

# **SIMULATOR JPM**

## **NS-1**

### **REACTOR OPERATOR SRO - I**

Facility: Davis-Besse Task No: 002-017-04-0100Task Title: Isolate SG 1 due to a SGTRK/A Reference: (035) A4.06 Job Performance Measure No: JPM 197

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:**

Isolate SG Due To A SGTR

**Required Materials:**

DB-OP-02000, EOP, Rev. 25, Attachment 17

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

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

**Time Critical Task:** No

**Validation Time:** 14 minutes

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

Isolate SG 1 due to a SGTR

**INITIAL CONDITION:**

IC that is near 500°F T-hot

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

Establish a T-hot of <500°F and an RCS pressure of <1000 psig

**MALFUNCTIONS/FAILURE TO INSERT:**

Enter a SGTR of about 125 gpm, **IMF HH50 0.025**  
Jumper the MSIV interlock to the TBVs, **IMF L3M2B 0**

**ACTION/CUES:**

16. CUE: **ST 39 and ST 132 have been isolated**

18. ACTION: Open the breaker for MS 106, **IRF SFE8A OPEN**

Open the breaker for MS 107A, **IRF SFECA OPEN**

CUE: **Breakers D135 on D1NA for MS106 and BF1188 on F11B for MS 107A are OPEN**

20. CUE: **(If in-plant personnel are contacted) Report no visible signs of steam leakage from AVV 1**

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

A Steam Generator tube rupture of approximately 125 gpm has occurred in Steam Generator 1

A plant shutdown was performed in accordance with DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE.

Hot leg temperature is less than 500°F and RCS pressure is less than 1000 psig

Main Feedwater Pump 2 is running

**INITIATING CUES:**

The Unit Supervisor has directed you to isolate Steam Generator 1 using Attachment 17 of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE.

The Auxiliary Steam System is being supplied by the Auxiliary Boiler.

**(Provide a copy of Attachment 17 of DB-OP-02000 to the examinee)**

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

A Steam Generator tube rupture of approximately 125 gpm has occurred in Steam Generator 1

A plant shutdown was performed in accordance with DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE.

Hot leg temperature is less than 500°F and RCS pressure is less than 1000 psig

Main Feedwater Pump 2 is running

**INITIATING CUES:**

The Unit Supervisor has directed you to isolate Steam Generator 1 using Attachment 17 of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE.

The Auxiliary Steam System is being supplied by the Auxiliary Boiler.

**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: Inform Command SRO that #1 SG will be isolated and Aux Steam will be lost if NOT transferred to the Aux Boiler.

STANDARD: Inform Command SRO #1 SG being isolated.

COMMENT: Initiating Cues identified Aux Steam being supplied by Aux Boiler

CUE: **Command SRO acknowledges that #1 SG is being isolated.**

SAT UNSAT

2. PERFORMANCE STEP: Transition SG heat transfer from both SG to #2 SG.  
.....**C**.....

STANDARD: Open #2 SG TBVs by raising demand on PIC ICS 12A toggle switch and close #1 SG TBVs by reducing demand on PIC ICS 12B toggle switch.

CUE: **None**

SAT UNSAT

3. PERFORMANCE STEP: Place ICS 11B (AVV 1) in manual and close  
.....**C**.....

STANDARD: Verify the Auto/Hand switch into HAND on PIC ICS11B  
Reduce the demand to ZERO by turning the demand control fully clockwise

Comment: PIC ICS11B will be in manual. Critical to close the AVV

CUE: **None**

SAT UNSAT

4. PERFORMANCE STEP: Open MS 107, SG 2 Main Steam supply to AFPT 2  
.....**C**.....

STANDARD: Depress the OPEN pushbutton for MS 107 on HIS 107A

CUE: **None**

SAT UNSAT

- 
5. PERFORMANCE STEP: Defeat the MSIV interlock to the TBVs  
.....C.....

STANDARD: Direct the removal of Fuse 14 of ICS Cabinet 1 in C5761

CUE: **A second RO has defeated the MSIV interlock to the TBVs by removing Fuse 14 in ICS cabinet 1 of C5761.**

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SAT UNSAT

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6. PERFORMANCE STEP: Close FW 612, Feedwater line 1 Stop valve  
.....C.....

STANDARD: Depress the close pushbutton for FW 612 on HIS 612

CUE: **None**

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SAT UNSAT

- 
7. PERFORMANCE STEP: Close MS 101, MSIV 1  
.....C.....

