

**In Plant JPM  
P1**

Facility: Davis-Besse

Task No: 001-043-05-0100

Task Title: Trip Reactor From #2 Low Voltage Switchgear Room

K/A Reference: (001) A2.11 4.4/4.7 Job Performance Measure No: P1 (JPM 042)

Examinee: \_\_\_\_\_

NRC Examiner: \_\_\_\_\_

Date: \_\_\_\_\_

**Method of testing:**

Simulated Performance   X  

Actual Performance   

Classroom   

Simulator   

Plant   X  

***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 conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Trip Reactor by manually tripping Reactor Trip Breakers in the Low Voltage Switchgear Rooms

**Required Materials:**

DB-OP-02000 Section 3, step 3.3

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** No

**Alternate Path:** No

**Validation Time:** 6 minutes

## **EXAMINER COPY**

### **INITIAL CONDITIONS:**

You are located in the control room (performing job preview for an upcoming task)

The plant has just experienced a severe transient causing a reactor trip signal to be generated.

The reactor did not trip.

Control power problems have prevented the Control Room from deenergizing E2 and F2.

### **INITIATING CUES:**

The Unit Supervisor directs you to proceed to the Low Voltage Switchgear Rooms to deenergize the Control Rod Drive system by manually tripping Reactor Trip Breakers in accordance with Step 3.3 of DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture.

**(Hand copy of DB-OP-02000 step 3.3 to the examinee)**

## **CANDIDATE COPY**

### **INITIAL CONDITIONS:**

You are located in the control room (performing job preview for an upcoming task)

The plant has just experienced a severe transient causing a reactor trip signal to be generated.

The reactor did not trip.

Control power problems have prevented the Control Room from deenergizing E2 and F2.

### **INITIATING CUES:**

The Unit Supervisor directs you to proceed to the Low Voltage Switchgear Rooms to deenergize the Control Rod Drive by manually tripping Reactor Trip Breakers in accordance with Step 3.3 of DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
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1. PERFORMANCE STEP: Recognize the correct procedure step.

STANDARD: Recognize DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture, Step 3.3 RNO as correct procedure step

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

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2. PERFORMANCE STEP: Trip Control Rod Drive Breaker A

STANDARD: Push the TRIP pushbutton on Control Rod Drive Breaker A and observe the Green Trip flag is visible

COMMENT: Performance Note - Performance steps 2, 3, and 4 may be performed in any order, but TRIPPING Control Rod Drive Breaker B and Control Rod Drive Breaker C are required to obtain desired response.

CUE: **Trip pushbutton has been pushed on Control Rod Drive Breaker A.**

**Green TRIP flag is NOT visible.**

**The plant noise/vibration levels have not changed.**

\_\_\_\_\_  
SAT UNSAT

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3. PERFORMANCE STEP: Trip Control Rod Drive Breaker C

.....**C**.....

STANDARD: Push the TRIP pushbutton on Control Rod Drive Breaker C and observe the Green Trip flag is visible

CUE: TRIP pushbutton has been pushed on Control Rod Drive Breaker C.

Green TRIP flag is visible.

(If Control Rod Drive Breaker B HAS been tripped) The plant noise/vibration levels have increased notably.

(If Control Rod Drive Breaker B HAS NOT been tripped) The plant noise/vibration levels have not changed.

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SAT UNSAT

4. PERFORMANCE STEP: Trip Control Rod Drive Breaker B  
.....C.....

STANDARD: Push the TRIP pushbutton on Control Rod Drive Breaker B and observe the Green Trip flag is visible

CUE: TRIP pushbutton has been pushed on Control Rod Drive Breaker B.

Green TRIP flag is visible.

(If Control Rod Drive Breaker C has NOT been tripped, the plant noise/vibration levels have not changed.

(If Control Rod Drive Breaker C HAS been tripped) the plant noise/vibration levels have increased notably.

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SAT UNSAT

TERMINATING CUES: This JPM is complete (Terminated by the examiner)

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END TIME

**In Plant JPM  
P2**

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**Facility:** Davis-Besse **Task No:** 001-043-05-0100**Task Title:** Locally Operate Atmospheric Vent Valve ICS11A**K/A Reference:** (039) A4.07 2.8/2.9 **Job Performance Measure No:** P2 (JPM 024)**Examinee:** \_\_\_\_\_**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Method of testing:**Simulated Performance   X   Actual Performance \_\_\_\_\_Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant   X  ***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 conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Locally Operate Atmospheric Vent Valve ICS11A

**Required Materials:**

DB-OP-02000 Attachment 3

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** No**Alternate Path:** No**Validation Time:** 13 minutes

**EXAMINER COPY****INITIAL CONDITIONS:**

The Atmospheric Vent Valves cannot be controlled from the Control Room due to severe loss of instrument air.

**INITIATING CUES:**

The Unit Supervisor directs you to locally operate Atmospheric Vent Valve ICS 11A starting at Section D step 3.0 of Attachment 3 of DB-OP-02000 (IA450 has been closed by another operator).

**(Hand the trainee a copy of Attachment 3 of DB-OP-02000)**

**CANDIDATE COPY****INITIAL CONDITIONS:**

The Atmospheric Vent Valves cannot be controlled from the Control Room due to severe loss of instrument air.

**INITIATING CUES:**

The Unit Supervisor directs you to locally operate Atmospheric Vent Valve ICS 11A starting at Section D step 3.0 of Attachment 3 of DB-OP-02000 (IA450 has been closed by another operator).

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
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1. PERFORMANCE STEP: Verify Valve A (ICS11AA) open

STANDARD: Verify Valve A (ICS11AA) is open by turning in the clockwise direction and returning to open position

**NOTE: Step for closing IA450 (Procedure step 2) has been cued to have been closed by another operator. IA 450 is located in the turbine building and isolates air to the AVVs.**

**CUE: Valve ICS11AA is rotated a small amount in the clockwise direction and then returned to full OPEN**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Open Valve B (ICS11AB)  
.....**C**.....

STANDARD: Turn handwheel counterclockwise to open Valve B (ICS11AB)

COMMENT: Step 1-3 shall be performed prior to Step 5

**CUE: Valve ICS11AB handwheel is rotated counterclockwise and is open. Air is heard venting and then stops.**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Notify the Control Room that ICS11A is ready for local manual operation

STANDARD: Communicate with Control Room for desired valve position

**CUE: Communications have been established with the Control Room  
The Reactor Operator directs you to position the Atmospheric Vent Valve to 10 turns on the handwheel counter**

\_\_\_\_\_  
SAT UNSAT

4. PERFORMANCE STEP: Check the handwheel counter at 0

STANDARD: Check the handwheel counter is at zero

**CUE: Handwheel counter is at zero (0)**

\_\_\_\_\_  
SAT UNSAT

5. PERFORMANCE STEP: Establish desired throttle position  
.....**C**.....

STANDARD: Turn the handwheel in the clockwise direction 10 turns until counter reads 10

Note: **Valve manual handwheel is reverse acting.**

**Cue indicates IA is restored to the station, but will remain isolated from the AVVs by IA450 being closed. The plant noise/vibrations levels have increased notably.**

**CUE: Handwheel is rotated in the clockwise direction  
The handwheel counter is at 10.  
Instrument air has been restored  
The Reactor Operator directs you to close ICS11A, establish positive shutoff  
and restore instrument air to the Atmospheric Vent Valve.**

SAT UNSAT

6. PERFORMANCE STEP: Close the Atmospheric Vent valve (ICS 11A) and establish  
.....**C**..... positive shutoff

STANDARD: Turn the handwheel in the counterclockwise direction until the counter is zero (0)

COMMENT: Step 6 shall be performed prior to step 7

**CUE: Handwheel is rotated counterclockwise direction  
Handwheel counter is at zero (0)**

SAT UNSAT

7. PERFORMANCE STEP: Close Valve B ICS11AB  
.....**C**.....

STANDARD: Manual handwheel for Valve ICS11AB rotated clockwise until closed

**CUE: Valve ICS11AB handwheel has been rotated clockwise, valve is closed.**

SAT UNSAT

TERMINATING CUES: This JPM is complete (Terminated by the examiner)

END TIME

**In Plant JPM  
P3**

**Facility:** Davis-Besse **Task No:** 064-026-05-0401

**Task Title:** Energize Station Blackout Diesel Generator Auxiliaries

**K/A Reference:** (064) A2.12 2.8/3.1 **Job Performance Measure No:** P3 (JPM 258)

**Examinee:** \_\_\_\_\_

**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Method of testing:**

Simulated Performance  X  Actual Performance \_\_\_\_\_

Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant  X

***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 conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Energize Station Blackout Diesel Generator Auxiliaries  
Emergency Shutdown Station Blackout Diesel Generator (Loss of Air Cooling Fans)

**Required Materials:**

Section 4.10 of DB-OP-06334, Station Blackout Diesel Generator Operating Procedure  
Section 5.2 of DB-OP-06334, Emergency Shutdown of Station Blackout Diesel Generator

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** No

**Alternate Path:** Yes

**Validation Time:** 15 minutes

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**EXAMINER COPY****INITIAL CONDITIONS:**

The plant is operating at 100% power

Ambient temperature is 45°F

Breaker AD213, SBDOG to D2, has been opened in preparation for breaker maintenance

AD213 was opened 15 minutes ago

**INITIATING CUES:**

**NOTE: Procedure Step 4.10.2 needs to be initialed indicating that Barring of the Station Blackout Diesel Generator is NOT required. In the procedure step NO should be circled.**

The Unit Supervisor directs you to perform Section 4.10, Energizing the Station Blackout Diesel Generator Auxiliaries from the Station Blackout Diesel Generator, of DB-OP-06334.

You have an eSOMS handheld computer with the Station Blackout Diesel Generator readings downloaded.

