

# **Simulator JPM S1**

Facility: Davis-Besse Task No: 001-044-04-100Task Title: Manual Latch and PI Reset of Dropped Control RodK/A Reference: (003) AA1.02 3.6/3.4 Job Performance Measure No: S1 (NEW)

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 was at 100% power and experienced a dropped rod.

DB-OP-02516, CRD Malfunctions, was entered and the plant stabilized at 55% power.

The cause of the dropped rod has been determined and corrected.

Rod recovery is scheduled to be performed this shift

**Task Standard:**

Manually Latch and PI Reset a single fully inserted control rod following a dropped rod.

**Required Materials:**

DB-OP-06402, CRD Operating Procedure, Section 4.8 and Limits and Precautions

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

The Initiating Cues are specified in the Examiner/Student Copy Performance Measure pages.

**Time Critical Task:**

No

**Alternate Path:**

No

**Validation Time:**

11 Minutes

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

Manually Latch and PI Reset a single fully inserted control rod following a dropped rod.

**INITIAL CONDITION:**

55% Power  
Rod 7-3 Dropped

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

None

**MALFUNCTIONS/FAILURE TO INSERT:**

None

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

The plant was at 100% power and experienced a dropped rod.

DB-OP-02516, CRD Malfunctions, was entered and the plant stabilized at 55% power.

The cause of the dropped rod has been determined and corrected.

Rod recovery is scheduled to be performed this shift

**INITIATING CUES:**

The Unit Supervisor has directed you to perform Manual Latch and PI Reset of rod 7-3 in accordance with section 4.8 of DB-OP-06402, CRD Operating Procedure.

**(Provide examinee a copy of section 4.8 of DB-OP-06402, CRD Operating Procedure, and Limits and Precautions.)**

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

The plant was at 100% power and experienced a dropped rod.

DB-OP-02516, CRD Malfunctions, was entered and the plant stabilized at 55% power.

The cause of the dropped rod has been determined and corrected.

Rod recovery is scheduled to be performed this shift

**INITIATING CUES:**

The Unit Supervisor has directed you to perform Manual Latch and PI Reset of rod 7-3 in accordance with section 4.8 of DB-OP-06402, CRD 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: Document direction of Shift Manager to Latch and PI Reset

STANDARD: Identify Group 7 and Rod 3 as rod directed to be latched and reset and complete prerequisite step 4.8.1.

**CUE: The Unit Supervisor will refer to Tech Specs as applicable**

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

2. PERFORMANCE STEP: Verify Group Select Switch is selected to required group.  
.....C.....

STANDARD: Verify Group Select Switch is selected group 7.

**CUE: Role play to perform IV of selected position. (Concur with the position selected)**

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

3. PERFORMANCE STEP: Verify Single Select Switch is selected to required rod.  
.....C.....

STANDARD: Verify Single Select Switch is selected to rod 3 position.

**CUE: Role play to perform IV of selected position. (Concur with the position selected)**

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

4. PERFORMANCE STEP: Verify completion of Prerequisites.

STANDARD: Verify completion of Prerequisites and sign Prerequisites completed by block.

**CUE: Role play and sign Independent Verification by block.**

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SAT UNSAT

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5. PERFORMANCE STEP: Identify proper procedure step for manual Rod Latch and Reset

STANDARD: Identify step 4.8.4 is for Automatic Latch and Reset and mark as N/A.

CUE: None

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SAT UNSAT

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6. PERFORMANCE STEP: Identify proper procedure step for manual Rod Latch and Reset

STANDARD: Identify step 4.8.5 is the proper step for Manual Latch and Reset.

CUE: None

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SAT UNSAT

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7. PERFORMANCE STEP: Check Rod PIP Control ON light is ON.

STANDARD: Document Group 7 and Rod 3 in step 4.8.5.a and check Rod PIP Control On light is lit.

NOTE: All Group 7 rod PIP Control On lights will be lit. Rod 7-3 is in manual control, the other group 7 rods are under automatic control.

CUE: None

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SAT UNSAT

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8. PERFORMANCE STEP: Check indication of Auto Rod Recovery mode.

STANDARD: Check Auto Rod Recovery mode indicates backlight for AUTO is ON and MANUAL is FLASHING.

CUE: None

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SAT UNSAT

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9. PERFORMANCE STEP: Select LATCH MANUAL.

.....C.....

STANDARD: Select LATCH MANUAL and verify backlight comes ON.

CUE: None

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SAT UNSAT

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10. PERFORMANCE STEP: Select IN LIMIT BYPASS.

.....C.....

STANDARD: Select IN LIMIT BYPASS and verify backlight comes ON.

CUE: None

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SAT UNSAT

11. PERFORMANCE STEP: Insert selected rod for approximately 5 seconds.  
.....**C**.....

STANDARD: Document selected rod 7-3 in step 4.8.5.e and insert the rod for approximately 5 seconds.

**NOTE: Critical action is to insert the rod for approximately 5 seconds.**

CUE: None

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SAT UNSAT

12. PERFORMANCE STEP: Deselect IN LIMIT BYPASS.

STANDARD: Deselect IN LIMIT BYPASS and verify backlight goes off.

CUE: None

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SAT UNSAT

13. PERFORMANCE STEP: Withdraw selected rod until the IN LIMIT clears.  
.....**C**.....

STANDARD: Document selected rod 7-3 in step 4.8.5.g and Withdraw until the IN LIMIT clears as indicated by the Rod PIP bar graph changing from Green to Blue.

**NOTE: Critical action is to withdraw the rod until the IN LIMIT clears.**

CUE: None

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SAT UNSAT

14. PERFORMANCE STEP: Insert selected rod to the IN LIMIT.  
.....**C**.....

STANDARD: Document selected rod 7-3 in step 4.8.5.h and Insert to the IN LIMIT as indicated by the Rod PIP bar graph changing from Blue to Green.

**NOTE: Critical action is to Insert the rod to the IN LIMIT.**

CUE: None

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SAT UNSAT



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15. PERFORMANCE STEP: Select RPI RESET.....**C**.....

STANDARD: Select RPI RESET as indicated by the backlight ON while depressed.

CUE: None

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SAT UNSAT

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## 16. PERFORMANCE STEP: Deselect LATCH MANUAL.

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

STANDARD: Deselect LATCH MANUAL as indicated by backlight goes OFF.

CUE: None

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SAT UNSAT

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## 17. PERFORMANCE STEP: Verify selected rod RPI indicates approximately zero.

STANDARD: Document selected rod 7-3 in step 4.8.5.k and verify RPI indicates approximately zero.

CUE: **None**

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SAT UNSAT

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## 18. PERFORMANCE STEP: Complete section 4.8.

STANDARD: Initial step 4.5.l to go to step 4.8.8. Initial step 4.8.8 with intent to go to Section 4.2 and sign and date for Subsection 4.8 completed by.

CUE: **Another RO will perform section 4.2**

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SAT UNSAT

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

END TIME \_\_\_\_\_

# **Simulator JPM S2**

**Facility:** Davis-Besse **Task No:** 000-082-05-0100**Task Title:** Emergency Borate the RCS in response to a failure of the Reactor to Trip**K/A Reference:** 004 A2.14 (3.8/3.9) **Job Performance Measure No:** S2 (JPM NEW)**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:**

Manually initiate Emergency Boration flow to the RCS using the Boric Acid Tank Method

**Required Materials:**

DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE, IOAs, Specific Rule 1 and Attachment 13

**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

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

Manually initiate Emergency Boration flow to the RCS using the Boric Acid Tank Method

**INITIAL CONDITION:**

Approximately 5% Power

Reactor has failed to trip

Turbine is offline due to initial low power conditions

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

Fail the Automatic Reactor Trips and Manual Pushbuttons

Fail the Reactor Trip Test Key

Fail 480 V Unit Substations E2 and F2 to trip

Fail MU6405 and MU3971 in the MU Tank position to prevent them from aligning to the BWST

**MALFUNCTIONS/FAILURE TO INSERT:**

None

**ACTION/CUES:**

None

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

A plant startup was in progress at 5% Power

The Reactor has failed to trip from an automatic trip signal

**INITIATING CUE:**

The Unit Supervisor directs you to perform the Immediate Actions of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE and respond to the Reactor trip failure.