STANDARD: Depress the close pushbutton for MS 101 on HIS 101

CUE: **None**

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SAT UNSAT

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8. PERFORMANCE STEP: Verify Closed MS 101-1, MSIV 1 Bypass valve

STANDARD: Verify the Green light is LIT on HIS 101-1 for MS 101-1

CUE: **None**

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SAT UNSAT

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9. PERFORMANCE STEP: Verify Closed MS 394, Main Steam line 1 Warm-up Drain  
.....C..... valve

STANDARD: Depress the close pushbutton for MS 394 on HIS 394

CUE: **None**

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SAT UNSAT

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- 
10. PERFORMANCE STEP: Close MS 106, Main Steam line 1 to AFPT 1

STANDARD: Verify the Green light is LIT on HIS 106A for MS 106

CUE: **None**

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SAT UNSAT

11. PERFORMANCE STEP: Close MS 107A, Main Steam line 1 to AFPT 2  
.....**C**.....

STANDARD: Depress the CLOSE pushbutton on HIS 107E for MS 107A

CUE: **None**

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SAT UNSAT

12. PERFORMANCE STEP: Close AF 608, SG 1 AFW CTMT Isolation valve  
.....**C**.....

STANDARD: Place control power on AF 608 by depressing the ON pushbutton on  
HIS 608E

Depress the CLOSE pushbutton on HIS 608A

CUE: **(If asked) The Unit Supervisor has made an entry in the Locked Valve Log for  
AF 608 and directs you to continue  
(If asked) The Shift Manager is reviewing Tech Specs for closing AF 608**

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SAT UNSAT

13. PERFORMANCE STEP: Align Auxiliary Feedwater, if running, to feed #2 SG

STANDARD: Verify AFWP speed is zero

CUE: **None**

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SAT UNSAT

14. PERFORMANCE STEP: Maintain ability to steam #2 SG to the condenser

STANDARD: Verify #1 SG level is less than 220" and/or alarms 12-2-C and 12-2-D  
are not LIT.

CUE: **None**

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SAT UNSAT



- 
15. PERFORMANCE STEP: Maintain ability to steam #2 SG to the condenser

STANDARD: Verify the Red light is LIT on HIS 100

CUE: **None**

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SAT UNSAT

- 
16. PERFORMANCE STEP: Direct an EO to isolate steam traps in the AFPT 1 steam supply lines

STANDARD: Direct an Equipment Operator to isolate ST 39 and ST 132

CUE: **None**

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SAT UNSAT

- 
17. PERFORMANCE STEP: Remove control power from AF 608, SG 1 AFW CTMT Isolation valve

STANDARD: Depress OFF on HIS 608E for AF 608, Blue light will light

CUE: **None**

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SAT UNSAT

- 
18. PERFORMANCE STEP: Direct an EO to open the breakers for the steam supply to the .....C..... AFPTs from SG 1

STANDARD: Direct an Equipment Operator to open D135 on D1NA for MS 106 and BF1188 on F11B for MS 107A

CUE: **None**

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SAT UNSAT

- 
19. PERFORMANCE STEP: Determine if Main Steam line 1 Warm-up Drain valve is suspected of leaking by

STANDARD: Ask the Unit Supervisor if MS 394 is suspected of leaking by

CUE: **(If asked) Unit Supervisor reports that MS 394 does not have a history of leaking by**

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SAT UNSAT

20. PERFORMANCE STEP: Determine if AVV 1 is suspected of leaking by

STANDARD: Ask the Unit Supervisor if ICS11B is suspected of leaking by (Security may also be contacted)

CUE: **(If asked) Unit Supervisor reports that ICS11B does not have a history of leaking by**

**(If in-plant personnel are contacted) Report no visible signs of steam leakage**

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SAT UNSAT

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

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END TIME

**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_

# **SIMULATOR JPM**

## **NS-2**

### **REACTOR OPERATOR SRO - I**

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**Facility:** Davis-Besse **Task No:** 001-033-01-0100**Task Title:** Perform Control Rod Exercise**K/A Reference:** (001) A2.03 **Job Performance Measure No:** 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:**

Perform Control Rod Exercise

**Required Materials:**

DB-SC-03272, Control Rod Exercising Test  
DB-OP-06402, CRD Operating Procedure

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

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

**Time Critical Task:** No**Validation Time:** 30 minutes

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

Perform Control Rod Exercising

**INITIAL CONDITION:**

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

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

Place R 790 on 30 second point trend on PPC.

**MALFUNCTIONS/FAILURE TO INSERT:**

Control Rod 1-2 stuck, TFLISR42/T

**ACTION/CUES:**

- 15. CUE: **All Group 1 transfer switches have rotated a diamond configuration.**
- 21. CUE: **100% zone reference lamps are on for all Group 1 rods.**

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

MODE 1 approximately 95% Rx Power

Reactor power has been reduced for turbine control valve testing.

**INITIATING CUES:**

The Shift Manager has directed you to perform control rod exercising per DB-SC-03272, Control Rod Exercising Test.

All Perquisites are complete.

An Equipment Operator is standing by at the CRD cabinets, with a key, to verify the transfer switches operate properly.

**(Hand Candidate copy of DB-SC-03272)**

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

MODE 1 approximately 95% Rx Power

.

Reactor power has been reduced for turbine control valve testing.

**INITIATING CUES:**

The Shift Manager has directed you to perform control rod exercising per DB-SC-03272, Control Rod Exercising Test.

All Perquisites are complete.

An Equipment Operator is standing by at the CRD cabinets, with a key, to verify the transfer switches operate properly.



**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: Hand DB-SC-03272 to examinee.

STANDARD: Review prerequisites in DB-SC-03272, Control Rod Exercising Test, reviewed.