**(Provide the examinee a copy of procedure package including section 4.10 of DB-OP-06334, Station Blackout Diesel Generator Operating Procedure. Procedure Step 4.10.2 needs to be initialed indicating that Barring of the Station Blackout Diesel Generator is NOT required. In the procedure step NO should be circled. Section 5.2 will be provided when it is recognized emergency shutdown of the SBODG is required.)**

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**CANDIDATE COPY****INITIAL CONDITIONS:**

The plant is operating at 100% power

Ambient temperature is 45°F

Breaker AD213, SBDOG to D2, has been opened in preparation for breaker maintenance

AD213 was opened 15 minutes ago

**INITIATING CUES:**

The Unit Supervisor directs you to perform Section 4.10, Energizing the Station Blackout Diesel Generator Auxiliaries from the Station Blackout Diesel Generator, of DB-OP-06334.

You have an eSOMS handheld computer with the Station Blackout Diesel Generator readings Downloaded.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
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1. PERFORMANCE STEP: Depress and hold the FUEL PRIME pushbutton until fuel oil pressure stabilizes >15 PSIG.

STANDARD: Depresses the FUEL PRIME pushbutton until fuel oil pressure stabilizes greater than 15 PSIG on the black indicator of PI 11160.

CUE: **FUEL PRIME pushbutton depressed, PI 11160 FUEL FILTER Pressure black indicator reads 17 PSIG**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Place the ELECT PROTECT-MODE SELECT Switch in the TEST .....**C**..... position.

STANDARD: Rotate the ELECT PROTECT-MODE SELECT Switch to the TEST position on C30202.

CUE: **The ELECT PROTECT - MODE SELECT Switch has been rotated and points towards TEST**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Verify SBODG OUTPUT BREAKER AD 301 is open.

STANDARD: On panel C30202, Verifies AD 301 GREEN light is lit.

CUE: **AD 301 GREEN LIGHT is lit**

\_\_\_\_\_  
SAT UNSAT

4. PERFORMANCE STEP: Start the SBODG. ....**C**.....

STANDARD: Depress the SBODG START pushbutton on Panel 30202.

CUE: **The START pushbutton has been depressed**

\_\_\_\_\_  
SAT UNSAT

5. PERFORMANCE STEP: After 30 seconds CHECK the Station Blackout Diesel Generator starts and accelerates to approximately 450 RPM.

STANDARD: After approximately 30 seconds verify the Station Blackout Diesel Generator starts and accelerates to approximately 450 rpm as indicated on ENGINE TACHOMETER on C30203.

**CUE: After approximately 30 seconds the diesel starts.  
When checking speed on Engine Tachometer, Tachometer on C30203 reads 450 rpm.**

SAT UNSAT

6. PERFORMANCE STEP: After approximately 30 seconds, the Station Blackout Diesel Generator accelerates to 900 rpm.

STANDARD: Verify the Station Blackout Diesel Generator accelerates to approximately 900 rpm after 30 seconds as indicated by ENGINE TACHOMETER on C30203.

**CUE: After approximately 30 seconds the diesel accelerates.  
Engine Tachometer on C30203 reads 900 rpm.**

SAT UNSAT

7. PERFORMANCE STEP: Place the SYNCHRONIZE switch in the ON position  
.....**C**.....

STANDARD: Install operating handle and rotate the SYNCHONIZE switch to the ON position

**CUE: The SYNCHRONIZE switch is in the ON position,  
If asked, The synchroscope pointer indicates 1200**

SAT UNSAT

8. PERFORMANCE STEP: Close Breaker AD 301, SBODG OUTPUT BREAKER on Panel  
.....**C**..... C30202

STANDARD: Rotate handswitch for AD301 to the close position

**CUE: A loud noise is heard from the AD 301 breaker cubicle  
AD 301 RED LIGHT is ON**

SAT UNSAT

9. PERFORMANCE STEP: Place the SYNCHRONIZE switch to OFF

STANDARD: Rotate the SYNCHRONIZE switch to OFF position

CUE: **The SYNCHRONIZE switch is in the OFF position**

SAT UNSAT

10. PERFORMANCE STEP: Verify both Station Blackout Diesel Generator Jacket Water Radiator fans are operating

STANDARD: Check the status of the fans by observing the breaker lights and/or observing the fans locally, recognize neither fan is operating

NOTE: **Alternate Path begins with recognition that fans are not running and emergency shutdown the SBODG must be performed**

CUE: **Both fan breaker lights indicate GREEN (or the fans are not turning if checked locally)**

SAT UNSAT

11. PERFORMANCE STEP: Go to Section 5.2, Emergency Shutdown of the Station Blackout Diesel Generator

STANDARD: Route to section 5.2, Emergency Shutdown of the Station Blackout Diesel Generator

CUE: **(Provide the examinee a copy of Section 5.2 of DB-OP-06334)**

SAT UNSAT

12. PERFORMANCE STEP: Stop the Station Blackout Diesel Generator  
.....**C**.....

STANDARD: Depress the Emergency Stop pushbutton on panel C30202 or panel C30203.

CUE: **The Emergency Stop has been depressed. A loud noise is heard from the AD 301 breaker cubicle. The Station Blackout Diesel Generator is beginning to slow down.**

**(If asked) AD 301 GREEN light is ON, RED light is OFF**

SAT UNSAT

13. PERFORMANCE STEP: Station Blackout Diesel Generator stops

STANDARD: Verify Engine Tachometer reads zero on C30203

CUE: **The Station Blackout Diesel Generator tachometer reads zero**

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SAT UNSAT

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TERMINATING CUES: This JPM is complete (Terminated by the examiner)

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END TIME

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**Simulator JPM  
S1**

**Facility:** Davis-Besse **Task No.:** 008-005-01-0100

**Task Title:** Swap Control Rod Drive Cooling Booster pumps

**K/A Reference:** (001) A2.11 4.4/4.7 **Job Performance Measure No.:** S1 (NEW)

**Examinee:** \_\_\_\_\_

**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Method of testing:**

Simulated Performance \_\_\_\_ Actual Performance X

Classroom \_\_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

Use 100% power IC. Verity #1 CRDC Booster Pump is running.

IMF KA H 3D Thermal Overload on #2 CRDC Booster Pump (Insert after EO contacted to open BE2206)

**Task Standard:**

Start the STBY CRDC Booster Pump 2

Stop the running CRDC Booster Pump 1

Open pump suction valve CC1328 and restart previously running CRDC Booster Pump 1

**Required Materials:**

DB-OP-06262 Section 3.21 ready for performance of prerequisite 3.21.1

DB-OP-06262 Section 3.19 with prerequisites complete and step 3.19.1 marked N/A

DB-OP-02523, CCW System Malfunctions (available from simulator resources)

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** No

**Alternate Path:** Yes

**Validation Time:**

9 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Swap Control Rod Drive Cooling Booster pumps

**INITIAL CONDITION:**

Any at power I/C

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

Verify #1 CRDC Booster Pump is running

**MALFUNCTIONS/FAILURE TO INSERT:**

#2 CRDC Booster Pump trip after EO is sent to open BE2206  
CC1328, CRD Booster Pump 1 Suction Valve, fails closed when pump 1 is stopped

**EXAMINER COPY****INITIAL CONDITIONS:**

The plant is at 100%

All systems are in a normal lineup

Engineering has requested to inspect CRD Filter 1 filter element to verify correct size. There are no other issues with CRD Filter 1

Maintenance is ready to disassemble CRD Filter 1 for inspection

I & C has removed PDI 2952 from service

**INITIATING CUES:**

The Command SRO has directed you to place #2 Control Rod Drive Booster Pump in service in preparation for filter F55-1, FILTER CRDC 1-1 inspection IAW DB-OP-06262 Section 3.21 and 3.19.

**(Provide examinee a copy of section 3.19 and 3.21 DB-OP-06262)**

**CANDIDATE COPY****INITIAL CONDITIONS:**

The plant is at 100%

All systems are in a normal lineup

Engineering has requested to inspect CRD Filter 1 filter element to verify correct size. There are no other issues with CRD Filter 1

Maintenance is ready to disassemble CRD Filter 1 for inspection

I & C has removed PDI 2952 from service

**INITIATING CUES:**

The Command SRO has directed you to place #2 Control Rod Drive Booster Pump in service in preparation for filter F55-1, FILTER CRDC 1-1 inspection IAW DB-OP-06262 Section 3.21 and 3.19.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
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1. PERFORMANCE STEP: Verify CRD Booster Pump 2 is in service (Step 3.21.1).

STANDARD: Refer to Subsection 3.19, Startup of CRD Booster Pump 2.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Start CRD CLNG BOOSTER PUMP 2 (Step 3.19.4).

.....**C**.....

STANDARD: Start CRD CLNG BOOSTER PUMP 2 using HIS1924.

NOTE: ***Annunciator 5-6-D will alarm when the second pump is started. The alarm may be treated as an expected alarm. If alarm procedure is used guidance will be if an evolution is in progress causing the alarm stop the standby pump if desired.***

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Verify CRD Booster Pump 2 discharge pressure at PI756 is between 120 and 160 PSIG (Step 3.19.5).

STANDARD: Contacts EO to verify CRD Booster Pump 2 discharge pressure at PI756 is between 120 and 160 PSIG.

CUE: **Equipment Operator reports CRD Booster Pump 2 discharge pressure at PI756 is 150 PSIG.**

\_\_\_\_\_  
SAT UNSAT

4. PERFORMANCE STEP: Stop CRD CLNG BOOSTER PUMP 1 and place in lockout.  
.....C..... (Step 3.19.6)

STANDARD: Stop CRD CLNG BOOSTER PUMP 1 and place in LOCKOUT  
using HIS1915.

NOTE: **CC1328, Suction valve for CRD Booster Pump 1, will be triggered to fail closed when the pump is shut down (switch bumped by mechanic walking down filter inspection).**

CUE: None

SAT UNSAT

5. PERFORMANCE STEP: Verify CRD Booster Pump 2 discharge flow on FIS2586 is  
greater than 150 GPM (Step 3.19.7).

NOTE: **Pump 2 will trip triggered by a time delay which may occur during or prior to performance steps 5, 6, 7, 8, or 9 and require performance step 10 to be implemented.**

STANDARD: Contacts EO to verify CRD Booster Pump 2 discharge flow on FIS2586  
is greater than 150 GPM.