**(When simulator copy located provide examinee a copy of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE 1, Section 3, Immediate Actions)**

**Do not provide a copy of Specific Rule 1 or Attachment 13 until they request the procedure or locate it themselves.**

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

A plant startup was in progress at 5% Power

The Reactor has failed to trip from an automatic trip signal

**INITIATING CUE:**

The Unit Supervisor directs you to perform the Immediate Actions of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE and respond to the Reactor trip failure.

**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 required unless denoted in the "Comments".

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

1. PERFORMANCE STEP: Trip Reactor and Verify Reactor Power is lowering on the Intermediate Range.

STANDARD: Push manual trip pushbuttons. Recognizes that Reactor Power is NOT lowering, implements step 3.3 RNO.

CUE: **None**

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

2. PERFORMANCE STEP: If At Any Time, the Reactor is Shutdown, informs the Shift Manager and transitions to Step 3.4

STANDARD: Continues with the RNO as the reactor is not shutdown

CUE: **None**

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

3. PERFORMANCE STEP: At the Rod Control Panel, insert the Reactor Trip Test key AND rotate clockwise to depower the CRDMs

STANDARD: Attempt to trip the reactor using the Trip Test Key. Reports the CRDMs failed to denenergize

CUE: **None**

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

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4. PERFORMANCE STEP: Momentarily Deenergize 480 volt Unit Substations E2 AND F2

STANDARD: Turns the E2 and F2 Substation control switches to trip the breakers, recognizes that they fail to open

CUE: **None**

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SAT    UNSAT

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5. PERFORMANCE STEP: Locally open Reactor Trip Breakers A, B, AND C in the Low Voltage Switchgear Rooms 2

STANDARD: Dispatches an Operator to locally open the Reactor Trip Breakers

CUE: **Respond as local operator that you will locally open the breakers  
As the Unit Supervisor, direct the Candidate to implement  
Emergency Boration with the BWST method**

NOTE: The intent is for the candidate to implement Specific Rule 1 to Emergency Borate, if asked cue that another operator will address the actions for feedwater

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SAT    UNSAT

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**ALTERNATE PATH: This is where alternate path begins. Operator must recognize that the MU Pumps Suctions cannot be locked to the BWST and implements the Boric Acid Addition Tank Method per Attachment 13 Section 2.**

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6. PERFORMANCE STEP: Lock MU Pump suction in the BWST position.

STANDARD: Recognizes that MU6405 and MU3971 cannot be locked in the BWST position, routes to the Boric Acid Addition Tank Method.

CUE: **If candidate refers to the RNO, report that the Aux Building is not Accessible**

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SAT    UNSAT

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7. PERFORMANCE STEP: Line up to add Boric acid to the MU Tank using Attachment 13 Section 2.0. Determines if the Aux Building Accessible

STANDARD: Routes to Attachment 13 Section 2.0

CUE: **If needed, report as Rad Pro that the Aux Building is NOT accessible. Provide Attachment 13 when requested or located.**

SAT UNSAT

8. PERFORMANCE STEP: Routes to Attachment 13 Method B to add Boric Acid via the Batch Controller.

STANDARD: Routes to Attachment 13 Section 2.0 Method B

CUE: **If asked if DB-OP-06001 should be referenced, cue as the supervisor to continue with Attachment 13**

SAT UNSAT

9. PERFORMANCE STEP: Verify MU 39, Batch Flow Control Valve is closed.

**C**

STANDARD: On Batch Controller presses:

- VALVE SET
- ACK ("0")
- ENTER
- Verifies the indicated Valve % is ZERO

CUE: **NONE**

SAT UNSAT

10. PERFORMANCE STEP: Verify MU 23 is closed, using HCMU23

STANDARD: Verifies MU23 is closed

CUE: **NONE**

SAT UNSAT

11. PERFORMANCE STEP: Verify WC3526 is closed, using HIS3526

STANDARD: Verifies WC3526 is closed

CUE: **NONE**

SAT UNSAT

12. PERFORMANCE STEP: Set the Batch Controller to the desired batch size.

**C**

STANDARD: On Batch Controller presses:

- BATCH SET
- Enters batch size of 1000 gallons
- ENTER
- DISPLAY ("Lower")
- BATCH ("4")

Verifies the displayed batch size is correct

CUE: **Direct the candidate to emergency borate 1000 gallons**

SAT UNSAT

13. PERFORMANCE STEP: Reset the indicated total on the Batch Controller as follows.

**C**

STANDARD: On Batch Controller presses:

- DISPLAY ("Lower")
- TOTAL ("7")
- TOTAL RESET ("6")

Verifies the indicated total is ZERO

CUE: **NONE**

SAT UNSAT

14. PERFORMANCE STEP: Display the FLOW RATE in the upper display as follows

STANDARD: On Batch Controller presses:

- DISPLAY ("upper")
- Rate ("8")

CUE: **NONE**

SAT UNSAT

15. PERFORMANCE STEP: Notifies the Command SRO that the Batch Controller is aligned for Boric Acid addition

STANDARD: Reports to the Command SRO

CUE: **As Command SRO, acknowledge the report**

SAT UNSAT

16. PERFORMANCE STEP: Enable the Batch Controller by pressing RUN

**C**

STANDARD: RUN is pressed

CUE: **NONE**

SAT UNSAT

17. PERFORMANCE STEP: Open MU40, BATCH ISO, using HIS MU 40.

**C**

STANDARD: Open MU40, BATCH ISO, using HIS MU 40.

CUE: NONE

SAT UNSAT

## 18. PERFORMANCE STEP: Start a Boric Acid Pump

C

STANDARD: Starts Boric Acid Pump 1 by using HIS MU50A or Boric Acid Pump 2 by using HIS MU50B

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SAT    UNSAT

CUE:            **NONE**

19. PERFORMANCE STEP: Throttles Boric Acid Flow with MU23 FLOW CONTROL  
C while observing the flow indication on the upper display of the Batch Controller.

STANDARD: Manually adjusts MU23 to ensure adequate boration flow.

CUE:            **Once boration flow is adjusted the JPM may be terminated.**

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SAT    UNSAT

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

END TIME: \_\_\_\_\_

# **Simulator JPM S3**

**Facility:** Davis-Besse **Task No:** 10-018-01-0100**Task Title:** Boron equalization between Pressurizer and the Reactor Coolant System**K/A Reference:** (010) A4.01 3.7/3.5 **Job Performance Measure No:** S3**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 is operating at 100% power.

**Task Standard:**

Perform boron equalization between Pressurizer and the Reactor Coolant System, recognize spray valve failure, and take required immediate action.

**Required Materials:**

DB-OP-06003, Pressurizer Operating Procedure

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

The Initiating Cues are specified in the Examiner/Student Copy Performance Measure pages.

**Time Critical Task:** No**Alternate Path:** Yes**Validation Time:** 18 Minutes

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

Perform boron equalization between Pressurizer and the Reactor Coolant System, recognize spray valve failure, and take required immediate action.

**INITIAL CONDITION:**

Mode 1 (RX Pwr  $\geq$  95%)

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

HV00E fails to 0.401; RC2, Pressurize Spray, will fail to ~40% on Event 1  
H10I21GL==0; Event 1: when RC2 CLOSE (green) light goes off.

Manually insert failure if throttle position is established without triggering failure.

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

The plant is operating at 100% power.

Chemistry reports Pressurizer boron is 130 ppmB higher than the RCS boron

**INITIATING CUES:**

The Unit Supervisor directs you to equalize Boron between the Reactor Coolant System and the Pressurizer using Section 4.3 of DB-OP-06003, Pressurizer Operating Procedure, for 4 hours. Maximize spray flow to expedite equalization.

**(Hand Candidate a copy of DB-OP06003 Section 4.3)**



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

The plant is operating at 100% power.

Chemistry reports Pressurizer boron is 130 ppmB higher than the RCS boron

**INITIATING CUES:**

The Unit Supervisor directs you to equalize Boron between the Reactor Coolant System and the Pressurizer using Section 4.3 of DB-OP-06003, Pressurizer Operating Procedure, for 4 hours. Maximize spray flow to expedite equalization.