CUE: **(If asked) Load Dispatcher has been notified; Section 4.5 will NOT be performed.**

SAT UNSAT

2. PERFORMANCE STEP: Set the GROUP METER S/R switch on Rod Control Panel HC NI44 to "S"

STANDARD: Place HC NI44 to "S"

CUE: **None.**

SAT UNSAT

3. PERFORMANCE STEP: Record position of Group 1.

STANDARD: Group 1 position is recorded in procedure. Individual Grp 1 positions on Attachment 1.

CUE: **None.**

SAT UNSAT

4. PERFORMANCE STEP: Transfer Group 1 to Auxiliary Power Supply.

STANDARD: Refer to DB-OP-06402, CRD Operating Procedure, Section 4.1.

COMMENT: Sequence is required for all subsequent steps.

CUE: **All prerequisites have been completed.**

SAT UNSAT

- 
5. PERFORMANCE STEP: Hand DB-OP-06402 to examinee.

STANDARD: Examinee should find section 4.1. Expected to review then perform prerequisites.

CUE: NONE

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SAT UNSAT

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6. PERFORMANCE STEP: Verify Rod Control Panel XFR RESET light is ON.

STANDARD: Verify RESET light is GREEN

CUE: **None**

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SAT UNSAT

- 
7. PERFORMANCE STEP: Place rod control panel in MANUAL.  
.....**C**.....

STANDARD: MANUAL button pressed and released on rod control panel.

CUE: **None.**

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SAT UNSAT

- 
8. PERFORMANCE STEP: Place Reactor Demand hand/auto station in HAND.  
.....**C**.....

STANDARD: HAND button pressed and released on Reactor Demand hand/auto station.

CUE: **None.**

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SAT UNSAT

- 
9. PERFORMANCE STEP: Verify Rod Control Panel in SEQ BYPASS  
.....**C**.....

STANDARD: Press and release SEQ. BYPASS switch.

CUE: **None.**

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SAT UNSAT

- 
10. PERFORMANCE STEP: Verify Rod Control Panel in GROUP.  
.....**C**.....

STANDARD: Verify GREEN Light for GROUP

CUE: **None.**

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SAT UNSAT

- 
11. PERFORMANCE STEP: Turn GROUP SELECT switch to group to be transferred.  
.....**C**..... and record group selected

STANDARD: Group Select switch turned to indicate "1"

CUE: **None.**

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SAT UNSAT

- 
12. PERFORMANCE STEP: Select all rods in Group 1 using the SINGLE SELECT  
.....**C**..... switch.

STANDARD: SINGLE SELECT switch rotated to ALL.

CUE: **None.**

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SAT UNSAT

- 
13. PERFORMANCE STEP: Check PI Panel CONTROL ON lights for the selected group "ON"

STANDARD: Check Group 1 CONTROL ON lamps are LIT.

CUE: **None.**

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SAT UNSAT

- 
14. PERFORMANCE STEP: Press and release AUX.  
.....**C**.....

STANDARD: Press and release AUX. switch. Observe amber indication

CUE: **None.**

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SAT UNSAT

- 
15. PERFORMANCE STEP: Check PI Panel CONTROL ON lights for the selected group  
"OFF"

STANDARD: Check Group 1 ON CONTROL lamps NOT LIT.

CUE: **None.**

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SAT UNSAT

- 
16. PERFORMANCE STEP: Check Rod Control Panel XFER RESET light is off.

STANDARD: Check XFER RESET lamp is NOT LIT.

CUE: **None.**

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SAT UNSAT

- 
17. PERFORMANCE STEP: Press and Release JOG SPEED.

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

STANDARD: Press and release JOG switch. Observe AMBER light lights

CUE: **None.**

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SAT UNSAT

- 
18. PERFORMANCE STEP: Check SUPPLY PHASE lights are ON.

STANDARD: Check SUPPLY PHASE lights are on.

CUE: **None.**

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SAT UNSAT

- 
19. PERFORMANCE STEP: Lineup phases of normal and auxiliary power supplies.

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

STANDARD: Move INSERT/WITHDRAW switch in the INSERT direction; Until SUPPLY PHASES lights are lined up.

CUE: **None.**

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SAT UNSAT

- 
20. PERFORMANCE STEP: Verify SYNC CONFIRM is ON.

STANDARD: Verify SYNC CONFIRM is LIT.

CUE: **None.**

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SAT UNSAT

- 
21. PERFORMANCE STEP: Press and release CLAMP.

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

STANDARD: Press and release CLAMP switch. Observe half white half red indication.

CUE: **None.**

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SAT UNSAT

- 
22. PERFORMANCE STEP: Press and release the MANUAL XFR.

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

STANDARD: Press and release MANUAL XFR switch.

CUE: **None.**

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SAT UNSAT

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23. PERFORMANCE STEP: Check PI panel CONTROL-ON for the transferred rod(s).

STANDARD: Check Group 1 CONTROL-ON lights are LIT.

CUE: **None.**

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SAT UNSAT

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24. PERFORMANCE STEP: Verify transfer switches operated properly.

STANDARD: Direct Equipment Operator to verify Group 1 transfer switches have rotated completely to the aux. position.

CUE: **4 rods are diamonds.**

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SAT UNSAT

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25. PERFORMANCE STEP: Press and release CLAMP REL.

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

STANDARD: Press and release CLAMP REL switch. Observe GREEN light lit

CUE: **None.**

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SAT UNSAT

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26. PERFORMANCE STEP: Press and release RUN SPEED.