CUE: **If requested prior to CRD Booster Pump 2 tripping (performance step 10) - EO reports flow on FIS2586 is 190 GPM.**

SAT UNSAT

6. PERFORMANCE STEP: Complete section 3.19 and route back to section 3.21.

STANDARD: Signs section 3.19 complete and routes back to section 3.21.

NOTE: **Step 3.19.8 pre-identified as N/A since being removed from service.**

CUE: None

SAT UNSAT

7. PERFORMANCE STEP: Complete prerequisites for section 3.21.

STANDARD: Signs step 3.21.1 complete and signs for prerequisites complete.

CUE: None

SAT UNSAT

- 
8. PERFORMANCE STEP: Place HIS1915, CRD CLNG BOOSTER PUMP 1 in LOCKOUT (Step 3.21.4).

STANDARD: Verifies switch HIS1915 is in LOCKOUT.

NOTE: **Step 3.21.4 may be marked N/A since the switch was left in LOCKOUT during performance of section 3.19.**

CUE: **None**

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SAT UNSAT

9. PERFORMANCE STEP: Open BE2206, CRD BOOSTER PUMP 1 (Step 3.21.5).

STANDARD: Contact EO to OPEN BE2206, CRD BOOSTER PUMP 1.

CUE: **Role play as EO, acknowledge direction to open BE2206.**

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SAT UNSAT

**ALTERNATE PATH – CRD Booster Pump 2 trips and will require placing CRD Booster Pump 1 back into service. CRD Booster Pump 1 suction valve CC1328 will close when the pump is shut down in performance step 4 which will require verifying flow path and opening CC1328 prior to starting CRD Booster Pump 1.**

- 
10. PERFORMANCE STEP: Respond to Annunciator 5-6-D, CRD BOOSTER PMP  
ΔP HI/FLOW LO/GO TO DB-OP-02523, CCW System  
Malfunctions.

STANDARD: Recognize entry criteria and implement DB-OP-02523, CCW System Malfunctions, or refer to alarm procedure which will direct to the abnormal procedure

CUE: **(If asked) Role play as the EO, CRD BOOSTER PUMP 2 is off, motor is hot to the touch.**

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SAT UNSAT

11. PERFORMANCE STEP: Verify the standby CRD Booster pump starts.

STANDARD: Attempt to start CRD Booster Pump 1 (will not be successful due to suction valve being closed).

CUE: **None**

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SAT UNSAT

12. PERFORMANCE STEP: Monitor CRD Stator temperatures.

STANDARD: Using RNO guidance (since pump 1 was not able to be started) monitor CRD Stator temperatures using NSSS Summary Files 12 and 13 and trip the reactor if any CRD Stator temperature reaches 180 °F.

CUE: **As a maintenance mechanic report to the control room that while walking down the CRD Filter 1 inspection work in #4 MPR a switch was bumped and it sounded like something actuated.**

SAT UNSAT

13. PERFORMANCE STEP: Verify the CRD Cooling Booster flow path is available.

.....**C**.....

STANDARD: Refer to Attachment 8 for verification of proper flow path to identify CC1328 is closed and open CC1328. Start/ensure CRD Cooling Booster Pump 1 is running.

NOTE: **If the CRD Booster Pump 1 switch is left in auto after attempting to start in performance step 11 the pump will auto start when CC1328 is open, otherwise verify the pump is running by returning the switch to auto.**

CUE: **None**

SAT UNSAT

TERMINATING CUES: This JPM is complete (Terminated by the examiner)

END TIME

Davis-Besse NRC Exam 2016

**Simulator JPM**  
**S2**

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**Facility:** Davis-Besse **Task No:** 000-093-05-0100**Task Title:** Transfer LPI Suctions to the Emergency Sump**K/A Reference:** (006) A4.05 (3.9/3.8) **Job Performance Measure No:** S2 (JPM 291)**Examinee:** \_\_\_\_\_**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Method of testing:**Simulated Performance \_\_\_ Actual Performance XClassroom \_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Transfer LPI Suctions to the Emergency Sump

**Required Materials:**

Attachment 7 Section 2 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture.

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** No**Alternate Path:** Yes**Validation Time:** 14 minutes

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**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Transfer LPI Suctions to the Emergency Sump

**INITIAL CONDITION:**

Large Break LOCA

Spray Pumps are not running

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

Ensure DH 9A, DH 9B, DH 7A, DH7B and HP 31 are energized

Complete all DB-OP-02000 Section 10 actions up to step 10.13

Turn the "Breaker Open" tags for DH 9A, DH 9B, DH 7A, DH 7B and HP31 upside down

Freeze the simulator when BWST level is less than 9 feet

Annunciator 5-3-A, BWST LO-LOLVL XFER TO EMER SUMP is in alarm. Output modules L511, L512, L513, and L514 (at least 3 out of 4) have failed to trip.

Leave the simulator frozen until the examinee is ready to start the JPM

**MALFUNCTIONS/FAILURE TO INSERT:**

Insert both hot leg leaks at the same time, **IMF HH41 .8**

Fail level 5 output modules to trip, **L6AMC, L6BMC, and L6CMC**

Insight insert TALA531 to 0.1 this is for the BWST LO-LO LVL XFER TO EMER SUMP alarm

**ACTION/CUES:**

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## STUDENT COPY

### **INITIAL CONDITIONS:**

A large break LOCA has occurred and the BWST level is less than nine feet.

Both MU pumps and HPI pumps have been stopped in accordance with DB-OP-02000 Section 10 and Specific Rule guidance.

DB-OP-02000, Attachment 7, Section 1. Action to close breakers for DH7A, DH7B, DH9A, DH9B, and HP31 has been completed IAW DB-OP-02000 step 10.3.

DB-OP-02000, Attachment 7, Section 2, Suction Transfer, Steps 1 through 4 have been completed IAW DB-OP-02000 step 10.11.

### **INITIATING CUES:**

Annunciator "BWST LO-LO LVL, XFER TO EMER SUMP" (5-3-A) has been received.

The Command SRO directs you to transfer LPI suction to the emergency sump in accordance with DB-OP-02000, Attachment 7, Section 2.

**For the purpose of this JPM the Command SRO is not directing the step by step performance of this attachment.**

---

## EXAMINER COPY

### **INITIAL CONDITIONS:**

A large break LOCA has occurred and the BWST level is less than nine feet.

Both MU pumps and HPI pumps have been stopped in accordance with DB-OP-02000 Section 10 and Specific Rule guidance.

DB-OP-02000, Attachment 7, Section 1. Action to close breakers for DH7A, DH7B, DH9A, DH9B, and HP31 has been completed IAW DB-OP-02000 step 10.3.

DB-OP-02000, Attachment 7, Section 2. Suction Transfer, Steps 1 through 4 has been completed IAW DB-OP-02000 step 10.11.

### **INITIATING CUES:**

Annunciator "BWST LO-LO LVL, XFER TO EMER SUMP" (5-3-A) has been received.

The Command SRO directs you to transfer LPI suction to the emergency sump in accordance with DB-OP-02000, Attachment 7, Section 2.

**For the purpose of this JPM the Command SRO is not directing the step by step performance of this attachment.**

**(Provide the examinee a copy of DB-OP-02000, Attachment 7 Section 2. Freeze simulator until examinee is ready to start-should have time to review)**

**PERFORMANCE INFORMATION**

NOTE: **Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT assumed unless denoted in the "Comments".**

START TIME: \_\_\_\_\_

**NOTE: Unfreeze simulator when student has completed procedure review**

1. PERFORMANCE STEP: Block SFAS Level 2 on DH 7A, DH 9A, DH 7B and DH 9B.  
    C     (Step 5.A)

STANDARD: Depress BLOCK pushbuttons for DH 7A (HISDH7A1) or DH 9A (HISDH9A) and DH 7B (HISDH7B1) or DH 9B (HISDH9B) and verify all 4 valves are blocked.

NOTE: **Blocking either DH7A or DH9A will block the other as does DH7B/9B.**

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Check BWST Level is less than or equal to 9 feet (Step 5.B).

STANDARD: Check BWST level < or equal to 9 feet on level indicators.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Open the Containment Emergency Sump Isolation Valves (Step 5.C).

STANDARD: Depress the OPEN pushbutton on HIS DH9A.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

**ALTERNATE PATH – Must recognize DH9A/DH9B did not start opening and the appropriate SFAS Level 5 Output Modules are not tripped as required. This will require manually tripping the affected Output Modules to allow DH9A/DH9B to be opened.**

- 
4. PERFORMANCE STEP: Open the Containment Emergency Sump Isolation Valves (Step 5.C).

STANDARD: HIS DH9A green light remains lit.

CUE: **Role play as Command SRO if required, Acknowledge DH9A did not open.**

---

SAT UNSAT

5. PERFORMANCE STEP: Open DH 9B (Step 5.C).

STANDARD: Depress the OPEN pushbutton on HIS DH9B.

CUE: **None**

---

SAT UNSAT

6. PERFORMANCE STEP: Recognize DH9B does not open (Step 5.C).

STANDARD: HIS DH9B green light remains lit.

CUE: **Role play as Command SRO if required, Acknowledge DH9B did not open.**

---

SAT UNSAT

7. PERFORMANCE STEP: Manually trip Train 1 SFAS Level 5 Output Modules (Step 5.D.2).

**C**

STANDARD: Depress and release the trip pushbuttons next to L511 and L513.

COMMENT: ***Step 7 and 8 can be done in either order.***

CUE: **Another RO is monitoring conditions for cavitation.**

---

SAT UNSAT

8. PERFORMANCE STEP: Manually trip Train 2 SFAS Level 5 Output Modules (Step 5.D.2).

**C**

STANDARD: Depress and release the trip pushbuttons next to L512 and L514.

CUE: **None**

---

SAT UNSAT

9. PERFORMANCE STEP: Open DH 9A (Step 5.D.3).

C

STANDARD: Depress the OPEN pushbutton on HIS DH9A.

CUE: **None**

SAT UNSAT

10. PERFORMANCE STEP: Verify that DH 9A starts to open.

STANDARD: Check GREEN light OFF on HIS DH9A.