**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: Review prerequisites of DB-OP-06003 Section 4.3

STANDARD: Reviews prerequisites of DB-OP-06003 Section 4.3  
Determines boron difference is >100 ppm from Initial Conditions

**CUE: (If Asked) Nuclear Engineering has determined rods will be within  
Reactor Operator Guidance for Rod Index**

SAT	UNSAT
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2. PERFORMANCE STEP: Place desired Pressurizer (Pzr) heater banks in ON  
**C**

STANDARD: Rotate selected Pzr heater switches clockwise to ON

Note: The Standard is to place additional heater(s) in service.  
Candidate may not start with all heaters ON but may leave some  
OFF to provide additional confidence of pressure control. The  
number of heaters placed in service is not Critical for this JPM

**CUE: None**

SAT	UNSAT
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3. PERFORMANCE STEP: Throttle open RC2, Pzr Spray, when RCS pressure  
**C** Is between 2170 and 2200 psig

STANDARD: Rotate HISRC2-1 clockwise momentarily then release HISRC2-  
1

**CUE: None**

SAT	UNSAT
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**ALTERNATE PATH: This is where alternate path begins. Operator must recognize the spray valve is failed to 40% and not responding and take appropriate actions to isolate.**

4. PERFORMANCE STEP: Recognize RCS pressure is lowering

**C**

NOTE: RC2 malfunction may have to be manually inserted.  
Examiner will cue I/F when to insert malfunction.

STANDARD: Observe RCS pressure indication

CUE: None

SAT UNSAT

5. PERFORMANCE STEP: Close RC 2

STANDARD: Rotate RC2-1 counterclockwise and hold until CLOSE light comes ON

NOTE: RC 2 will fail to close; Step 6 is the RNO

CUE: None

SAT UNSAT

6. PERFORMANCE STEP: Close RC 10, Pzr Spray Block valve

**C**

STANDARD: Depress HIS RC 10 CLOSE button

NOTE: Candidate performs DB-OP-02513 Immediate actions to close RC2, Pzr Spray and then RC10 Pzr Spray Block valve

CUE: None

SAT UNSAT

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

END TIME

# **Simulator JPM S4**

**Facility:** Davis-Besse **Task No:** 000-081-04-0100**Task Title:** Commence a Rapid Cooldown of the RCS via TBVs and AVVs**K/A Reference:** (041) K3.01 3.2/3.3 **Job Performance Measure No:** S4**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:****Task Standard:**

Commence a Rapid Cooldown of the RCS via TBVs, recognize failure of TBVs and use AVVs

**Required Materials:**

DB-OP-02543, Rapid Cooldown

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

The Initiating Cues are specified in the Examiner/Student Copy Performance Measure pages.

**Time Critical Task: No****Alternate Path: Yes****Validation Time: 24 minutes**

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

Commence a Rapid Cooldown of the RCS via TBVs and AVVs

**INITIAL CONDITION:**

Reactor tripped with the Main Condenser available

Supplemental actions of DB-OP-02000 complete

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

DB-OP-02543 complete up through 4.12.1

**MALFUNCTIONS/FAILURE TO INSERT:**

7 minutes after TBVs taken to HAND - Fail all TBVs closed

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

The Reactor has been tripped and the supplemental actions of DB-OP-02000 have been completed. Preparations to place the Motor Driven Feed Pump in service are in progress. The Shift Manager has determined a Rapid Cooldown to mode 5 is required. DB-OP-02543, Rapid Cooldown is in progress up through step 4.12.1.

**INITIATING CUES:**

The Unit Supervisor has directed you to establish an 80-100 °F/Hr Cooldown starting at step 4.12.2 of DB-OP-02543, Rapid Cooldown.

**(Provide a copy of DB-OP-02543, Rapid Cooldown, signed off through step 4.12.1, to the examinee)**

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

The Reactor has been tripped and the supplemental actions of DB-OP-02000 have been completed. Preparations to place the Motor Driven Feed Pump in service are in progress. The Shift Manager has determined a Rapid Cooldown to mode 5 is required. DB-OP-02543, Rapid Cooldown is in progress up through step 4.12.1.

**INITIATING CUES:**

The Unit Supervisor has directed you to establish an 80-100 °F/Hr Cooldown starting at step 4.12.2 of DB-OP-02543, Rapid Cooldown.



**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: Place Line 1/2 Turbine Bypass Valves in HAND  
.....**C**.....

STANDARD: Depresses Line 1/2 hand buttons. Verifies White light lit, red light not lit

CUE: **None**

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

2. PERFORMANCE STEP: Open Turbine Bypass Valves to commence cooldown  
.....**C**.....

STANDARD: Toggle Turbine Bypass valves Line 1 and Line 2 to open  
Verify Amber lights lit above ICS control station

CUE: **(If necessary) The Primary Operator will maintain RCS pressure and inventory during the cooldown. Another operator will respond to ICS Mismatch alarm if required.**

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

3. PERFORMANCE STEP: Attempts to establish 80 - 100 °F Cooldown of the RCS

STANDARD: Depresses open on TBV controls to attempt to establish cooldown of 80 - 100 °F/hr Monitors SPDS Cooldown graph. (~ 1.33 – 1.67 °F/min).

COMMENT: Actual Cooldown rate of 80 - 100 °F not critical as TBVs will fail closed

CUE: **None**

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

**NOTE:**

**Alternate Path Starts here. 7 minutes after TBVs are placed in hand, the TBVs will fail closed. This will stop the RCS cooldown. The Examinee must recognize the failure and refer back to step 4.12 RNO (response not obtained) which provides guidance on the use of the AVVs to continue the cooldown.**

4. PERFORMANCE STEP: Recognizes Turbine Bypass Valves fail to maintain cooldown

STANDARD: Observes amber lights not lit. Plant commences to heatup. TBVs do not respond to control station.

CUE: **If necessary, ask examinee what other methods are available for cooldown? Once examinee IDs AVVs are available, CUE Unit Supervisor directs you to continue with the Cooldown in accordance with step 4.12 of DB-OP-02543, Rapid Cooldown using AVVs (RNO step).**

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SAT UNSAT

5. PERFORMANCE STEP: Place SG 1 AVV Hand/Auto Station in HAND

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

STANDARD: Positions slider up to hand on PIC ICS11B

COMMENTS: For procedural guidance may refer to DB-OP-02000, Attachment 3: Operation of AVVs which includes the following additional steps which are NOT CRITICAL:

1. Reduce SG 1 AVV demand to zero
2. Press SG 1 AVV BLOCK pushbutton
3. Press AUTO SG 1 AVV Hand Indicating Switch

CUE: **None**

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SAT UNSAT

6. PERFORMANCE STEP: Begin to control Steam Generator Pressure as required to establish a cooldown

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

STANDARD: Incrementally increases PIC ICS11B demand controller output  
Monitor SPDS Cooldown graph to establish a cooldown

CUE: **None**

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SAT UNSAT

7. PERFORMANCE STEP: Place SG 2 AVV Hand/Auto Station in HAND  
.....**C**.....

STANDARD: Positions slider up to hand on PIC ICS11A

COMMENTS: For procedural guidance may refer to DB-OP-02000, Attachment 3:  
Operation of AVVs which includes the following additional steps which are  
NOT CRITICAL:

1. Reduce SG 2 AVV demand to zero
2. Press SG 2 AVV BLOCK pushbutton
3. Press AUTO SG 2 AVV Hand Indicating Switch

CUE: **None**

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SAT UNSAT

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8. PERFORMANCE STEP: Begin to control Steam Generator Pressure as required to  
.....**C**..... establish a cooldown

STANDARD: Incrementally increases PIC ICS11A demand controller output  
Monitor SPDS Cooldown graph to establish a cooldown

CUE: **None**

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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 S5**

**Facility:** Davis-Besse **Task No:** 13-021-04-0100**Task Title:** Recover from Inadvertent SFAS Level 4 Actuation**K/A Reference:** (013) A2.06 3.7/4.0 **Job Performance Measure No:** S5**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:**

Reactor tripped

All RCPs tripped

**Task Standard:**

Recover from Inadvertent SFAS Level 4 Actuation and restore CCW to/from containment

**Required Materials:**

DB-OP-06910, Trip Recovery

DB-OP-06405, Safety Features Actuation System Procedure.

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

The Initiating Cues are specified in the Examiner/Student Copy Performance Measure pages.

**Time Critical Task:** No**Alternate Path:** No**Validation Time:** 23 minutes

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

Recover from Inadvertent SFAS Level 4 Actuation

**INITIAL CONDITION:**

Reactor tripped

All RCPs tripped

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

Trip Containment HI HI pressure bistables in SFAS channels 1 and 3

**MALFUNCTIONS/FAILURE TO INSERT:**

None

**ACTION/CUES:**

None

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

The plant was at 100% power.

A sequence of events has occurred that has resulted in an inadvertent SFAS Level 4 actuation.