STANDARD: Press and release RUN SPEED switch. Observe GREEN Light lit

CUE: **None.**

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SAT UNSAT

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27. PERFORMANCE STEP: Press and release GROUP.

STANDARD: Press and release GROUP switch. Observe the GREEN light lit

CUE: **None.**

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SAT UNSAT

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28. PERFORMANCE STEP: Insert Group 1 approximately 3%.

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

STANDARD: INSERT/WITHDRAW switch placed in INSERT until Group 1 rods inserted 3% (+/- 1%).

CUE: **None.**

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SAT UNSAT

29. PERFORMANCE STEP: Identify and report failure of Rod 1-2 to move.  
.....C.....

STANDARD: Verbal report of rod failure to move to SM/CTRM SRO.

CUE: **(When notified) The Shift Manager is investigating. He directs you to return Group 1 to 100% withdrawn.**

SAT UNSAT

30. PERFORMANCE STEP: Return Group 1 to the previous position (100%).  
.....C.....

STANDARD: INSERT/WITHDRAW switch placed in WITHDRAW until Group 1 rods are at 100% rod index.

CUE: **None.**

SAT UNSAT

31. PERFORMANCE STEP: Transfer Group 1 back to the normal power supply.

STANDARD: Refer to DB-OP-06402, CRD Operating Procedure, Section 4.2.

CUE: **None.**

SAT UNSAT

32. PERFORMANCE STEP: Verify Rod Control Panel in MANUAL.

STANDARD: Check MANUAL button LIT on rod control panel.

CUE: **None.**

SAT UNSAT

33. PERFORMANCE STEP: Verify Reactor Demand hand/auto station in HAND.

STANDARD: Check Reactor Demand hand/auto station white and red lights LIT.

CUE: **None.**

SAT UNSAT

34. PERFORMANCE STEP: Verify Rod Control System in SEQ. BYPASS.

STANDARD: Check SEQ. BYPASS switch LIT.

CUE: **None.**

SAT UNSAT

35. PERFORMANCE STEP: Check Group 1 selected on the GROUP SELECT switch.

STANDARD: Check GROUP SELECT switch selected to Group 1.

CUE: **None.**

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SAT UNSAT

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36. PERFORMANCE STEP: Check SINGLE SELECT switch in ALL.

STANDARD: SINGLE SELECT switch selected to ALL.

CUE: **None.**

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SAT UNSAT

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37. PERFORMANCE STEP: Press and release AUX.

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

STANDARD: Press and release AUX. switch.

CUE: **None.**

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SAT UNSAT

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38. PERFORMANCE STEP: Press and release JOG SPEED.

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

STANDARD: Press and release JOG SPEED switch.

CUE: **None.**

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SAT UNSAT

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39. PERFORMANCE STEP: Check SUPPLY PHASE lights are ON.

STANDARD: Check SUPPLY PHASE lights are on.

CUE: **None.**

---

SAT UNSAT

---

40. PERFORMANCE STEP: Lineup phases of normal and auxiliary power supplies.

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

STANDARD: Move INSERT/WITHDRAW switch; SYNC confirm lamp on.

CUE: **None.**

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SAT UNSAT

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41. PERFORMANCE STEP: Verify SYNC CONFIRM is ON.

STANDARD: Verify SYNC CONFIRM is LIT.

CUE: **None.**

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SAT UNSAT

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42. PERFORMANCE STEP: Press and release CLAMP.

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

STANDARD: Press and release CLAMP switch.

CUE: **None.**

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SAT UNSAT

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43. PERFORMANCE STEP: Press and release MANUAL XFR

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

STANDARD: Press and release MANUAL XFR switch.

CUE: **None.**

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SAT UNSAT

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44. PERFORMANCE STEP: Check Group 1 CONTROL ON lamps OFF.

STANDARD: Check Group 1 CONTROL ON lamps NOT LIT.

CUE: **None.**

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SAT UNSAT

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45. PERFORMANCE STEP: Press and release CLAMP REL.

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

STANDARD: Press and release CLAMP REL switch.

CUE: **None.**

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SAT UNSAT

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46. PERFORMANCE STEP: Press and release RUN SPEED.

STANDARD: Press and release RUN switch.

CUE: **None.**

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SAT UNSAT



47. PERFORMANCE STEP: Press and release GROUP.  
.....**C**.....

STANDARD: GROUP switch pressed and released.

CUE: **None.**

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SAT UNSAT

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48. PERFORMANCE STEP: Press and release XFR RESET.  
.....**C**.....

STANDARD: XFR RESET switch pressed and released.

CUE: **None.**

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SAT UNSAT

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49. PERFORMANCE STEP: Check Group 1 CONTROL ON lamps ON.

STANDARD: Check Group 1 CONTROL ON lamps LIT.

CUE: **None.**

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SAT UNSAT

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**TERMINATING CUES for Reactor Operators: This JPM is complete.**  
(Terminated by the EVALUATOR.)

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END TIME

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50. PERFORMANCE STEP: **SRO QUESTION:** I&C has determine the Safety Rod 1-2 is stuck.  
.....**C**..... Determine if any Tech Spec apply for the stuck Safety Rod.