CUE: **None**

SAT UNSAT

11. PERFORMANCE STEP: Open DH 9B (Step 5.D.3).

C

STANDARD: Depress the OPEN pushbutton on HIS DH9B.

CUE: **None**

SAT UNSAT

12. PERFORMANCE STEP: Verify that DH 9B starts to open.

STANDARD: Check GREEN light OFF on HIS DH9B.

CUE: **None**

SAT UNSAT

13. PERFORMANCE STEP: Verify that DH 7A starts to close as DH 9A starts to open.  
(Step 6)

STANDARD: Recognize DH7A starts to close, check RED light OFF on HIS DH7A.

CUE: **None**

SAT UNSAT

14. PERFORMANCE STEP: Verify that DH 7B starts to close as DH 9B starts to open.  
(Step 6)

STANDARD: Recognize DH7B starts to close, check RED light OFF on HIS DH7B.

CUE: **None**

SAT UNSAT

---

15. PERFORMANCE STEP: Verify the transfer is complete (Step 7).

STANDARD: Check the RED indicating lights on HIS DH9A and HIS DH9B are LIT and the GREEN indicating lights on HIS DH7A and HIS DH7B are LIT.  
Check low pressure injection flow NOT significantly changed.

CUE: **None.**

---

SAT UNSAT

TERMINATING CUES: This JPM is complete (Terminated by the examiner)

---

END TIME

**Simulator JPM  
S3**

Facility: Davis-Besse Task No: 004-029-05-0100Task Title: Recover From MU/HPI/PORV CoolingK/A Reference: (010) A2.03 4.1/4.2 Job Performance Measure No: S3 (JPM 063)

Examinee: \_\_\_\_\_

NRC Examiner: \_\_\_\_\_ Date: \_\_\_\_\_

**Method of testing:**Simulated Performance \_\_\_\_ Actual Performance XClassroom \_\_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Perform Recovery from MU/HPI PORV Cooling and recognize failure of the PORV to close and take immediate actions.

**Required Materials:**

Attachment 25 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture.

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:**

No

**Alternate Path:**

Yes

**Validation Time:**

11 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Perform Recovery From MU/HPI PORV Cooling and recognize failure of the PORV to close and take immediate actions.

**INITIAL CONDITION:**

Loss of all Feedwater  
MU/HPI cooling initiated  
MDFP feeding both SGs

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

Fail Makeup Pump 2 to start  
Fail both AFPTs to start

Unfreeze the simulator after the initial cue is given to minimize excessive SCM

**MALFUNCTIONS/FAILURE TO INSERT:**

Fail the PORV open

**ACTIONS/CUES**

None

**EXAMINER COPY****INITIAL CONDITIONS:**

The reactor has tripped

All Feedwater was lost

Makeup Pump 2 did NOT start

Makeup/HPI/PORV Cooling was initiated

**INITIATING CUES:**

The MDFP has been started and is feeding both Steam Generators.

A second operator is controlling Steam Generator levels and pressures, and will commence steaming of Steam Generators as needed when MU/HPI/PORV Cooling is secured.

The Unit Supervisor directs you to recover from MU/HPI/PORV Cooling using Attachment 25 of DB-OP-02000. For the purpose of this JPM the Command SRO is not directing the step by step performance of this attachment.

**(Provide Attachment 25 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture)**

**CANDIDATE COPY****INITIAL CONDITIONS:**

The reactor has tripped

All Feedwater was lost

Makeup Pump 2 did NOT start

Makeup/HPI/PORV Cooling was initiated

**INITIATING CUES:**

The MDFP has been started and is feeding both Steam Generators

A second operator is controlling Steam Generator levels and pressures, and will commence steaming of Steam Generators as needed when MU/HPI/PORV Cooling is secured.

The Unit Supervisor directs you to recover from MU/HPI/PORV Cooling using Attachment 25 of DB-OP-02000. For the purpose of this JPM the Command SRO is not directing the step by step performance of this attachment.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
-------------------

**NOTE: Unfreeze simulator when student has completed procedure review**

1. PERFORMANCE STEP: Establish the letdown flow (Step 1).  
.....**C**.....

STANDARD: Depress OPEN on HISMU2B.

COMMENT: ***Sequence of opening MU 2B, MU 2A and MU 3 NOT critical***

CUE: **If asked for desired flow "Establish 70 gpm" (flow rate not critical)**  
**Note: may establish 140 gpm**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Establish the letdown flow (Step 1).  
.....**C**.....

STANDARD: Depress BLOCK for MU 2A.  
Depress OPEN on HISMU2A.

COMMENT: ***Sequence of opening MU 2B, MU 2A and MU 3 NOT critical***

CUE: **If asked for desired flow "Establish 70 gpm" (flow rate not critical)**  
**Note: may establish 140 gpm**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Establish the letdown flow (Step 1).  
.....**C**.....

STANDARD: Depress BLOCK pushbutton for MU 3.  
Depress OPEN pushbutton on HISMU3.

COMMENT: ***Sequence of opening MU 2B, MU 2A and MU 3 NOT critical***

CUE: **If asked for desired flow "Establish 70 gpm" (letdown flow rate not critical).**  
**Note: may establish 140 gpm**

\_\_\_\_\_  
SAT UNSAT

- 
4. PERFORMANCE STEP: Open the MU Pumps Minimum Recirc Valves (Step 2).  
.....**C**.....

STANDARD: Depress the OPEN pushbutton on HISMU6407.

CUE: **None**

SAT UNSAT

---

5. PERFORMANCE STEP: Open the MU Pumps Minimum Recirc Valves (Step 2).

STANDARD: Depress the OPEN pushbutton on HISMU6406.

COMMENT: ***MU 6406 not critical due to MUP 2 not running***

CUE: **None**

SAT UNSAT

---

6. PERFORMANCE STEP: IF BOTH MU Pumps are in service perform the following (Step 3):

STANDARD: Recognize this step does not apply – mark N/A.

COMMENT: ***Only MUP 1 is in service***

CUE: **None**

SAT UNSAT

---

7. PERFORMANCE STEP: Isolate the normal MU Injection header (Step 4.a).

STANDARD: Depress the CLOSE pushbutton on HISMU6422.

CUE: **None**

SAT UNSAT

---

8. PERFORMANCE STEP: Establish desired MU flow rate by throttling MU6419 (Step 4.b).

STANDARD: Depress and hold the CLOSE pushbutton on HIS MU 6419 to throttle the valve closed and reduce flow rate to desired value while maintaining adequate Subcooling Margin.

CUE: **(If asked) MU 6423B is open to maintain minimum flow**

SAT UNSAT

---

9. PERFORMANCE STEP: Restore MU Pump Suction (Step 4.c).  
.....**C**.....

STANDARD: Depress the OFF pushbutton on HISMU6405.

CUE: **None**

---

SAT UNSAT

10. PERFORMANCE STEP: Restore MU Pump Suction (Step 4.c).

STANDARD: Depress the OFF pushbutton on HISMU3971.

COMMENT: **MU3971 not critical due to MUP 2 not running**

CUE: **None**

---

SAT UNSAT

11. PERFORMANCE STEP: IF only MU Pump 2 is in service perform the following (Step 5).

STANDARD: Recognize this step does not apply – mark N/A.

COMMENT: **Only MUP 1 is in service**

CUE: **None**

---

SAT UNSAT

12. PERFORMANCE STEP: Perform the following to recover RCS Inventory control (Step 6):

STANDARD: Maintain Steam Generator levels per specific rule 4.

CUE: **A second operator is controlling Steam Generator levels and pressures, and will commence steaming of Steam Generators as needed when MU/HPI/PORV Cooling is secured.**

---

SAT UNSAT

13. PERFORMANCE STEP: Perform the following to recover RCS Inventory control (Step 6):

STANDARD: Reduce HPI Flow to establish a decreasing SCM trend (maintain minimum Subcooling Margin) by throttling HP2A-D as necessary.

Comment: **Two handed operations is authorized for positioning HP2A through HP2D**

CUE: **None**

---

SAT UNSAT

14. PERFORMANCE STEP: Perform the following to recover RCS Inventory control (Step 6):

STANDARD: Raise letdown flow to maximum available by throttling MU6 and/or placing a second purification demineralizer in service.

CUE: **If asked for desired flow "Establish 70 gpm" (letdown flow rate not critical).  
Note: may establish 140 gpm**

---

SAT UNSAT

**ALTERNATE PATH: RC2A is expected to close. Must recognize PORV did not close and perform actions of the response not obtained column to close the PORV Block Valve.**

15. PERFORMANCE STEP: Close the PORV (Step 7).

STANDARD: Rotate HIS RC 2A to the AUTO position and Push to Close. Recognize the PORV did NOT close.

CUE: **None**

---

SAT UNSAT

16. PERFORMANCE STEP: Close the PORV Block Valve (Immediate Action).

.....**C**.....

STANDARD: Depress the CLOSE pushbutton on HISRC11 and verify it closes.

CUE: **None.**

---

SAT UNSAT

TERMINATING CUES: This JPM is complete (Terminated by the evaluator)

---

END TIME

Davis-Besse NRC Exam 2016

**Simulator JPM**  
**S4**

**Facility:** Davis-Besse **Task No:** 059-012-04-0100

**Task Title:** Main Feed Pump Startup/Transfer to ICS Control

**K/A Reference:** (059) A4.10 (3.9/3.8) **Job Performance Measure No:** S4 (JPM New)

**Examinee:** \_\_\_\_\_

**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Method of testing:**

Simulated Performance \_\_\_ Actual Performance X

Classroom \_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Perform steps to place Main Feed Pump in service and emergency trip due to low oil pressure

**Required Materials:**

DB-OP-06901, Plant Startup, signed off through step 3.24 with step 3.25 in progress

DB-OP-06224, Main Feed Pump and Turbine, section 3.16, Startup of MFP2, signed off as applicable through step 3.16.43.