The Reactor was tripped.

All four RCPs were stopped

The plant has been stabilized in accordance with DB-OP-02000.

**INITIATING CUES:**

The Unit Supervisor directs you to recover from the SFAS Level 4 actuation in accordance with section 6.0 of DB-OP-06910, Trip Recovery and reset SFAS in accordance with section 3.7 of DB-OP-06405, Safety Features Actuation System Procedure. Shift Manager approval and the Technical Support Center concurrence has been obtained.

**(Provide the examinee a copy of section 6.0 of DB-OP-06910 and section 3.7 of DB-OP-06405)**

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

The plant was at 100% power.

A sequence of events has occurred that has resulted in an inadvertent SFAS Level 4 actuation.

The Reactor was tripped.

All four RCPs were stopped

The plant has been stabilized in accordance with DB-OP-02000.

**INITIATING CUES:**

The Unit Supervisor directs you to recover from the SFAS Level 4 actuation in accordance with section 6.0 of DB-OP-06910, Trip Recovery and reset SFAS in accordance with section 3.7 of DB-OP-06405, Safety Features Actuation System Procedure. Shift Manager approval and the Technical Support Center concurrence has been obtained.



**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: Verify containment pressure <18.7 psia

STANDARD: Observe SFAS containment pressure indicators.

CUE: **None**

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SAT UNSAT

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2. PERFORMANCE STEP: Depress the block button HIS 1533A for CS Pump 1

**C**

STANDARD: Depress BLOCK on HIS 1533A

CUE: **None**

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SAT UNSAT

---

3. PERFORMANCE STEP: Stop CS Pump 1

**C**

STANDARD: HIS 1533 rotated to STOP

CUE: **None**

---

SAT UNSAT

---

4. PERFORMANCE STEP: Depress the block button HIS 1532A for CS Pump 2

**C**

STANDARD: Depress BLOCK on HIS 1532A

CUE: **None**

---

SAT UNSAT

---

5. PERFORMANCE STEP: Stop CS Pump 2 using HIS 1532

**C**

STANDARD: HIS 1532 rotated to STOP

CUE: **None**

---

SAT UNSAT

---

## 6. PERFORMANCE STEP: Reset SFAS trips

STANDARD: Refer to section 3.7 of DB-OP-06405, Safety Features Actuation System Procedure

CUE: **None**

---

SAT UNSAT

## 7. PERFORMANCE STEP: Obtain the door keys for all four SFAS channels

STANDARD: SFAS cabinet keys obtained

CUE: **None**

---

SAT UNSAT

## 8. PERFORMANCE STEP: Check SFAS channels 1 and 3 red POWER ON lights are on

STANDARD: Visual check of red power lights lit at top of the SFAS cabinets 1 and 3

CUE: **None**

---

SAT UNSAT

## 9. PERFORMANCE STEP: Check Shutdown Bypass POWER AVAILABLE green LEDs are ON in SFAS channels 1 and 3

STANDARD: Visual check of green LEDs lit on shutdown bypass section

CUE: **None**

---

SAT UNSAT

10. PERFORMANCE STEP: Reset the CTMT PRESSURE HI HI TRIP bistable  
    C

STANDARD: Depress RESET pushbutton on the CTMT PRESSURE HI HI TRIP bistables  
in SFAS Channel 1 AND in SFAS Channel 3

CUE: **None**

---

SAT UNSAT

11. PERFORMANCE STEP: Reset the tripped output modules in all SFAS channels  
    C

STANDARD: Depress RESET pushbutton on all tripped output modules in SFAS channels  
1, 2, 3 AND 4

CUE: **None**

---

SAT UNSAT

12. PERFORMANCE STEP: Verify all 1/5 lights are OFF in each SFAS Channel

STANDARD: Visual check of Output Module 1/5 lights

CUE: **None**

---

SAT UNSAT

13. PERFORMANCE STEP: Verify SFAS cabinet doors closed and locked

STANDARD: Doors CLOSED and LOCKED

CUE: **None**

---

SAT UNSAT

14. PERFORMANCE STEP: Return the SFAS door keys

STANDARD: Door keys returned to key cabinet

CUE: **None**

---

SAT UNSAT

15. PERFORMANCE STEP: Return to DB-OP-06910, Step 6.1.3

STANDARD: Identifies the need to return to DB-OP-06910, Step 6.1.3

CUE: **(If asked) The Unit Supervisor directs you to restore Component Cooling  
Water to Containment**

---

SAT UNSAT

16. PERFORMANCE STEP: Open CC 1407A, CC Wtr from CTMT Motor Operated Iso  
    C    

STANDARD: Depress OPEN on HIS 1407A

CUE: **None**

---

SAT   UNSAT

---

17. PERFORMANCE STEP: Open CC 1407B, CC Wtr from CTMT Motor Operated Iso  
    C    

STANDARD: Depress OPEN on HIS 1407B

CUE: **None**

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SAT   UNSAT

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18. PERFORMANCE STEP: Open CC 1411A, CC Wtr from CTMT Motor Operated Iso  
    C    

STANDARD: Depress OPEN on HIS 1411A

CUE: **None**

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SAT   UNSAT

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19. PERFORMANCE STEP: Open CC 1411B, CC Wtr from CTMT Motor Operated Iso  
.....C.....

STANDARD: Depress OPEN on HIS 1411B

CUE: **None**

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SAT   UNSAT

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

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END TIME

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# **Simulator JPM S6**

Facility: Davis-Besse Task No: 062-023-01-100Task Title: Remove Transformer CE1-1 From ServiceK/A Reference: (062) A4.01.02 3.3/3.1 Job Performance Measure No: S6

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:**

Any Mode 1 condition

**Task Standard:**

Remove transformer CE1-1 from service, recognize high temperature condition on transformer CE1-2 and return transformer CE1-1 to service.

**Required Materials:**

DB-OP-06317, 480V System Switching Procedure, section 3.1 (prerequisites signed off)  
DB-OP-02001, Electrical Distribution Alarm Panel 1 Annunciators, 1-4-C XFMR CE1-2 TRBL

**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: 12 minutes**

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

Remove transformer CE1-1 from service, recognize high temperature condition on transformer CE1-2 and return transformer CE1-1 to service.

**INITIAL CONDITION:**

Any Mode 1 Condition

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

None

**MALFUNCTIONS/FAILURE TO INSERT:**

Transformer E1-2 high temperature 1 minute after in service  
Insert remote E20A after 60 to 95.00000 on event 1

From event file E30IECR==1

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

The plant is at 100%

All systems are in a normal lineup

**INITIATING CUES:**

The Unit Supervisor directs you to transfer E1 Bus to transformer CE1-2 in accordance with section 3.1 of DB-OP-06317, 480V System Switching Procedure, to support planned maintenance.

Transformer CE1-2 is set to the required on-line tap setting.

The Shift Manager has given approval

**(Provide the trainee a copy of section 3.1 of DB-OP-06317)**



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

The plant is at 100%

All systems are in a normal lineup

**INITIATING CUES:**

The Unit Supervisor directs you to transfer E1 Bus to transformer CE1-2 in accordance with section 3.1 of DB-OP-06317, 480V System Switching Procedure, to support planned maintenance.