STANDARD: Apply TS 3.1.4, Condition D: D.1.1 Verify SDM within 1 hour OR D.1.2 Initiate  
boration to establish SDM within 1 hour, AND D.2 be in Mode 3 within 6 hrs

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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**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_

**SIMULATOR JPM**

**NS-3**

**REACTOR OPERATOR**

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**Facility:** Davis-Besse **Task No:** 012-001-01-0100**Task Title:** Energize RPS Channel 2**K/A Reference:** (012) A4.04 **Job Performance Measure No:** JPM 121**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:**

Energize RPS Channel 2

**Required Materials:**

DB-OP-06403, RPS and NI Operating Procedure, Rev 17, Section 3.4

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

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

**Time Critical Task:** No**Validation Time:** 41 minutes

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

Energize RPS Channel 2

**INITIAL CONDITION:**

Mode 1

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

Deenergize RPS Ch. 2 in accordance with Section 3.4 of DB-OP-06403.

To open Y206 use **IRF E6P4D OPEN**.

**MALFUNCTIONS/FAILURE TO INSERT:**

Fail Reactor trip bistable to reset until BYPASS KEY is rotated by performing the following:

- In the Expert window enter **IOR A55FA3A4S1-1**

**ACTION/CUES:**

4. ACTION: Close Y206 on Y2. (**IRF E6P4D CLOSE**)  
CUE: **Y206 on Y2 has been closed.**

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

The plant is in Mode 1.

RPS Channel 2 has been deenergized in accordance with section 3.4 of DB-OP-06403, RPS and NI Operating Procedure.

**INITIATING CUES:**

The Unit Supervisor has directed you to re-energize RPS Channel 2 using section 3.1 of DB-OP-06403, RPS and NI Operating Procedure.

**(Hand Candidate a copy of DB-OP-06403, Section 3.1)**

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

The plant is in Mode 1.

RPS Channel 2 has been deenergized in accordance with section 3.4 of DB-OP-06403, RPS and NI Operating Procedure.

**INITIATING CUES:**

The Unit Supervisor has directed you to re-energize RPS Channel 2 using section 3.1 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 assumed unless denoted in the "Comments".

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

1. PERFORMANCE STEP: Locate the correct procedure section.

STANDARD: Identifies section 3.1 as the correct procedure section.

CUE: **None.**

SAT UNSAT

2. PERFORMANCE STEP: Verify RCS pressure is greater than 1950 psig.

STANDARD: Verify RCS pressure is 2155 psig.

CUE: **None.**

SAT UNSAT

3. PERFORMANCE STEP: Verify Y2 is energized.

STANDARD: Verifies Y2 is energized.

CUE: **None.**

SAT UNSAT

4. PERFORMANCE STEP: Close the 120 VAC essential power supply breaker.

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

STANDARD: Contacts EO to close Y206 on Distribution Panel Y2.

CUE: **None.**

SAT UNSAT

5. PERFORMANCE STEP: Verify system AC power available.

STANDARD: Verify lamp on the Power Distribution Panel (loc 2-0) is ON.

CUE: **None.**

SAT UNSAT



- 
6. PERFORMANCE STEP: Close the SYSTEM AC POWER breaker and verify the  
.....C..... SYSTEM AC POWER ON lamp is ON.

STANDARD: Close the AC SYSTEM POWER breaker (loc 2-0) and verify lamp is ON.

CUE: **None.**

---

SAT UNSAT

- 
7. PERFORMANCE STEP: Verify SYSTEM FANS ON.

STANDARD: Verify SYSTEMS FANS LEFT and SYSTEMS FANS RIGHT switches in the  
ON position.

CUE: **None.**

---

SAT UNSAT

- 
8. PERFORMANCE STEP: Verify SYSTEM FANS lamps are ON.

STANDARD: Verify SYSTEM FANS RIGHT and LEFT lamps are ON.

CUE: **None.**

---

SAT UNSAT

- 
9. PERFORMANCE STEP: Close the breakers for +15V and -15V DC power  
.....C..... supplies.

STANDARD: Close the +15V (loc 1-1) and -15V (loc 2-1) breakers simultaneously.

CUE: **None.**

---

SAT UNSAT

- 
10. PERFORMANCE STEP: Energize the DC power system.  
.....C.....

STANDARD: Close the system DC power breaker.

CUE: **None.**

---

SAT UNSAT

- 
11. PERFORMANCE STEP: Verify Fan failure lights are DIM.

STANDARD: Verify left and right fan failure lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
12. PERFORMANCE STEP: Check AC power lamps for the +15V and -15V power supply module.

STANDARD: Verify +15V and -15V AC power amps on the power supply modules (loc 1-1, 2-1) are ON.

CUE: **Fifteen minutes time has elapsed.**

---

SAT UNSAT

- 
13. PERFORMANCE STEP: Check +15V and -15V power supply modules.

STANDARD: Check +15V and -15V DC power supply readings are 14.5 to 15.5 VDC.

CUE: **None.**

---

SAT UNSAT

- 
14. PERFORMANCE STEP: Check the DC amp meters on the +15V and -15V power supply modules.