DB-OP-06224, Main Feed Pump and Turbine, section 3.17, Transferring MFPT 2 Speed Control Between MDT20 and ICS

DB-OP-02010, Feedwater Alarm Panel 10 Annunciators (available from simulator resources)

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** No

**Alternate Path:** Yes

**Validation Time:** 9 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Perform steps to place Main Feed Pump in service and emergency trip due to low oil pressure

**INITIAL CONDITION:**

Mode 2 with reactor power at 2%. Main Feed Pump 2 startup in progress and ready to transfer to ICS Hand/Auto station control (step 3.16.44 of DB-OP-06224, Main Feed Pump and Turbine).

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:****MALFUNCTIONS/FAILURE TO INSERT:**

Insert low oil pressure #2 MFPT when increasing speed to raise discharge pressure to 1000psig to 1050psig (triggered at approximately 950psig)

**ACTION/CUES:**

---

## STUDENT COPY

**INITIAL CONDITIONS:**

Mode 2 with reactor power at 2%. Main Feed Pump 2 startup in progress and ready to transfer to ICS Hand/Auto station control (step 3.16.44 of DB-OP-06224, Main Feed Pump and Turbine). An Equipment Operator is stationed at FW6396.

**INITIATING CUES:**

The unit supervisor has directed you to continue with #2 MFP startup starting at step 3.16.44 of DB-OP-06224, Main Feed Pump and Turbine. Transfer #2 MFP to ICS Hand/Auto station control and continue with step 3.26 of DB-OP-06901, Plant Startup, to transfer feedwater from the MDFP to the MFP.

---

## EXAMINER COPY

**INITIAL CONDITIONS:**

Mode 2 with reactor power at 2%. Main Feed Pump 2 startup in progress and ready to transfer to ICS Hand/Auto station control (step 3.16.44 of DB-OP-06224, Main Feed Pump and Turbine). An Equipment Operator is stationed at FW6396.

**INITIATING CUES:**

The unit supervisor has directed you to continue with #2 MFP startup starting at step 3.16.44 of DB-OP-06224, Main Feed Pump and Turbine. Transfer #2 MFP to ICS Hand/Auto station control and continue with step 3.26 of DB-OP-06901, Plant Startup, to transfer feedwater from the MDFP to the MFP.

**(Provide the examinee a copy of the following documents:**

**DB-OP-06901, Plant Startup, signed off through step 3.24 with step 3.25 in progress**

**DB-OP-06224, Main Feed Pump and Turbine, section 3.16, Startup of MFP2, signed off as applicable through step 3.16.43.**

**DB-OP-06224, Main Feed Pump and Turbine, section 3.17, Transferring MFPT 2 Speed Control Between MDT20 and ICS)**

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT assumed unless denoted in the "Comments".

START TIME: \_\_\_\_\_

- 
- 1. PERFORMANCE STEP: Perform section 3.17 of DB-OP-06224, Main Feed Pump Turbine, and transfer MFPT2 Speed Control from MDT20 to ICS.

STANDARD: Identify step 3.17.1 of DB-OP-06224, Main Feed Pump Turbine, for transfer of MFPT2 Speed Control from MDT20 to ICS.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

- 
- 2. PERFORMANCE STEP: Verify MFPT speed is between 3900 RPM and 5150 RPM (Step 3.17.1.a)

STANDARD: Verify MFPT 2 speed between 3900 RPM and 5150 RPM using indicator SI2708B

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

- 
- 3. PERFORMANCE STEP: Adjust the ICS Bailey Controller output to indicate a zero amp reading on the XFER METER Amp Y1-806 (Step 3.17.1.b).

STANDARD: Toggle the ICS Bailey Controller speed control, HIC ICS 36A Hand/Auto Station, to indicate a zero amp reading on the XFER METER Amp Y1-806

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

- 
- 4. PERFORMANCE STEP: Depress ICS on HIS 806C1 (Step 3.17.1.c).  
.....**C**.....

STANDARD: Depress ICS on HIS 806C1

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

5. PERFORMANCE STEP: Check that ICS illuminates and the ICS Bailey Controller assumes control of MFPT speed (Step 3.17.1.d).

STANDARD: Check that ICS illuminates on HIS 806C1 and that the ICS Bailey Controller assumes control of MFPT 2 speed.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

6. PERFORMANCE STEP: If ICS Control is unstable, THEN return to MDT20 Control (Step 3.17.1.e).

STANDARD: Recognize proper control by the ICS Controller and mark step 3.17.1.e as N/A.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

7. PERFORMANCE STEP: Adjust the MDT20 output to maintain zero amps indicated on the XFER METER Y1-806 (Step 3.17.1.f).

STANDARD: Maintain zero amps indicated on the XFER METER Y1-806 by occasional adjustment as needed of the MDT20 output.

COMMENT: ***Student may consider step 3.17.1.f in progress while continuing MFP startup and not sign as complete.***

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

8. PERFORMANCE STEP: Complete section 3.17 of DB-OP-06224.

STANDARD: Sign and date complete by for section 3.17 of DB-OP-06224.

COMMENT: ***If student considers step 3.17.1.f to be in progress while continuing MFP startup then section 3.17 will not be signed as complete.***

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

9. PERFORMANCE STEP: Sign complete step 3.16.44 of DB-OP-06224.

STANDARD: Sign complete step 3.16.44 of DB-OP-06224.

COMMENT: ***If student considers step 3.17.1.f to be in progress while continuing MFP startup and section 3.17 is not signed as complete then step 3.16.44 may remain in progress. Step 3.16.45 would be performed after the MFP is supplying feedwater to the steam generators.***

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

10. PERFORMANCE STEP: Sign complete step 3.25 of DB-OP-06901, Plant Startup.

STANDARD: Sign complete step 3.2.5 of DB-OP-06901, Plant Startup.

COMMENT: ***Student should continue with step 3.2.5 circled (in progress) because section of DB-OP-06224 is not complete until there is flow to the steam generators and the ARTS Channels test/toggle switches are placed in the operate position at step 3.16.45.***

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

11. PERFORMANCE STEP: Raise Main Feed Pump Speed until discharge pressure is  
.....**C**..... between 1000 and 1050 psig (step 3.26.1 of DB-OP-06901).

STANDARD: Raise MFPT 2 speed using manual control of HIC ICS 36A Hand/Auto Station, ICS Bailey Controller, to raise discharge pressure to band of 1000-1050 psig.

NOTE: **Alternate Path begins with low oil pressure Annunciator 10-1-D received as discharge pressure is raised (triggered to alarm at approximately 950psig).**

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

12. PERFORMANCE STEP: Identify Annunciator 10-1-D, MFPT 2 LUBE OIL PRESS LO, in alarm.

STANDARD: Recognize annunciator 10-1-D, MFPT 2 LUBE OIL PRESS LO, in alarm and refer to alarm procedure DB-OP-2010.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

13. PERFORMANCE STEP: Determine if bearing pressure is actually Low.

STANDARD: Determine bearing pressure is actually Low (<7 psig) using PI1256, Header Control Pressure.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

14. PERFORMANCE STEP: Verify automatic start of standby MFPT 2 Main Oil Pump.

COMMENT: ***The standby MFPT 2 Main Oil Pump will not auto start. The pump will start manually and almost immediately trip on electrical fault.***

STANDARD: Identify standby MFPT 2 Main Oil Pump is not running and start standby MFPT 2 Main Oil Pump.

CUE: **None**

            
SAT UNSAT

15. PERFORMANCE STEP: If Bearing Header Pressure decreases to less than 4 psig THEN  
.....**C**..... start the Emergency Bearing Oil Pump and trip MFPT 2.

STANDARD: Identify Bearing Header Pressure decreases to less than 4 psig using PI1256. Start the Emergency Bearing Oil Pump (HIS1188).

CUE: **None**

            
SAT UNSAT

16. PERFORMANCE STEP: If Bearing Header Pressure decreases to less than 4 psig THEN  
.....**C**..... start the Emergency Bearing Oil Pump and trip MFPT 2.

STANDARD: Trip MFPT 2 using HS 798 trip push button.

CUE: **None**

            
SAT UNSAT

TERMINATING CUES:

This JPM is complete. (Terminated by the examiner)

            
END TIME

**Simulator JPM  
S5**

---

**Facility:** Davis-Besse **Task No.:** 334-018-04-0300**Task Title:** Establish Containment Closure**K/A Reference:** (103) A3.01 3.9/4.2 **Job Performance Measure No.:** S5 (JPM 219)**Examinee:** \_\_\_\_\_**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Method of testing:**Simulated Performance \_\_\_\_ Actual Performance XClassroom \_\_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Establish Containment Closure

**Required Materials:**

DB-OP-06904, Shutdown Operations, Section 11  
DB-OP-02000 Table 2, SFAS Actuated Equipment

**General References:****Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:**

No

**Alternate Path:**

No

**Validation Time:**

8 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Establish Containment closure

**INITIAL CONDITION:**

Initialize to special IC 116 OR MODE 5 IC with DH Loop 2 operating and CTMT Purge in operation on CTMT

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

Manually de-energize A and B buses to simulate a loss of offsite power followed by restoration of offsite power.

Emergency Shutdown #1 EDG

irf g529g

Energize D2 Bus from D1 Bus to restore Instrument Air

**MALFUNCTIONS/FAILURE TO INSERT:**

DH Pump #2 breaker fail open

imf bdp2c

CTMT Purge Valves CV5005 and CV5008 fail open

imf cav9c

imf cavfc

**ACTION/CUES:**

9. ROLE PLAY as Field Supervisor or other OPS WSC to report that all LLRTs are terminated and isolated.
10. ROLE PLAY as Field Supervisor or other OPS WSC to report that all personnel assigned specific Containment Closure responsibilities are carrying out the required actions.

**EXAMINER COPY****INITIAL CONDITIONS:**

The plant was in MODE 5 with Decay Heat Loop 2 operating and the RCS filled and vented when a loss of offsite power occurred.

EDG #1 tripped and efforts to restart it have been unsuccessful.

EDG #2 is providing power to D1 and D2 Buses.

Decay Heat Pump 2 breaker would not re-close after D1 power was restored. Maintenance is investigating.

The crew is continuing with actions for Loss of Decay Heat Removal per DB-OP-02527.