Transformer CE1-2 is set to the required on-line tap setting

The Shift Manager has given approval

**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: Transfer Unit Substation E1 to Transformer CE1-2

STANDARD: Route to Subsection 3.1, Unit Substation E1 Live Bus Transfer, mark step 3.1.6 as not applicable

CUE: **Provide a copy of subsection 3.1**  
**All prerequisites are complete**

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

2. PERFORMANCE STEP: Place HIS6244 in the designated) position and release

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

STANDARD: Place HIS6244 in the RESERVE SOURCE (BCE12) position and release

Comment: Starts 1 minute delay until high temperature alarm (alternate path)

CUE: **None**

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

3. PERFORMANCE STEP: Verify BCE12 is closed

STANDARD: Check BCE12 RED light on

CUE: **None**

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

4. PERFORMANCE STEP: Verify BCE11 is open

STANDARD: Check BCE11, GREEN light is on

CUE: **None**

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

- 
5. PERFORMANCE STEP: Check for normal voltage on Unit Substation E1

STANDARD: Verifies normal voltage on Unit Substation E1 using EI6266, 480V BUS E1

CUE: **None**

SAT UNSAT

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6. PERFORMANCE STEP: Check for grounds using the Ground Fault panel associated with the designated transformer

STANDARD: Communicates with Equipment Operator to check Panel C4621B for Transformer CE1-2

CUE: **(I/S) No ground fault exists on Panel C4621B**

SAT UNSAT

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7. PERFORMANCE STEP: Inform the Shift Manager that the Live Transfer of Bus E1 is complete

STANDARD: Communicate with the Shift Manager that the Live Transfer of Bus E1 is complete

CUE: **Shift Manager acknowledges**

SAT UNSAT

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**Alternate path begins with the receipt of annunciator 1-4-C, XFMR CE1-2 TRBL**

8. PERFORMANCE STEP: Respond to receipt of annunciator 1-4-C, XFMR TRBL

STANDARD: Acknowledge annunciator 1-4-C, XFMR CE1-2 TRBL and route to Alarm Response Procedure

CUE: **Provide Alarm Response Procedure for annunciator 1-4-C, XFMR CE1-2 TRBL, if requested or once located in simulator**

SAT UNSAT

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9. PERFORMANCE STEP: Dispatch an Equipment Operator to XFMR CE1-2 to Investigate

STANDARD: Instruct Equipment Operator to proceed to XFMR CE1-2 and Investigate

CUE: **Equipment Operator acknowledges and will investigate  
XFMR Liquid Temperature Indicator reads 91°C**

SAT UNSAT

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## SIMULATOR JPM S6 AG

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10. PERFORMANCE STEP: Close 480V Breaker BCE11 by momentarily turning Control  
.....**C**..... Switch HIS 6244 to NORMAL SOURCE position

STANDARD: Place HIS6244 in the NORMAL SOURCE position and release, verify  
BCE11 red light lit indicating closed

CUE: **None**

---

SAT UNSAT

---

11. PERFORMANCE STEP: Verify BCE12 is open

STANDARD: Verify BCE12 green light lit indicating open

NOTE: **Not a required action per the alarm procedure but is a good practice to  
ensure the transformer is unloaded**

CUE: **None**

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SAT UNSAT

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

---

END TIME

3.0 NORMAL OPERATIONS3.1 Unit Substation E1 Live Bus TransferINITIALSPrerequisites~~3.1.1~~ Verify the Shift Manager has performed the following:SM~~a.~~

Given approval for all switching,

b.

Designated the source that Unit Substation E1 is to be transferred to:

N/A~~c.~~

Transformer CE1-1 (normal supply)

ORSM~~d.~~

Transformer CE1-2 (alternate supply).

~~3.1.2~~IF the oncoming transformer is NOT set to the required tap setting for current plant conditions using applicable documentation (status boards, placards, turnover sheets, etc),THEN perform one of the following:N/A~~e.~~

Set the taps to the correct setting in accordance with DB-OP-06900 Attachment 17, Performing Load Tap Changes For Essential Substation Transformers.

N/A~~f.~~IF in MODE 1 – 4,  
THEN notify the Shift Manager Bus E1 will be made INOPERABLE.  
Refer to TS 3.8.9.~~3.1.3~~IF the designated transformer is NOT energized,  
THEN energize as follows:N/A~~g.~~For Transformer CE1-1, REFER TO Subsection 4.13, Return to Service of 480V Unit Substation Bus Tie Transformer CE1-1.ORN/A~~h.~~For Transformer CE1-2, REFER TO Subsection 4.14, Return to Service of 480V Unit Substation Bus Tie Transformer CE1-2.~~3.1.4~~

Verify the designated supply breaker is racked in and the green indicating light, is ON (C5715):

N/A~~i.~~

BCE11, using HIS6244

ORSM~~j.~~

BCE12, using HIS6244.

3.1.5 Verify the Ground Fault Panel ON-OFF switch is ON and no ground fault exists, on the panel associated with the designated transformer:

NA 

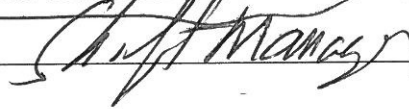
Panel C4621A for Transformer CE1-1

OR

SM 

Panel C4621B for Transformer CE1-2.

Prerequisites completed by



Date

Today

Procedure

NOTE 3.1.6

When a transformer has its tap changer setup for shutdown operations, output voltage may not be sufficient for accident conditions.

3.1.6 IF in MODES 1-4

AND the transformer being placed in-service is setup for shutdown operations,  
THEN perform the following:

       a. Evaluate TS 3.8.9 and enter applicable Condition.

3.1.7 Place HIS6244 in the designated position and release:

       • NORMAL SOURCE (BCE11)

OR

       • RESERVE SOURCE (BCE12).

       3.1.8 Verify the designated supply breaker is closed.

CAUTION 3.1.9

If the breaker fails to trip, the shunt trip coil may overheat and catch fire.

       3.1.9 IF the supply breaker which the Unit Substation was transferred from is  
NOT open,  
THEN immediately dispatch an operator to trip the breaker locally.

       3.1.10 Check for normal voltage on Unit Substation E1, using EI6266, 480V BUS E1.

3.1.11 Check for grounds using the Ground Fault panel associated with the designated transformer:

\_\_\_\_\_ • Panel C4621A for Transformer CE1-1

OR

\_\_\_\_\_ • Panel C4621B for Transformer CE1-2.

3.1.12 Notify the Shift Manager that:

\_\_\_\_\_ a. The Live Transfer of Bus E1 is complete.

\_\_\_\_\_ b. Evaluate TS 3.8.9 should be referenced to determine Distribution Systems - Operating operability.

Subsection 3.1 completed by \_\_\_\_\_ Date \_\_\_\_\_

# **Simulator JPM S7**



**Facility:** Davis-Besse **Task No:** 012-019-01-0100**Task Title:** Restore a Tripped RPS Channel to Service**K/A Reference:** (012) A4.04 3.3/3.3 **Job Performance Measure No:** S7**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:**

Mode 1

**Task Standard:**

Restore a Tripped RPS Channel to Service

**Required Materials:**

DB-OP-06403, Reactor Protection System and Nuclear Instrumentation Operating Procedure, Section 4.2

**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

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

Restore a Tripped RPS Channel to Service

**INITIAL CONDITION:**

Trip RPS channel 4 by placing the CONTACT MONITOR Test Module in TEST OPERATE

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

None

**MALFUNCTIONS/FAILURE TO INSERT:**

None

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

The plant is in MODE 1

To comply with Tech Spec 3.3.1, RPS Channel 4 was manually tripped using the CONTACT MONITOR TEST module

RPS Channel 4 has subsequently been repaired and declared OPERABLE

**INITIATING CUES:**

The Unit Supervisor directs you to reset RPS Channel 4 in accordance with section 4.2 of DB-OP-06403, Reactor Protection System and Nuclear Instrumentation Operating Procedure.

**(Provide the examinee a copy of DB-OP-06403 section 4.2)**

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

The plant is in MODE 1

To comply with Tech Spec 3.3.1, RPS Channel 4 was manually tripped using the CONTACT MONITOR TEST module

RPS Channel 4 has subsequently been repaired and declared OPERABLE

**INITIATING CUES:**

The Unit Supervisor directs you to reset RPS Channel 4 in accordance with section 4.2 of DB-OP-06403, Reactor Protection System and Nuclear Instrumentation Operating Procedure.



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SAT	UNSAT
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## 6. PERFORMANCE STEP: Energize Channel Trip Relay

C

STANDARD: RESET switch on Reactor Trip Module depressed

COMMENT: May use step 4.2.7.b and reset by rotating the Manual By-pass Key Switch to actuate the Manual Bypass relay. If this method is used it would be critical to return the switch to the non-bypass position.

CUE: **None**

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SAT	UNSAT
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## 7. PERFORMANCE STEP: Check channel reset

STANDARD: Visual check of PROTECTIVE SUBSYSTEM light DIM

CUE: **None**

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SAT	UNSAT
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## 8. PERFORMANCE STEP: Lock cabinet door and return the door key for RPS Channel 4

STANDARD: Lock cabinet door and return RPS Channel 4 door key to the Control Room key cabinet.

CUE: **Another Operator will make entry into Key Log**

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

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END TIME
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# **Simulator JPM S8**

**Facility:** Davis-Besse **Task No:** 078-009-04-0100**Task Title:** Vacuum and Gland Steam Systems Actions during a Loss of Instrument Air**K/A Reference:** (065) AA2.08 2.9/3.3 **Job Performance Measure No:** S8**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 Reactor has been tripped due to a loss of Instrument Air

SFRCS has been manually actuated

**Task Standard:**

Perform actions for Vacuum and Gland Steam Systems during a Loss of Instrument Air by completing Attachment 13 and Attachment 11 of DB-OP-02528, Loss of Instrument Air.