STANDARD: Check the +15V and -15V power supply module amp meter reading is less than 13 amps.

CUE: **None.**

---

SAT UNSAT

- 
15. PERFORMANCE STEP: Energize Source Range Detector power supply.

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

STANDARD: Place the ON/OFF switch for the Source Range Detector power supply module in ON.

CUE: **None.**

---

SAT UNSAT

- 
16. PERFORMANCE STEP: Reset Source Range Detector power supply.

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

STANDARD: Depress the reset switch on the Source Range Detector power supply module.

CUE: **None.**

---

SAT UNSAT

---

- 
17. PERFORMANCE STEP: Energize the contact monitor Aux. power supply  
.....**C**..... module.

STANDARD: Place the ON/OFF switch for the Aux. power supply module to ON.

CUE: **None.**

---

SAT UNSAT

- 
18. PERFORMANCE STEP: Reset the contact monitor Aux. power supply.  
.....**C**.....

STANDARD: Depress reset switch and verify 100 to 150 volts on DC volt meter.

CUE: **None.**

---

SAT UNSAT

- 
19. PERFORMANCE STEP: Energize the Power Range Detector power supply.  
.....**C**.....

STANDARD: Place the ON/OFF switch on the Power Range Detector power supply  
module to ON.

CUE: **None.**

---

SAT UNSAT

- 
20. PERFORMANCE STEP: Reset the Power Range Detector power supply module.  
.....**C**.....

STANDARD: Depress the reset switch on the Power Range Detector power supply module  
and verify DC volt meter comes on scale.

CUE: **Fifteen minutes has elapsed.**

---

SAT UNSAT

- 
21. PERFORMANCE STEP: Verify SHUTDOWN BYPASS key is in normal.

STANDARD: Verify SHUTDOWN BYPASS key is in normal position.

CUE: **None.**

---

SAT UNSAT

---

- 
22. PERFORMANCE STEP: Reset TRIP bistables for Power/Pumps.

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

STANDARD: Momentarily depress the output state and output memory switches and checking the status lights are DIM..

CUE: **None.**

---

SAT UNSAT

- 
23. PERFORMANCE STEP: Reset TRIP bistables for Power/Imbal/flow.

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

STANDARD: Momentarily depress the output state and output memory switches and checking the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
24. PERFORMANCE STEP: Reset TRIP bistables for Over Power.

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

STANDARD: Momentarily depress the output state and output memory switches and checking the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
25. PERFORMANCE STEP: Reset TRIP bistables for Low Press.

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

STANDARD: Momentarily depress the output state and output memory Switches and checking the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
26. PERFORMANCE STEP: Reset TRIP bistables for High Press.

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

STANDARD: Momentarily depress the output state and output memory switches and checking the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

---

- 
27. PERFORMANCE STEP: Reset TRIP bistables for High Temp.  
.....C.....

STANDARD: Momentarily depress the output state and output memory switches and checking the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
28. PERFORMANCE STEP: Reset TRIP bistables for Press/Temp.  
.....C.....

STANDARD: Momentarily depress the output state and output memory switches and checking the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
29. PERFORMANCE STEP: Reset TRIP bistables for High Bldg Press.  
.....C.....

STANDARD: Momentarily depress the Reset switch and check both INPUT STATE lights are OFF.

CUE: **None.**

---

SAT UNSAT

- 
30. PERFORMANCE STEP: Clear the memory of the protective function bistables SUR ROD/WD INH (NI-1) and Flux > 10%.

STANDARD: Momentarily depress the output memory reset switches and check the status lights are DIM.

CUE: **None.**

---

SAT UNSAT

- 
31. PERFORMANCE STEP: Recognize failure to energize Channel Trip relay.  
.....C.....

STANDARD: Recognize that when RESET switch is DEPRESSED, trip relay fails to energize.

CUE: **(If asked) Unit Supervisor acknowledges that the Reset switch on the Trip module did NOT function but directs you to reset the channel.**

---

SAT UNSAT

32. PERFORMANCE STEP: Energize Channel Trip relay.  
.....**C**.....

STANDARD: Rotate MANUAL BYPASS key switch to actuate manual bypass relay and return to normal.

CUE: **None.**

---

SAT UNSAT

33. PERFORMANCE STEP: Verify Protective Sub-system light.

STANDARD: At top of RPS cabinet, verify Protective Sub-system light DIM.

CUE: **None.**

---

SAT UNSAT

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

---

END TIME

**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_

# **SIMULATOR JPM**

## **NS-4**

### **REACTOR OPERATOR**

**SRO – I**

**SRO - U**



---

**Facility:** Davis-Besse **Task No:** 071-001-02-0100**Task Title:** Containment Pressure Reduction Release**K/A Reference:** GEN 2.3.11 2.7/3.2 **Job Performance Measure No:** 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:**

Initiate a pressure release of Containment and stop the Containment release when the Radwaste Exhaust Fans are found not running.

**Required Materials:**

DB-OP-03012 Section 4.6 and Attachment 1 appropriately signed off to allow determination of release sample time and date.

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

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

**Time Critical Task:** No**Validation Time:** 17 minutes

**SIMULATOR INSTRUCTIONS****TASK DESCRIPTION:****INITIAL CONDITION:**

Mode 3 IC (at or near NOT/NOP)

Insert the following to fail PDT 645 to 20"

- IMF CAPCE 0.069

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

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

The plant is in Mode 3.