**INITIATING CUES:**

The Shift Manager directs you to establish Containment Closure in accordance with step 11.1.5 of DB-OP-06904 Shutdown Operations (required by step 4.1.3.b of DB-OP-02527, Loss of Decay Heat Removal). For step 11.1.5.c of DB-OP-06904 the Shift Manager directs you to refer to DB-OP-02000 Table 2, SFAS Actuated Equipment, and isolate SFAS Containment penetrations in direct connection with the containment atmosphere.

**(Provide section 11 of DB-OP-06904 and DB-OP-02000 Table 2, SFAS Actuated Equipment)**

**CANDIDATE COPY****INITIAL CONDITIONS:**

The plant was in MODE 5 with Decay Heat Loop 2 operating and the RCS filled and vented when a loss of offsite power occurred.

EDG #1 tripped and efforts to restart it have been unsuccessful.

EDG #2 is providing power to D1 and D2 Buses.

Decay Heat Pump 2 breaker would not re-close after D1 power was restored. Maintenance is investigating.

The crew is continuing with actions for Loss of Decay Heat Removal per DB-OP-02527.

**INITIATING CUES:**

The Shift Manager directs you to establish Containment Closure in accordance with step 11.1.5 of DB-OP-06904 Shutdown Operations (required by step 4.1.3.b of DB-OP-02527, Loss of Decay Heat Removal). For step 11.1.5.c of DB-OP-06904 the Shift Manager directs you to refer to DB-OP-02000 Table 2, SFAS Actuated Equipment, and isolate SFAS Containment penetrations in direct connection with the containment atmosphere.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
-------------------

1. PERFORMANCE STEP: Locate the correct procedure step.

STANDARD: Finds step 11.1.5.

CUE: **None**

	SAT UNSAT
--	-----------

2. PERFORMANCE STEP: Announce Containment Closure over the Gaitronics (Step 11.1.5.a).

STANDARD: Use Gaitronics to announce the following:

"Attention all station personnel, attention all station personnel. All assigned personnel establish containment closure immediately. All assigned personnel establish containment closure immediately."

CUE: **Simulate the use of gaitronics for plant announcement.**

	SAT UNSAT
--	-----------

3. PERFORMANCE STEP: Verify Containment Purge is shut down (Step 11.1.5.b).

STANDARD: Visual check of Containment Purge supply and Exhaust Fan control switch indications indicate fans are shutdown.

COMMENT: ***If system procedure DB-OP-06503, Containment Purge System Procedure, for shutdown is referenced the Containment Purge containment isolation valves will be directed to be closed. Performance steps 5 and 7 would be used to evaluate.***

CUE: **None**

	SAT UNSAT
--	-----------

4. PERFORMANCE STEP: Perform isolation of SFAS Containment Penetrations in direct connection with the containment atmosphere (Step 11.1.5.c).

STANDARD: Refers to DB-OP-02000 Table 2, SFAS Actuated Equipment, and isolates containment penetrations in direct connection with the containment atmosphere and are able to be positioned from the control room.

CUE: **None**

SAT UNSAT

5. PERFORMANCE STEP: Close Channel 1 SFAS Level 1 Containment Purge  
.....C..... Isolation Valves

STANDARD: Press CLOSE on the following switches:

CV 5008 CTMT PURGE OUT  
CV 5006 CTMT PURGE IN

COMMENT: ***CV 5008 will NOT close due to failure. Critical to close CV 5007 CTMT PURGE OUT Channel 2 in Performance Step 7 to isolate this penetration. Critical to close CV 5006 to isolate this penetration due to failure of CV 5005***

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Close Channel 2 SFAS Level 1 Containment  
.....C..... Air Sample Isolation Valves

STANDARD: Press CLOSE on the following switches:

CV 5010A CTMT AIR SAMPLE  
CV 5010B CTMT AIR SAMPLE  
CV 5010C CTMT AIR SAMPLE  
CV 5010D CTMT AIR SAMPLE  
CV 5010E CTMT AIR SAMPLE RET

COMMENT: ***CV5010E is not critical because of check valve CV125.***

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Close Channel 2 SFAS Level 1 Containment Purge  
Isolation Valves  
.....**C**.....

STANDARD: Press CLOSE on the following switches:

CV 5007 CTMT PURGE OUT  
CV 5005 CTMT PURGE IN

COMMENT: ***Critical to close CV 5007 CTMT PURGE OUT to isolate this penetration due to CV 5008 failure. CV 5005 will NOT close due to failure. Critical to close CV 5006 CTMT PURGE OUT Channel 1 in Step 5 to isolate this penetration.***

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Close Channel 2 SFAS Level 2 Containment  
Vacuum Relief Valve Isolation Valves

STANDARD: Press CLOSE on the following switches:

CV 5075 CTMT VAC RLF VLV ISO  
CV 5076 CTMT VAC RLF VLV ISO  
CV 5077 CTMT VAC RLF VLV ISO  
CV 5078 CTMT VAC RLF VLV ISO  
CV 5079 CTMT VAC RLF VLV ISO

COMMENT: ***Not critical due to check valves isolating penetration.***

CUE: **None**

SAT UNSAT

9. PERFORMANCE STEP: Verify that all LLRTs are terminated and isolated  
(Step 11.1.5.d).

STANDARD: Communication with Field Supervisor.

CUE: **(If asked) The Field Supervisor is verifying that all LLRTs are isolated.**

SAT UNSAT

10. PERFORMANCE STEP: Verify that the personnel assigned specific Containment Closure responsibilities are carrying out the required actions (Step 11.1.5.e).

STANDARD: Communication with Field Supervisor.

CUE: **(If asked) The Field Supervisor is verifying that the personnel assigned . specific Containment Closure responsibilities are carrying out the required actions.**

---

SAT UNSAT

TERMINATING CUES: **This JPM is complete.** (Terminated by the examinee).

---

END TIME

Davis-Besse NRC Exam 2016

**Simulator JPM  
S6**

**Facility:** Davis-Besse **Task No:** 063-007-04-0100

**Task Title:** Battery Load Shed Actions from the Control Room

**K/A Reference:** (063) K1.03 (2.9/3.5) **Job Performance Measure No:** S6 (JPM New)

**Examinee:** \_\_\_\_\_

**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Method of testing:**

Simulated Performance \_\_\_ Actual Performance X

Classroom \_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Perform control room actions for section 1 of attachment 5, Selective Battery Load Shedding, per DB-OP-02521, Loss of AC Bus Power Sources.

**Required Materials:**

Copy of attachment 5, Selective Battery Load Shedding, of DB-OP-02521, Loss of AC Bus Power Sources

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:** Yes

**Alternate Path:** No

**Validation Time:** 8 minutes

**SIMULATOR INSTRUCTIONS**

**TASK DESCRIPTION:**

Perform section 1 of Selective Battery Load Shedding per DB-OP-02521, Loss of AC Bus Power Sources

**INITIAL CONDITION:**

Mode 3 with Loss of Both Essential 4160 AC Bus Power Sources

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

**MALFUNCTIONS/FAILURE TO INSERT:**

**ACTION/CUES:**

---

## STUDENT COPY

**INITIAL CONDITIONS:**

Mode 3 with Loss of Both Essential 4160 AC Bus Power Sources

**INITIATING CUES:**

The plant has tripped due to a Loss of Off-Site Power. Maintenance is in progress on EDG 1 and EDG 2 locked out upon startup. Efforts to start the SBODG have been unsuccessful. Both C1 and D1 remain deenergized, and have been for 15 minutes.

The Unit Supervisor directs you to perform section 1 of Attachment 5, Selective Battery Load Shedding, from DB-OP-02521, Loss of AC Bus Power Sources. An operator has been just been dispatched to perform attachment 14 per step 2 of attachment 5.

**This is a time critical task. I will inform you when the time critical clock starts.**

---

## EXAMINER COPY

**INITIAL CONDITIONS:**

Mode 3 with Loss of Both Essential 4160 AC Bus Power Sources

**INITIATING CUES:**

The plant has tripped due to a Loss of Off-Site Power. Maintenance is in progress on EDG 1 and EDG 2 locked out upon startup. Efforts to start the SBODG have been unsuccessful. Both C1 and D1 remain deenergized, and have been for 15 minutes.

The Unit Supervisor directs you to perform section 1 of Attachment 5, Selective Battery Load Shedding, from DB-OP-02521, Loss of AC Bus Power Sources. An operator has been just been dispatched to perform attachment 14 per step 2 of attachment 5.

**This is a time critical task. I will inform you when the time critical clock starts.**

**(Provide examinee a copy of DB-OP-02521, Loss of AC Bus Power Sources, Attachment 5, Selective Battery Load Shedding)**

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT assumed unless denoted in the "Comments".

START TIME: \_\_\_\_\_

Time Critical Clock is started when they assume control of the Job Performance Measure.

CUE: **15 minutes has elapsed since the loss of power to C1 and D1 Busses.  
Time Critical Clock starts now.**

TIME CRITICAL CLOCK START TIME: \_\_\_\_\_

1. PERFORMANCE STEP: Perform step 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps

STANDARD: Stop and lockout Main Feed Pump 1 EBOP (HIS 1209, EMER BEARING OIL PUMP)

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps

STANDARD: Stop and lockout Main Feed Pump 2 EBOP (HIS 1188, EMER BEARING OIL PUMP)

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps

STANDARD: Stop and Lockout Makeup Pump 1 DC Oil Pump (HIS-MU24A2).

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

- 
4. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps
- STANDARD: Stop and lockout Makeup Pump 2 DC Oil Pump (HIS-MU24B2).
- NOTE: **Makeup Pump 2 DC Oil Pump must be stopped (push switch knob to stop) before moving switch to lockout or pump motor will continue to run)**
- CUE: **None**
- SAT UNSAT
- 
5. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps
- STANDARD: Stop and lockout RCP 1-1 DC Oil Lift Pump (HIS 4115).
- CUE: **None**
- SAT UNSAT
- 
6. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps
- STANDARD: Stop and lockout RCP 1-2 DC Oil Lift Pump (HIS 4215).
- CUE: **None**
- SAT UNSAT
- 
7. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps
- STANDARD: Stop and lockout RCP 2-1 DC Oil Lift Pump (HIS 4315)
- CUE: **None**
- SAT UNSAT
- 
8. PERFORMANCE STEP: Perform applicable step of section 1.a to STOP and LOCKOUT  
.....**C**..... the following pumps
- STANDARD: Stop and lockout RCP 2-2 DC Oil Lift Pump (HIS 4415)
- CUE: **None**
- SAT UNSAT
-

Time Performance Steps 1-8 are complete

TIME CRITICAL CLOCK END TIME: \_\_\_\_\_

Time requirement is 15 minutes or less from start of TIME CRITICAL CLOCK Start Time

\_\_\_\_\_  
SAT UNSAT

- 9. PERFORMANCE STEP: Dispatch an Operator to perform Attachment 14, Severe Battery Load Shed – In Plant Actions (Step 2).