**Required Materials:**

DB-OP-02528, Loss of Instrument Air, Attachment 13 and Attachment 11

**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:** 7 minutes



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

Perform actions for Vacuum and Gland Steam Systems during a Loss of Instrument Air by completing Attachment 13 and Attachment 11 of DB-OP-02528, Instrument Air System Malfunctions.

**INITIAL CONDITION:**

The Reactor has been tripped due to a loss of Instrument Air

SFRCS has been manually actuated

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

Prevent Heater Drain Pumps from automatically tripping

IMR DDVIB (2)  
IRF DDN5 (2) 0.5  
IMF DDVJB (2)  
IRF DDN6 (2) 0.5  
IMF DDLGC 0.0 (2)

Prevent EIAC, SAC 1 and SAC 2 from starting

IMF KFS1G  
IMF KFECE

**MALFUNCTIONS/FAILURE TO INSERT:**

None

**ACTION/CUES:**

None

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

The Reactor has been tripped due to a loss of Instrument Air

SFRCS has been manually actuated

**INITIATING CUES:**

The Unit Supervisor directs you to:

Perform Vacuum and Gland Steam System actions in accordance with Attachment 13 of DB-OP-02528, Loss of Instrument Air,

**AND THEN**

Perform Condensate System actions in accordance with Attachment 11 of DB-OP-02528, Instrument Air System malfunctions.

**(Provide the examinee a copy of Attachment 13 and Attachment 11 of DB-OP-02528, Instrument Air System Malfunctions)**

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

The Reactor has been tripped due to a loss of Instrument Air

SFRCS has been manually actuated

**INITIATING CUES:**

The Unit Supervisor directs you to:

Perform Vacuum and Gland Steam System actions in accordance with Attachment 13 of DB-OP-02528, Loss of Instrument Air,

**AND THEN**

Perform Condensate System actions in accordance with Attachment 11 of DB-OP-02528, Instrument Air System malfunctions.

**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: Lock out the Mechanical Hogger

C

STANDARD: HIS 1005, Mechanical Hogger, rotated to OFF and pulled to lock out position.

CUE: **None**

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SAT UNSAT

- 
2. PERFORMANCE STEP: Open VS 634 and VS 635, Condenser Vacuum Breakers

C

STANDARD: HIS 634, Condenser Vacuum Breakers, rotated to the OPEN BOTH position

CUE: **None**

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SAT UNSAT

- 
3. PERFORMANCE STEP: Shutdown Steam Packing Exhauster Fans

C

STANDARD: HIS 2411 (HIS 2412), Packing Exhauster Fan 1 (2) rotated to the OFF position

CUE: **None**

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SAT UNSAT

- 
4. PERFORMANCE STEP: Check the Gland Steam Header Relief Valves are not lifting

STANDARD: Check Gland Steam header pressure at 0 psig

CUE: **(After checking Gland Steam) The Unit Supervisor directs you to perform the Control Room actions for a loss of Instrument Air to the Condensate System in accordance with Attachment 11 of DB-OP-02528, Loss of Instrument Air**

**(Provide the examinee a copy of Attachment 11 of DB-OP-02528)**

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SAT UNSAT

5. PERFORMANCE STEP: Verify a Condensate Pump is running

STANDARD: Check RED light LIT on HIS for #1 and/or #2 Condensate Pump

CUE: **None**

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SAT UNSAT

6. PERFORMANCE STEP: Verify Heater Drain Pump 1 is shutdown

**C**

STANDARD: Recognize RED light is LIT on HIS for Heater Drain Pump 1  
Rotate Heater Drain Pump 1 HIS to STOP

CUE: **None**

---

SAT UNSAT

7. PERFORMANCE STEP: Verify Heater Drain Pump 2 is shutdown

**C**

STANDARD: Recognize RED light is LIT on HIS for Heater Drain Pump 2  
Rotate Heater Drain Pump 2 HIS to STOP

CUE: **None**

---

SAT UNSAT

8. PERFORMANCE STEP: Verify CD420 has failed closed

STANDARD: Verify CD420, Deaer 2-3 Level Control Valve, position indicator indicates  
closed

CUE: **None**

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SAT UNSAT

## 9. PERFORMANCE STEP: Verify CD421 has failed closed

STANDARD: Verify CD421, Deaer 1-3 Level Control Valve, position indicator indicates closed

CUE: **None**

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SAT UNSAT

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## 10. PERFORMANCE STEP: Verify CD550A/B have failed closed

STANDARD: Check controller for CD550A/B is in manual with 0% demand (both valves closed)

NOTE: Valves are also isolated with closed manual valves as indicated by placard

CUE: **None**

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SAT UNSAT

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## 11. PERFORMANCE STEP: Verify CD578 has failed open

STANDARD: Check RED light LIT on HIS for CD578, Cond Pump Min Recirc

CUE: **None**

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SAT UNSAT

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## 12. PERFORMANCE STEP: Verify CD2796 has failed open

STANDARD: Check RED light LIT on HIS for CD2796, Cond Pump Disch Header Press Control Valve

CUE: **None**

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SAT UNSAT

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

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END TIME

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# **Plant JPM P1**

**Facility:** Davis-Besse **Task No:** 000-008-05-0403**Task Title:** Perform OP2000 Section 1 of Attachment 7 for actions to close breakers for DH7A, DH7B, DH9A, DH9B, and HP31**K/A Reference:** (011) EA1.11 4.2/4.2 **Job Performance Measure No:** P1**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:**

A large break loss of coolant accident has occurred.

**Task Standard:**

The Unit Supervisor directs you to perform Section 1 of Attachment 7 of DB-OP-02000, actions to close breakers for DH7A, DH7B, DH9A, DH9B, and HP31.

**Required Materials:**

DB-OP-02000, Attachment 7, Transferring LPI Suction to the Emergency Sump.

**General References:**

None

**Initiating Cue:**

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

**Time Critical Task: Yes (23 minutes)****Alternate Path: No****Validation Time: 12 minutes**



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

A large break loss of coolant accident has occurred.

**INITIATING CUES:**

The Unit Supervisor directs you to perform Section 1 of Attachment 7 of DB-OP-02000, actions to close breakers for DH7A, DH7B, DH9A, DH9B, and HP31.

This is a time critical task. You will be informed when the time critical clock starts.

**Provide the examinee a copy of Attachment 7 of DB-OP-02000**

**Direct Candidate to proceed to the Control Room Vestibule and once there start the time critical clock**

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

A large break loss of coolant accident has occurred.

**INITIATING CUES:**

The Unit Supervisor directs you to perform Section 1 of Attachment 7 of DB-OP-02000, actions to close breakers for DH7A, DH7B, DH9A, DH9B, and HP31.

This is a time critical task. You will be informed when the time critical clock starts.

**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 the examinee assumes control of the Job Performance Measure

**CUE: The time critical clock starts now**

TIME CRITICAL START TIME \_\_\_\_\_

1. PERFORMANCE STEP: Locate the correct procedure and attachment

STANDARD: Hand copy of DB-OP-02000, Attachment 7 to the trainee

CUE: **None**

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

2. PERFORMANCE STEP: Obtain dosimetry for entering the Auxiliary Building

STANDARD: Locate and select dosimetry for entrance into the Auxiliary Building.

COMMENT: DO NOT obtain dosimetry, just note which dosimetry will be used.

CUE: **You have obtained the appropriate dosimetry.**

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

3. PERFORMANCE STEP: Enter the old RCA entrance Auxiliary Building 603  
Elevation (Door 408)

STANDARD: Locate old RCA entrance

COMMENT: DO NOT enter RCA through old RCA entrance. Provide the  
following cue and proceed to the normal RCA entrance:

CUE: 

- **Entrance to the Radiologically Controlled Area through the old entrance has been made.**
- **Use the normal Radiologically Controlled Area entrance and go to door 408.**
- **The Time Critical Clock has been stopped.**

COMMENT: The Time Critical Clock will be paused while entering the  
Radiological Restricted Area using the normal entrance to go  
to the inside of the old RCA entrance door.

TIME CRITICAL CLOCK STOP TIME \_\_\_\_\_

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SAT    UNSAT

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4. PERFORMANCE STEP: Go to the Radiologically Restricted Area side of the  
old RCA Entrance.