A plant heatup is in progress.

Containment to annulus differential pressure has risen to 20 inches H<sub>2</sub>O. A release permit has been prepared and approved

**INITIATING CUES:**

The Unit Supervisor directs you to perform a Containment pressure reduction release beginning with step 4.6.10 of DB-OP-03012, Radioactive Gaseous Batch Release. An Equipment Operator is standing by in the Auxiliary Building with a working copy of the release procedure to take actions at your direction

**(Hand Candidate a copy of DB-OP-03012 with appropriate sign-offs.)**

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

The plant is in Mode 3

A plant heatup is in progress.

Containment to annulus differential pressure has risen to 20 inches H<sub>2</sub>O. A release permit has been prepared and approved

**INITIATING CUES:**

The Unit Supervisor directs you to perform a Containment pressure reduction release beginning with step 4.6.10 of DB-OP-03012, Radioactive Gaseous Batch Release. An Equipment Operator is standing by in the Auxiliary Building with a working copy of the release procedure to take actions at your direction

**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: Place computer point P318 on trend  
.....**C**.....

STANDARD: Use the plant process computer to trend CTMT PRESS DIFF TO ANNULUS

Comment: Acceptable to trend on the computer CRT or on the analog trend pens

CUE: **P318 reads 20 inches. (If asked) The Unit Supervisor requests a 60-second trend**

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

2. PERFORMANCE STEP: Verify less than 24 hours since containment was sampled

STANDARD: Determine difference is less than 24 hours between containment sample time in Item 4.e of Attachment 1 and current time

CUE: NONE

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

3. PERFORMANCE STEP: Open CV5037, H2 Purge System Ctmt Isolation  
.....**C**.....

STANDARD: Press OPEN on HIS5037

COMMENT: Role play to provide the Independent Verification for opening CV 5037

CUE: NONE

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

- 
4. PERFORMANCE STEP: Open CV5038, H2 Purge System Ctmt Isolation  
.....**C**.....

STANDARD: Press OPEN on HIS5038

COMMENT: Role play to provide the Independent Verification for opening CV 5038

CUE: NONE

---

SAT UNSAT

---

5. PERFORMANCE STEP: Direct the Equipment Operator to open the containment  
.....**C**..... release skid discharge gate, to start the skid fan and to  
maintain flow rate at approximately 1400 on the M&TE  
anemometer readout.

STANDARD: Communicate via the GAI-TRONICS or radio

**CUE: (I/F) The Equipment Operator reports steps 4.6.14, 4.6.15 and 4.6.16 are complete.  
(I/F) (If asked) Step 4.6.16 was completed by an I&C Tech  
(I/F) Step 4.6.14 has been independently verified.  
(I/F) Step 4.6.17 Skid flow rate is 1400 on the local anemometer.**

---

SAT UNSAT

---

6. PERFORMANCE STEP: Make a Unit Log entry

STANDARD: Record start time, release permit number and containment to annulus  
differential pressure in the Unit Log

**CUE: The secondary side Reactor Operator has made Unit Log entry for release start  
time, release permit number and containment to annulus differential pressure**

---

SAT UNSAT

---

7. PERFORMANCE STEP: Update the release permit

STANDARD: Record start date and time and containment to annulus  $\Delta P$  in Item 6 of  
Attachment 1

**CUE: (I/F) This is the Zone 3 Equipment Operator. Neither one of the Auxiliary  
Building Radioactive Waste Fans are running.**

---

SAT UNSAT

---

- 
8. PERFORMANCE STEP: Recognize the release should be stopped  
- .....**C**.....

STANDARD: Communicate to the Equipment Operator the need to stop the Containment Pressure Release Skid Fan

**Cue: (I/F)The Containment Pressure Release Skid Fan has been stopped.**

---

SAT UNSAT

---

9. PERFORMANCE STEP: Close CV5037, H2 Purge System Ctmt Isolation  
- .....**C**.....

STANDARD: Press CLOSE on HIS5037

CUE: NONE

---

SAT UNSAT

---

10. PERFORMANCE STEP: Close CV5038, H2 Purge System Ctmt Isolation  
- .....**C**.....

STANDARD: Press CLOSE on HIS5038

CUE: NONE

---

SAT UNSAT

---

11. PERFORMANCE STEP: Notify the Shift Manager the release has been stopped

STANDARD: Communicate with the Shift Manager

**CUE: The Shift Manager acknowledges the Containment Pressure Reduction Release has been stopped.**

---

SAT UNSAT

---

Terminating Cue: This JPM is complete (Terminated by evaluator)

---

END TIME

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**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_



# **SIMULATOR JPM**

## **NS-5**

### **REACTOR OPERATOR SRO - I**

**Facility:** Davis-Besse **Task No:** 010-018-01-0100**Task Title:** Perform Boron equalization between Pressurizer and the Reactor Coolant System**K/A Reference:** (010) A1.11 **Job Performance Measure No:** 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:**

Equalize Boron between the RCS and the Pressurizer

**Required Materials:**

DB-OP-06003, Pressurizer Operating Procedure, Rev. 28, Section 4.3  
DB-OP-02513, Pressurizer System Abnormal Operation, Rev. 10, Section

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

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

**Time Critical Task:** No**Validation Time:** 15 minutes

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

Perform Boron equalization between Pressurizer and the Reactor Coolant System

**INITIAL CONDITION:**

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

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

HV001 fails to 0.041, RC2, Pressurize Spray, will fail to ~40% when RC2 CLOSE (green) light goes off.  
H10I21GL==0

**ACTION/CUES:**

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

The plant is operating at 100% power.