STANDARD: Initial Conditions stated an operator has been dispatched to perform attachment 14.

CUE: **If needed: The Unit Supervisor has assigned an operator to perform Attachment 14, Severe Battery Load Shed – In Plant Actions**

\_\_\_\_\_  
SAT UNSAT

- 10. PERFORMANCE STEP: Establish Manual Control of Auxiliary Feedwater - Place .....**C**..... AF6452, AFW 1 LEVEL CONTROL VALVE, in MANUAL (Step 3.1 (first bullet).

STANDARD: Depress manual on level controller LIC6452, AFP 1 Level Controller

COMMENT: ***Manual control of Auxiliary Feedwater can be established for both trains in either order or in parallel as steps are bulleted. Intent of this JPM is to establish manual control for train 1.***

CUE: **If commencing to take manual control of train 2 in parallel with train 1 then cue candidate to complete actions for train 1 before performing actions for train 2.**

\_\_\_\_\_  
SAT UNSAT

- 11. PERFORMANCE STEP: Establish Manual Control of Auxiliary Feedwater - Slowly .....**C**..... open AFW 1 LEVEL CONTROL VALVE in MANUAL while reducing AFPT 1 speed using the AFPT 1 GOVERNOR CONTROL until AF6452 is full open (Step 3.2 (first bullet)).

STANDARD: Depress open on LIC6452, AFP 1 Level Controller, to slowly open AF6452, AFP Level Control Valve, while maintaining OTSG 1 level (49" setpoint) by reducing speed on AFPT 1 speed using HIS520A, AFPT 1 GOVERNOR CONTROL, until AF6452 is full open.

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

- 
12. PERFORMANCE STEP: Establish Manual Control of Auxiliary Feedwater - Maintain SG  
.....C.....  
1 at required level by adjusting AFPT 1 GOVERNOR  
CONTROL as necessary (Step 3.3 (first bullet)).

STANDARD: Adjust AFP 1 speed as necessary to maintain desired level (49" setpoint)  
using HIS520A, AFPT 1 GOVERNOR CONTROL.

CUE: **None**

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SAT UNSAT

---

TERMINATING CUES:

This JPM is complete. (Terminated by the examiner once level control is established)

---

END TIME

**Simulator JPM  
S7**

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**Facility:** Davis-Besse **Task No.:** 012-003-01-0100**Task Title:** Deenergize/Reenergize Source Range NIs**K/A Reference:** (012) A4.02 3.3/3.4 **Job Performance Measure No.:** S7 (JPM 185)**Examinee:** \_\_\_\_\_**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Method of testing:**Simulated Performance \_\_\_\_ Actual Performance XClassroom \_\_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Deenergize Source Range NIs  
Reenergize Source Range NIs

**Required Materials:**

DB-OP-06403, Reactor Protection System (RPS) and Nuclear Instrumentation System (NI)  
Operating Procedure, section 4.4

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:**

No

**Alternate Path:**

No

**Validation Time:**

6 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Deenergize/Reenergize Source Range NIs

**INITIAL CONDITION:**

Approximately 5% power

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

None

**MALFUNCTIONS/FAILURE TO INSERT:**

Fail NI 3: **IMF R3V3**

**ACTION/CUES:**

Delete the NI 3 failure when both Source Range Instruments are deenergized: **DMF R3V3**

**EXAMINER COPY****INITIAL CONDITIONS:**

A plant startup is in progress

The plant is at approximately 5% power

A failure has caused the Source Range NIs to energize

**INITIATING CUES:**

The Unit Supervisor directs you to deenergize the Source Range NIs in accordance with section 4.4 of DB-OP-06403, RPS and NI Operating Procedure.

**(Hand a copy of section 4.4 of DB-OP-06403 to examinee)**

**CANDIDATE COPY****INITIAL CONDITIONS:**

A plant startup is in progress

The plant is at approximately 5% power

A failure has caused the Source Range NIs to energize

**INITIATING CUES:**

The Unit Supervisor directs you to deenergize the Source Range NIs in accordance with section 4.4 of DB-OP-06403, RPS and NI Operating Procedure.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
-------------------

- 
1. PERFORMANCE STEP: Unlock and open RPS Channel 1 and 2 doors (required to complete step 4.4.2).

STANDARD: Keys obtained and RPS Channels 1 and 2 doors unlocked and opened.

CUE: **(If necessary) The Control Room acknowledges RPS doors will be open and annunciator alarm received**

\_\_\_\_\_  
SAT UNSAT

- 
2. PERFORMANCE STEP: Place ON-OFF switch for the Source Range Detector Power  
.....**C**..... Supply Module in OFF (Step 4.4.2).

STANDARD: Place ON-OFF switch for NI 1 power supply to OFF (RPS Channel 2).

COMMENT: **May deenergize NI 2 before NI 1.**

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

- 
3. PERFORMANCE STEP: Place ON-OFF switch for the Source Range Detector Power  
.....**C**..... Supply Module in OFF (Step 4.4.2).

STANDARD: Place ON-OFF switch for NI 2 power supply to OFF (RPS Channel 1).

CUE: **(After both SR NIs are deenergized and the NI 3 failure is deleted) Two hours have elapsed. The failure has been repaired. The Unit Supervisor directs you to continue in section 4.4 of DB-OP-06403 and reenergize Source Range NIs 1 and 2**

\_\_\_\_\_  
SAT UNSAT

- 
4. PERFORMANCE STEP: Place ON-OFF switch for the Source Range Detector Power  
.....**C**..... Supply Module in ON (Step 4.4.3.a).

STANDARD: Places ON-OFF switch for NI 1 power supply to ON.

COMMENT: **May reenergize NI 2 before NI 1**

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

5. PERFORMANCE STEP: Place ON-OFF switch for the Source Range Detector Power  
.....**C**..... Supply Module in ON (Step 4.4.3.a).

STANDARD: Places ON-OFF switch for NI 2 power supply to ON.

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Depress the RESET switch on the Source Range Detector Power  
.....**C**..... Supply Module (Step 4.4.3.b).

COMMENT: ***Depressing reset switch will reset the trip to allow the detector to reenergize when required. With Intermediate Range NIs above the cutout value the Source Range Detector will not energize.***

STANDARD: Depress the RESET switch on NI 1 Power Supply Module.

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Depress the RESET switch on the Source Range Detector Power  
.....**C**..... Supply Module (Step 4.4.3.b).

COMMENT: ***Depressing reset switch will reset the trip to allow the detector to reenergize when required. With Intermediate Range NIs above the cutout value the Source Range Detector will not energize.***

STANDARD: Depress the RESET switch on NI 2 Power Supply Module.

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Complete procedure section.

STANDARD: Determine step 4.4.3.c to be not applicable and sign/date completed by.

CUE: **None**

SAT UNSAT

9. PERFORMANCE STEP: Lock the doors and return keys.

STANDARD: Doors locked and key returned.

CUE: **None**

SAT UNSAT

TERMINATING CUES: This JPM is complete (Terminated by the examinee)

END TIME

**Simulator JPM  
S8**

---

**Facility:** Davis-Besse **Task No.:** 008-004-01-0100**Task Title:** Component Cooling Water Pump Rotation**K/A Reference:** (008) A4.01 3.3/3.1 **Job Performance Measure No:** S8 (JPM 018)**Examinee:** \_\_\_\_\_**NRC Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Method of testing:**Simulated Performance \_\_\_\_ Actual Performance XClassroom \_\_\_\_ Simulator X 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:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Task Standard:**

Place Component Cooling Water Pump 2 in service from standby condition and place Component Cooling Water Pump 1 (initially running) in standby.

**Required Materials:**

Section 3.2, 3.9, and 3.16 of DB-OP-06262, CCW System Procedure Limits and Precautions for DB-OP-06262

**General References:**

None

**Initiating Cue:**

The plant conditions are specified in the Initial Conditions and Initiating Cues.

**Time Critical Task:**

No

**Alternate Path:**

No

**Validation Time:**

30 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:**

Place Component Cooling Water Pump 2 in service from standby condition and place Component Cooling Water Pump 1 (initially running) in standby.

**INITIAL CONDITION:**

Mode 1

CCW Pump 1 placed I/S to support testing which has been completed. Makeup Pump 1 left in service and Service Water secondaries left on SW loop 1 (SW1399 open) due to short duration of test.

**ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:**

CCW pump 1 running.

Hang tags for CCW and SW pumps 3 being aligned to side 2.

Makeup pump 1 running.

SW 1399 Open and SW 1395 Closed.

**MALFUNCTIONS/FAILURE TO INSERT:**

None

**ACTION/CUES:**

**EXAMINER COPY****INITIAL CONDITIONS:**

Plant is in Mode 1.

CCW Pump 1 was placed I/S to support testing which has been completed. Makeup Pump 1 was left in service and Service Water secondaries were left on SW loop 1 (SW1399 open) due to short duration of test.

NO maintenance work has been done on the CCW System.

**INITIATING CUES:**

Testing is complete and the Unit Supervisor directs you to shift CCW pumps so that CCW Pump 2 is in service and CCW Pump 1 is in standby, in accordance with Section 3.2 and 3.9 of DB-OP-06262, CCW System Procedure. Valve testing is not required to be performed.