STANDARD: Go to the Radiologically Restricted Area side of the old RCA  
Entrance.

COMMENT: The time Critical Clock will start when the examinee reaches  
the inside of the old RCA entrance door.

CUE: **The Time Critical Clock restarts now**

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

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SAT    UNSAT

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5. PERFORMANCE STEP: Move through Chemistry Lab Room 424 and go to F11B

STANDARD: Route through the Chemistry Lab Room 424 and go to F11B located in the Fuel Handling Storage Room (Room 405)

CUE: **None**

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SAT    UNSAT

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6. PERFORMANCE STEP: Close Breaker BF 1148, DH7A  
    **C**

STANDARD: Press up on Handle of BF 1148 on F11B until breaker snaps to ON position

CUE: **Breaker BF 1148 handle has been raised to ON and released  
Handle remains ON**

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SAT    UNSAT

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7. PERFORMANCE STEP: Return down Passageway 404 and 411 to the Southeast stairs near the elevator and descend the stairs. Go to F11D located in Passageway 227 South of the Makeup Pump Room.

STANDARD: Follow the prescribed path to F11D

CUE: **None**

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SAT    UNSAT

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8. PERFORMANCE STEP: Close Breaker BF 1142, DH9A  
    **C**

STANDARD: Press up on handle of BF 1142 on F11D until breaker snaps to ON position

CUE: **Breaker BF 1142 handle has been raised to ON and released  
Handle remains ON**

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SAT    UNSAT

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9. PERFORMANCE STEP:
- Continue down passageway toward Makeup Pump Room and over stairs ("Pygmy Pass") to Borated Water Storage Tank Heat Exchanger Area.
  - Proceed down Passageway 209 to Auxiliary Building Central Stairs.
  - Descend to bottom of stairs and exit into Emergency Core Cooling System Train 1 room and descend stairs to Borated Water Storage Tank pipe tunnel.
  - Go to F11E in Borated Water Storage Tank pipe tunnel.

STANDARD: Follow prescribed route

**NOTE:** At the discretion of Evaluator pictures may be used instead of staging Security for entering BWST Piping Tunnel

COMMENT: Ensure proper notification of the Central Alarm Station prior to opening Door 100. State to the operator that this action would not be necessary during an actual emergency.

CUE: **None**

SAT	UNSAT
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10. PERFORMANCE STEP: Close Breaker BF1194, HP31

**C**

STANDARD: Press up on handle of BF1194 on F11E until the breaker snaps to the ON position

CUE: **Breaker BF1194 handle has been raised to ON and released  
Handle remains ON**

SAT	UNSAT
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11. PERFORMANCE STEP:
- Return to Auxiliary Building Central Stairs and Climb stairs to 565 ft elevation.
  - Go to E11A in Passageway 209

STANDARD: Follow prescribed route

CUE: **None**

SAT	UNSAT
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12. PERFORMANCE STEP: Close Breaker BE1157, DH7B

C

STANDARD: Press up on handle of BE1157 on E11A until breaker snaps to ON position

CUE: **Breaker BE1157 handle has been raised to ON and released  
Handle remains ON**

SAT    UNSAT

13. PERFORMANCE STEP: Close Breaker BE1112, DH9B

C

STANDARD: Press up on handle of BE1112 on E11A until breaker snaps to ON position

CUE: **Breaker BE1112 handle has been raised to ON and released  
Handle remains ON**

SAT    UNSAT

14. PERFORMANCE STEP:
- Go down passageway 209 to the Auxiliary Building Southwest Corner Stairs.
  - Climb stairs to 558' elevation (Fuel Handling Train Bay)
  - Exit Door 301 to the outside

STANDARD: Follow prescribed route

COMMENT: DO NOT exit through Door 301.

CUE: **• You have exited Door 301.  
• The Time Critical Clock has stopped**

Time Critical Clock Stop Time \_\_\_\_\_

SAT    UNSAT

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

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END TIME

**Time Critical Clock total time**

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TOTAL TIME



MCC FIIE



EQUIPMENT: MCC F118

Westinghouse 30  
Control Center—Type W  
Furnace—Type W  
Boiler—Type W  
Steam Generator—Type W

DATA NUMBER  
19-10-60

CAUTION  
BOTTOM FEED  
BREAKER

CONTINUED FROM PAGE 1

3

OFF

**BF1194    HP31**  
HPI PUMP 2 MINIMUM  
RECIRCULATION ISOLATION

THIS BREAKER NORMALLY  
OPEN PER DB-OP-06011

# **Plant JPM P2**



**Facility:** Davis-Besse **Task No:** 064-008-05-0401**Task Title:** Emergency Shutdown the Emergency Diesel Generator**K/A Reference:** (026) AA2.06 2.8/3.1 **Job Performance Measure No:** P2**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:**

A loss of offsite power has occurred

The reactor tripped

CCW Pump 1/2 did not start (use EDG not protected)

**Task Standard:**

Emergency shutdown the Emergency Diesel Generator using the fuel racks and isolate air to the air start motors.

**Required Materials:**

DB-OP-06316, Diesel Generator Operating Procedure, Section 5.4, Emergency Shutdown or Operation Following an Automatic Trip of EDG 1, for EDG 1 or Section 5.10, Emergency Shutdown or Operation Following an Automatic Trip of EDG 2, for EDG 2.

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

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

**Time Critical Task: No****Alternate Path: Yes****Validation Time: 7 minutes**

**Train 1**

Student Copy

**INITIAL CONDITIONS:**

A loss of offsite power has occurred

The reactor tripped

CCW Pump 1 did not start

**INITIATING CUES:**

The Unit Supervisor directs you to perform an emergency shutdown of Emergency Diesel Generator 1, in accordance with section 5.4 of DB-OP-06316, Diesel Generator Operating Procedure.

---

**Train 1**

Instructor Copy

**INITIAL CONDITIONS:**

A loss of offsite power has occurred

The reactor tripped

CCW Pump 1 did not start

**INITIATING CUES:**

The Unit Supervisor directs you to perform an emergency shutdown of Emergency Diesel Generator 1, in accordance with section 5.4 of DB-OP-06316, Diesel Generator Operating Procedure.

**(Provide examinee a copy of section 5.4 of DB-OP-06316)**

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**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: Shutdown EDG 1

STANDARD: Emergency shutdown pushbutton on Panel C3621 is depressed

CUE: **Emergency shutdown pushbutton is DEPRESSED**  
**EDG 1 is still running at 900 RPM**

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SAT    UNSAT
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**ALTERNATE PATH starts here. The emergency shutdown button fails to stop the EDG requiring an alternate path to be selected. This path will be to use the fuel rack lever.**

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2. PERFORMANCE STEP: Stop EDG 1

**C**

STANDARD: Pull and hold the fuel rack lever until the EDG is shutdown

CUE 1: **(If Asked) No other Operators are available**  
CUE 2: **Fuel Rack lever has been pulled and EDG speed slows**  
CUE 3: **EDG Stops**

NOTE: EDG will lockout after 7 seconds

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SAT    UNSAT
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3. PERFORMANCE STEP: Verify EDG 1 output breaker Open

STANDARD: Verify Breaker AC101, Bus C1 to DG1, green light on and red light off

CUE: **AC101 GREEN (open) light is LIT; RED (close) light is OFF**

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SAT    UNSAT
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4. PERFORMANCE STEP: Close EDG 1 air start valves

**C**

STANDARD: Unlock and close DA30

CUE: **(If asked) Unit Supervisor has given permission to unlock valves**  
**DA30 rotated CLOCKWISE; stem is DOWN**

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	SAT	UNSAT
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5. PERFORMANCE STEP: Close EDG 1 air start valves

**C**

STANDARD: Unlock and close DA44

CUE: **(If asked) Unit Supervisor has given permission to unlock valves  
DA44 rotated CLOCKWISE; stem is DOWN**

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	SAT	UNSAT
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6. PERFORMANCE STEP: Observe the EDG stops by 0 RPM indicated on the engine tachometer

STANDARD: Observe the engine tachometer indicator (SI-6222A)

CUE: **Engine speed indicates 0 RPM**

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

---

END TIME



**Train 2**

Student Copy

**INITIAL CONDITIONS:**

A loss of offsite power has occurred

The reactor tripped

CCW Pump 2 did not start

**INITIATING CUES:**

The Unit Supervisor directs you to perform an emergency shutdown of Emergency Diesel Generator 2, in accordance with section 5.10 of DB-OP-06316, Diesel Generator Operating Procedure.

