b>Comment:</b>                            | <b>Cue: RCIC Pump Flow Controller is in the Automatic mode and the tapeset is at 700 gpm.</b>   |

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- \* **Performance Step:** 2.0.7 Place RCIC TURBINE REMOTE TRIP to NORM.
- Standard:** Places (simulates) RCIC TURBINE REMOTE TRIP control switch in the NORM position.
- Observes RCIC TURBINE TRIP amber status light extinguishes.
- Comment:** **Cue: The RCIC TURBINE REMOTE TRIP control switch is in the NORM position and the RCIC TURBINE TRIP amber status light is off.**
- \* **Performance Step:** 2.0.8 Hold RCIC TURBINE TRIP THRT VLV LATCH, 1E51-F510, in OPEN until the valve is full open.
- Standard:** Holds (simulates) RCIC TURBINE TRIP THRT VLV LATCH, 1E51-F510, control switch in the OPEN position until the valve is full open (and then releases the control switch).
- Observes red light is on, green light is off.
- Comment:** **Cue: Red light is on, green light is off.**
- \* **Performance Step:** 2.0.9 Take RCIC STEAM SHUTOFF, 1E51-F045, to OPEN and verify the turbine starts.
- Standard:** Takes (simulates) RCIC STEAM SHUTOFF, 1E51-F045, control switch to the OPEN position.
- Observes RCIC Turbine speed is increasing on RCIC TURBINE SPEED, C61-R003.
- Comment:** **Cue: Red light is on, green light is off.**
- Cue: RCIC Turbine speed indicates 4500 RPM and RCIC flow indicates 0 gpm.**

- \* **Performance Step:** 2.0.10 Take RCIC PUMP MIN FLOW VALVE, 1E51-F019, to OPEN.
- Standard:** Takes (simulates) RCIC PUMP MIN FLOW VALVE, 1E51-F019, control switch to the OPEN position.
- Observes red light is on, green light is off.
- Comment:** **Cue: Red light is on, green light is off.**
- Note: The RCIC Pump min flow line is upstream of the RCIC flow element. Therefore, the RCIC Pump min flow is not indicated on RCIC PUMP FLOW, C61-R001-1 (it will indicate '0' gpm).
- \* **Performance Step:** 2.0.11 Take RCIC INJECTION VLV, 1E51-F013, to OPEN.
- Standard:** Takes (simulates) RCIC INJECTION VLV, 1E51-F013, control switch to the OPEN position.
- Observes red light is on, green light is off.
- Observes RCIC flow increases and stabilizes at 700 gpm on RCIC PUMP FLOW, C61-R001-1.
- Comment:** **Cue: Red light is on, green light is off.**
- Cue: RCIC flow has stabilized at 700 gpm on RCIC PUMP FLOW, C61-R001-1.**

- \* **Performance Step:** When flow to the reactor vessel has been established, take RCIC  
**2.0.12** PUMP MIN FLOW VALVE, 1E51-F019, to CLOSE.

NOTE: Maintain the RCIC Pump flow greater than or equal to the following limitations:

| RPM    | Continuous Duty | 2 hours<br>in 24 hour period |
|--------|-----------------|------------------------------|
| ≤ 2250 | 120 gpm         | 60 gpm                       |
| > 2250 | 350 gpm         | 230 gpm                      |

**Standard:** Takes (simulates) RCIC PUMP MIN FLOW VALVE, 1E51-F019, control switch to the CLOSE position.

Observes red light is off, green light is on.

Observes reactor water level is increasing on either REACTOR LEVEL, C61-R010, or REACTOR LEVEL & PRESSURE RECORDER, C61-R012, or computer SPDS display.

Observes RPM is > 2250 and RCIC Pump flow is > 350 gpm.

**Comment:**

**Cue: Red light is off, green light is on.**

**Cue: Reactor water level is 185 inches and slowly increasing on either REACTOR LEVEL, C61-R010, REACTOR LEVEL & PRESSURE RECORDER, C61-R012, or computer SPDS display.**

**Cue: If asked, inform the candidate that RCIC Turbine speed is 3500 rpm on RCIC TURB RPM, C61-R003.**

**Cue: When the Candidate reports that RCIC is in operation and reactor water level is in band (185 to 215 inches), then inform the Candidate that another Reactor Operator has been assigned to maintain reactor water level.**

**Terminating Cue:**

When IOI-11, Attachment 18, Step 12 is completed, the evaluation for this JPM is complete.



Job Performance Measure No. 2003 NRC B.2.c

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: \_\_\_\_\_

**INITIAL  
CONDITIONS:**

A toxic gas condition exists in the Control Room. ONI-C61, Evacuation of the Control Room, has been completed. IOI-11, Shutdown from Outside Control Room, has been entered. Offsite power is available. The Containment has been evacuated. Control Transfer to the Division 1 Remote Shutdown Panel has been completed. Reactor water level is 180 inches and slowly lowering.

**INITIATING  
CUE:**

The Unit Supervisor directs you, as the Reactor Operator, to restore and maintain reactor water level to 185 to 215 inches using the RCIC System in accordance with IOI-11.