**(Provide student a copy of Section 3.2, 3.9, 3.16, and Limits and Precautions of DB-OP-06262, CCW System Procedure. The procedure is signed off with briefing complete, applicable prerequisites signed off, and some steps pre-identified that will not be applicable)**

**CANDIDATE COPY****INITIAL CONDITIONS:**

Plant is in Mode 1.

CCW Pump 1 was placed I/S to support testing which has been completed. Makeup Pump 1 was left in service and Service Water secondaries were left on SW loop 1 (SW1399 open) due to short duration of test.

NO maintenance work has been done on the CCW System.

**INITIATING CUES:**

Testing is complete and the Unit Supervisor directs you to shift CCW pumps so that CCW Pump 2 is in service and CCW Pump 1 is in standby, in accordance with Section 3.2 and 3.9 of DB-OP-06262, CCW System Procedure. Valve testing is not required to be performed.

**PERFORMANCE INFORMATION**

NOTE: Critical steps denoted with a "C". Failure to meet any one of these standards for this item constitutes failure. Sequence is NOT critical unless denoted in the "Comments".

START TIME: _____
-------------------

1. PERFORMANCE STEP: Locate the correct procedure section.

STANDARD: Identifies Section 3.2 (Component Cooling Water System) as correct procedure section.

COMMENT: ***Sequence required for all steps, except steps 7, 8, 12, 13, 17, 18, 19 and 20.***

CUE: **None**

\_\_\_\_\_  
SAT UNSAT

2. PERFORMANCE STEP: Verify Open SW38, CCW Heat Exchanger 1-2 Discharge Iso. (Step 3.2.8).

STANDARD: Contact an EO to verify position of SW38.

CUE: **If EO contacted SW38, CCW Heat Exchanger 1-2 Discharge Iso., is OPEN.**

\_\_\_\_\_  
SAT UNSAT

3. PERFORMANCE STEP: Start CCW Pump 1-2 (Step 3.2.13).  
.....**C**.....

STANDARD: Turn HIS1418 clockwise to CLOSE.

COMMENT: ***Annunciator 11-5-B, CCW Pump 2 Flow LO, will alarm. It may be discussed as an expected alarm as continuing with the procedure will clear the low flow condition. Whether alarm procedure guidance is used or not does not matter as the procedure will provide needed guidance. Alarm procedure action is to open CC1469 which will be verified closed in performance step 8.***

CUE: **If asked, as EO report flow on FIS 1432 is 2800 gpm**

\_\_\_\_\_  
SAT UNSAT

- 
4. PERFORMANCE STEP: Adjust CCW Heat Exchanger Temperature control valve to 80F to 85F OR as directed by the Shift Manager (Step 3.2.15).

STANDARD: Prerequisites identify Shift Manager desire of 85°F set point of TIC1434.  
Contact an EO to obtain set point of 85°F on TIC1434.

CUE: **If needed, Shift Manager desires a set point of 85°F on TIC1434.  
EO has adjusted TIC1434 to a setpoint of 85°F.**

---

SAT UNSAT

5. PERFORMANCE STEP: Route to Section 3.16 (Step 3.2.17).

STANDARD: Route to Section 3.16 and complete prerequisite steps 3.16.1 and 3.16.2.

CUE: **None.**

---

SAT UNSAT

6. PERFORMANCE STEP: Open CC2649 Aux Bldg Return (Step 3.16.4).  
.....**C**.....

STANDARD: Depress the OPEN pushbutton on HIS2649.

COMMENT: **Sequence not required for steps 7 and 8**

CUE: **None.**

---

SAT UNSAT

7. PERFORMANCE STEP: Open CC5098, CTMT Bldg Return (Step 3.16.4).  
.....**C**.....

STANDARD: Depress the OPEN pushbutton on HIS5098.

COMMENT: **Sequence not required for steps 7 and 8**

CUE: **None.**

---

SAT UNSAT

8. PERFORMANCE STEP: OPEN CC5096, CCW Line 2 Discharge Isolation, when return  
.....**C**..... valves are open (Step 3.16.5).

STANDARD: Depress the OPEN pushbutton on CC5096.

CUE: **None.**

---

SAT UNSAT

9. PERFORMANCE STEP: Verify CC1469, CCW from DH Cooler 2 Outlet valve is closed (Step 3.16.6).

STANDARD: If open depress the CLOSE pushbutton on HIS1469.

COMMENT: **CC1469 may have been opened if actions for annunciator 11-5-B, CCW Pump 2 Flow LO, were performed at performance step 3.**

CUE: **None.**

          
SAT UNSAT

10. PERFORMANCE STEP: Close CC5095 Non-essential Supply (Step 3.16.7).  
.....**C**.....

STANDARD: Depress the CLOSE pushbutton on HIS5095.

COMMENT: **Annunciator 11-4-B, CCW PMP 1 FLOW LO, will alarm at < 3000 gpm. It may be discussed as an expected alarm as continuing with the procedure will clear the low flow condition. Whether alarm procedure guidance is used or not does not matter as the procedure will provide needed guidance. Alarm procedure action is to open CC1467 which will be opened at performance step 14 if not by alarm procedure guidance.**

CUE: **None.**

          
SAT UNSAT

11. PERFORMANCE STEP: Close CC2645 Aux Bldg Return (Step 3.16.8).  
.....**C**.....

STANDARD: Depress the CLOSE pushbutton on HIS2645 Aux Bldg Return.

COMMENT: **Sequence not required for steps 12 and 13**

CUE: **None.**

          
SAT UNSAT

12. PERFORMANCE STEP: Close CC 5097 CTMT Bldg Return (Step 3.16.8).  
.....**C**.....

STANDARD: Depress the CLOSE pushbutton on HIS5097 CTMT Bldg Return.

COMMENT: **Sequence not required for steps 12 and 13**

CUE: **None.**

          
SAT UNSAT

- 
13. PERFORMANCE STEP: Determine CCW Pump 1 discharge flow less than 3000 gpm as verified as read on FIS 1422 (local) (Step 3.16.9).

STANDARD: Contact EO to report CCW 1 flow indication.

CUE: **If EO contacted CCW Pump 1 Flow on FIS 1422 is 2800 gpm.**

SAT UNSAT

---

14. PERFORMANCE STEP: Open CC1467, CCW from DH Cooler 1 Outlet valve (Step 3.16.9).

STANDARD: Depress the OPEN pushbutton on HIS1467.

CUE: **None.**

SAT UNSAT

---

15. PERFORMANCE STEP: Verify that CCW Pump 2 has a discharge flow greater than 3000 gpm as read on FIS 1432 (locally) (Step 3.16.11).

STANDARD: Contact EO to report CCW flow indication.

CUE: **If EO contacted CCW Pump 2 Flow on FIS 1432 is 7200 gpm.**

SAT UNSAT

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16. PERFORMANCE STEP: Route back to section 3.2.

STANDARD: Sign complete for section 3.16. Route to step 3.2.17 and sign complete.

CUE: **None.**

SAT UNSAT

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17. PERFORMANCE STEP: If CC1469 was open to provide minimum flow requirement then monitor Decay Heat Pump 2 suction pressure (Step 3.2.19).

STANDARD: If CC1469 was open to provide minimum flow requirement then contact EO to monitor Decay Heat Pump 2 suction pressure using PI1538 per step 3.2.19 of DB-OP-06262.

COMMENT: ***Step 3.2.18 is not applicable. Step 3.2.19 may be applicable if CC1469 was opened per alarm procedure response, requiring monitoring of Decay Heat Pump 2 suction pressure.***

CUE: **(If necessary) An EO will monitor Decay Heat Pump 2 suction pressure using PI1538 per step 3.2.19 of DB-OP-06262.**

SAT UNSAT

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18. PERFORMANCE STEP: Verify SW1434, CCW Heat Exchanger 2 Control Valve is operating to maintain proper temperature (Step 3.2.20).

STANDARD: Contact EO to report status of TIC 1434. Verify TI 1490 indicates approximately 85°F.

CUE: **As EO (if necessary) TIC 1434 is controlling CCW train 2 temperature at 85°F.**

SAT UNSAT

19. PERFORMANCE STEP: Verify surveillance tests are not required (Step 3.2.25).

STANDARD: Contact Unit Supervisor. Per initiating cues valve testing is not required.

COMMENT: **Steps 3.2.21 through 3.2.25 are not applicable.**

CUE: **None**

SAT UNSAT

20. PERFORMANCE STEP: Verify Makeup Pump 1 is in service (Step 3.2.26).

STANDARD: Verify HIS MU24B indicates Makeup Pump 1 is running.

CUE: **None.**

SAT UNSAT

21. PERFORMANCE STEP: Route to Section 3.9.

STANDARD: Route to Section 3.9.

CUE: **None.**

SAT UNSAT

22. PERFORMANCE STEP: Verify that EDG 1, LPI pump 1 and HPI pump 1 are not operating (Step 3.9.1).

STANDARD: Monitor control board for status of EDG 1, LPI 1 and HPI 1. Complete Prerequisites.

CUE: **None.**

SAT UNSAT

23. PERFORMANCE STEP: Verify SW1424, CCW Heat Exchanger Outlet 1 valve, is closed or 15 minutes have elapsed since the heat load has been removed (Step 3.9.4.a).

STANDARD: Check that SW1424 has green light lit or 15 minutes have elapsed.

CUE: **(If necessary) 15 minutes has elapsed since the heat loads have been removed.**

SAT UNSAT

24. PERFORMANCE STEP: Stop CCW Pump 1 (Step 3.9.4.b).  
.....**C**.....

STANDARD: Position HIS1414 to TRIP.

CUE: **None.**

SAT UNSAT

25. PERFORMANCE STEP: Set TIC1424 as directed by the Shift Manager in prerequisite step 3.9.3 (Step 3.9.4.c).

STANDARD: Contact EO to slowly adjust TIC1424 to 110F.

CUE: **TIC1424 is set to 110F.**

SAT UNSAT

26. PERFORMANCE STEP: Verify CC 1467, CCW from DH Cooler 1 Outlet valve, is closed (Step 3.9.5).

STANDARD: If CC1467 is open, press closed on HIS1467.

CUE: **None.**

SAT UNSAT

TERMINATING CUES: This JPM is complete. (Terminated by the examiner)

END TIME