---

**Train 2**

Instructor Copy

**INITIAL CONDITIONS:**

A loss of offsite power has occurred

The reactor tripped

CCW Pump 2 did not start

**INITIATING CUES:**

The Unit Supervisor directs you to perform an emergency shutdown of Emergency Diesel Generator 2, in accordance with section 5.10 of DB-OP-06316, Diesel Generator Operating Procedure.

**(Provide examinee a copy of section 5.10 of DB-OP-06316)**

**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: Shutdown EDG 2

STANDARD: Emergency shutdown pushbutton on Panel C3622 is depressed

CUE: **Emergency shutdown pushbutton is DEPRESSED  
EDG 2 is still running at 900 RPM**

SAT UNSAT

**ALTERNATE PATH starts here. The emergency shutdown button fails to stop the EDG requiring an alternate path to be selected. This path will be to use the fuel rack lever.**

2. PERFORMANCE STEP: Stop EDG 2

**C**

STANDARD: Pull and hold the fuel rack lever until the EDG is shutdown

CUE: **Fuel Rack lever has been pulled until it stops  
EDG speed slows and then stops running**

**(If Asked) No other Operators are available**

SAT UNSAT

3. PERFORMANCE STEP: Verify EDG 2 output breaker Open

STANDARD: Verify Breaker AD101, Bus D1 to DG2, green light on and red light off

CUE: **AD101 GREEN (open) light is LIT; RED (close) light is OFF**

SAT UNSAT

4. PERFORMANCE STEP: Close EDG 2 air start valves

**C**

STANDARD: Unlock and close DA31

CUE: **(If asked) Field Supervisor has given permission to unlock valves  
DA31 rotated CLOCKWISE; stem is DOWN**

SAT UNSAT

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5. PERFORMANCE STEP: Close EDG 2 air start valves  
    C

STANDARD: Unlock and close DA45

CUE: **(If asked) Field Supervisor has given permission to unlock valves  
DA45 rotated CLOCKWISE; stem is DOWN**

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SAT    UNSAT

6. PERFORMANCE STEP: Observe the EDG stops by 0 RPM indicated on the engine  
tachometer

STANDARD: Observe the engine tachometer indicator (SI-6232A)

CUE: **Engine speed indicates 0 RPM**

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SAT    UNSAT

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

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END TIME

# **Plant JPM**

## **P3**

Facility: Davis-Besse Task No: 078-009-04-0100Task Title: Dedicate the EIAC To Supply Instrument AirK/A Reference: (065) AA1.02 2.6/2.8 Job Performance Measure No: P3

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 is in Mode 1

Station Air Compressor 2 is running

Station Air Compressor 1 is tagged out for maintenance

Emergency Instrument Air Compressor is lined up as the lag compressor

**Task Standard:**

Dedicate the EIAC To Supply Instrument Air IAW DB-OP-02528, Instrument Air System Malfunctions, as directed by the Unit Supervisor/Control Room operators.

**Required Materials:**

DB-OP-02528, Instrument Air System Malfunctions, Section 4.1 for Severe Loss of Instrument Air

**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: 13 minutes**

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

The plant is in Mode 1

Station Air Compressor 2 is running

Station Air Compressor 1 is tagged out for maintenance

Emergency Instrument Air Compressor is lined up as the lag compressor

**INITIATING CUES:**

The following Control Room annunciators have just alarmed:

STA AIR HDR PRESS LO (9-3-E)

INST AIR HDR PRESS LO (9-1-F)

The Emergency Instrument Air Compressor has started

Instrument air header pressure, as read on PI 810, is 88 psig and lowering

The Unit Supervisor directs you to perform step 4.1.4 of DB-OP-02528 and inform the Control Room when the step is complete.

**(Provide the examinee a copy of DB-OP-02528 section 4.1)**

**(Do not give DB-OP-02528 Attachment 10 until cued at step 6)**

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

The plant is in Mode 1

Station Air Compressor 2 is running

Station Air Compressor 1 is tagged out for maintenance

Emergency Instrument Air Compressor is lined up as the lag compressor

**INITIATING CUES:**

The following Control Room annunciators have just alarmed:

STA AIR HDR PRESS LO (9-3-E)

INST AIR HDR PRESS LO (9-1-F)

The Emergency Instrument Air Compressor has started

Instrument air header pressure, as read on PI 810, is 88 psig and lowering

The Unit Supervisor directs you to perform step 4.1.4 of DB-OP-02528 and inform the Control Room when the step is complete.



**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: Isolation of instrument air to station air  
**C**

STANDARD: Close SA6445 or SA234

COMMENT: The Student may choose to perform the RNO column.  
Depending on choice of isolation, provide appropriate CUE.

CUE: **Provide cue that indication shows SA6445 is open (Red light ON at NV6445) if candidate is assessing status of the indicator.**

**Provide the following as applicable:**

**CLOSE button NV6445 is pushed. SV6445 Red light goes OFF;  
Green light comes ON.**

**OR**

**SA234 handwheel is rotated clockwise, valve stem is down.**

SAT	UNSAT
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2. PERFORMANCE STEP: Close SA236, bypass valve for SA/IA crosstie

STANDARD: Check SA236 position

CUE: **SA236 valve stem is down, there is no movement of handwheel if checked closed in CW direction.**

SAT	UNSAT
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3. PERFORMANCE STEP: Contact the Control Room to report the completion of step 4.1.4 of DB-OP-02528

STANDARD: Contact the Control Room via the gai-tronics or radio

CUE: • **Instrument Air header pressure and Station Air header pressures are 86 psig and lowering.**  
• **Station Air Compressor 2 and Emergency Instrument Air Compressor are running.**  
• **The Control Room directs you to perform step 4.1.5 of DB-OP-02528 and contact the control room when the step is complete.**

SAT	UNSAT
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4. PERFORMANCE STEP: Close SA18  
**C**

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STANDARD: Close SA18, STATION AIR HEADER BACK PRESSURE  
REV VALVE INLET

Cue: **SA18 handwheel is rotated clockwise, valve stem is  
down.**

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SAT    UNSAT

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5. PERFORMANCE STEP: Close SA20, STATION AIR HEADER  
BACKPRESSURE REG VALVE BYPASS

STANDARD: Check SA20 position closed

CUE: **SA20 valve stem is down, there is no movement of handwheel if  
checked closed in CW direction.**

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SAT    UNSAT

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6. PERFORMANCE STEP: Contact the Control Room to report the completion  
of step 4.1.5 of DB-OP-02528

STANDARD: Contact the Control Room via the gai-tronics or radio

- CUE:
- **Instrument Air header pressure and Station Air header  
pressure have stabilized at 82 psig, Standby for further  
instructions**
  - **The Control Room directs you to perform the first three steps  
of Attachment 10 of DB-OP-02528**
  - **(Provide the examinee a copy of DB-OP-02528 Attachment 10)**

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SAT    UNSAT

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7. PERFORMANCE STEP: Throttle the operating Turbine Plant Cooling Water Pump Discharge Valves

**C**

STANDARD: Throttle CW 5 and CW 4 in the CLOSED direction

CUE: **Turbine Plant Cooling Water Pumps 2 and 3 are running**

(For Turbine Plant Cooling Water Pump 2)

- PI 1583 indicates 47 psig
- CW 5 rotated in the CLOSED direction
- PI 1583 indicates 52 psig

(For Turbine Plant Cooling Water Pump 3)

- PI 1584 indicates 47 psig
- CW 4 rotated in the CLOSED direction
- PI 1584 indicates 52 psig

SAT UNSAT

8. PERFORMANCE STEP: Verify the in-service Turbine Plant Cooling Water Heat Exchangers Service Water Outlet Isolation Valves are throttled to the marked position

STANDARD: Verify SW 54 and SW 55 are at the marked position

CUE: **Turbine Plant Cooling Water Heater Exchangers 1 and 2 are in service:**

- SW 54 pointer is at the marked position
- SW 55 pointer is at the marked position

SAT UNSAT

9. PERFORMANCE STEP: Verify the Standby Turbine Plant Cooling Water Heat Exchanger Outlet Isolation Valve is closed

STANDARD: Check SW 56 for Turbine Plant Cooling Water Heat Exchanger 3 closed

CUE: • **SW 56 indicator points to Closed**

SAT UNSAT

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

END TIME