RCS boron is 1300 ppmB

Pressurizer boron is 1430 ppmB

**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.

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

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

The plant is operating at 100% power.

RCS boron is 1300 ppmB

Pressurizer boron is 1430 ppmB

**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.

**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: Locate correct procedure section.

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

CUE: None

SAT UNSAT

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

STANDARD: Rotate selected Pzr heater switches clockwise to ON

CUE: None

SAT UNSAT

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

4. PERFORMANCE STEP: Stabilize RCS pressure  
C

STANDARD: Rotate heaters switches ON and OFF, and/or HISRC2-1  
clockwise/counter clockwise

CUE: None

SAT UNSAT

5. PERFORMANCE STEP: Adjust SCR Heaters in HAND for fine adjustment  
C as needed

STANDARD: Toggle PICRC 2 UP or DOWN to adjust SCR Heater demand

CUE: None

---

SAT    UNSAT

---

6. 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

---

7. PERFORMANCE STEP: Close RC 2

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

CUE: None

---

SAT    UNSAT

---

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

STANDARD: Depress HIS RC 10 CLOSE button

NOTE: Candidate may go to DB-OP-02513 where the Immediate  
Actions are to close RC2 and then RC10

CUE: None

---

SAT    UNSAT

---

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

---

END TIME

**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
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\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_



# **SIMULATOR JPM**

## **NS-6**

### **REACTOR OPERATOR SRO - I**

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**Facility:** Davis-Besse **Task No:** 000-058-05-0100**Task Title:** Establish Long Term Boron Dilution**K/A Reference:** (006) A1.11 **Job Performance Measure No:** JPM 002**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 Long Term Boron Dilution

**Required Materials:**

DB-OP-02000, EOP, Rev. 25, Attachment 12

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

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

**Time Critical Task:** No**Validation Time:** 12 minutes

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

Establish Long Term Boron Dilution using the normal method through DH 11 and DH 12

**INITIAL CONDITION:**

Initiate a large break LOCA (IMF HH40 1.0)

Freeze the simulator after LPI has been transferred to the Emergency Sump

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

Perform all necessary operator actions of DB-OP-02000, Section 5

When Section 5 routes to Section 10, complete Section 10 up to Step 10.17

Complete Steps 1 through 4 of Attachment 12

**MALFUNCTIONS/FAILURE TO INSERT:**

Throttle DH 206 (**IRF BD206 0.85**)

**ACTION/CUES:**

Step 7: **Acknowledge the communication to the TSC**

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

A large break LOCA has occurred

Both LPI pumps have been transferred to the Emergency Sump

**INITIATING CUES:**

The Unit Supervisor directs you to establish long term boron dilution using Attachment 12 of DB-OP-02000, RPS, SFAS, SFRCS Trip and SG Tube Rupture

Steps 1 through 4 of Attachment 12 have been completed

**(Provide the Candidate a copy of Attachment 12 of DB-OP-02000)**

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

A large break LOCA has occurred

Both LPI pumps have been transferred to the Emergency Sump

**INITIATING CUES:**

The Unit Supervisor directs you to establish long term boron dilution using Attachment 12 of DB-OP-02000, RPS, SFAS, SFRCS Trip and SG Tube Rupture

Steps 1 through 4 of Attachment 12 have been completed

**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: Return control power to DH 11 and DH 12  
.....**C**.....

STANDARD: Depress the ON pushbutton on HIS DH11A and HIS DH12A

COMMENT: DH 11 and DH 12 must be open to complete the task

CUE: **None**

---

SAT UNSAT

---

2. PERFORMANCE STEP: Open DH 11, Normal Suction Isolation  
.....**C**.....

STANDARD: Depress the OPEN pushbutton on HIS DH11

CUE: **None**

---

SAT UNSAT

---

3. PERFORMANCE STEP: Open DH 12, Normal Suction Isolation  
.....**C**.....

STANDARD: Depress the OPEN pushbutton on HIS DH12

CUE: **None**

---

SAT UNSAT

---

4. PERFORMANCE STEP: Remove control power from DH11 and DH12

STANDARD: Depress the OFF pushbutton on HIS DH11A and HIS DH12A

CUE: **None**

---

SAT UNSAT

---

- 
5. PERFORMANCE STEP: Check FI4909 for Long Term Boron Dilution flowrate

STANDARD: Observe FI4909 less than 300 gpm

CUE: **(If asked). Take appropriate actions per the procedure**

---

SAT UNSAT

- 
6. PERFORMANCE STEP: Throttle DH 1B

.....**C\***.....

STANDARD: \*Place control power for DH 1B

\*Throttle closed to establish Long Term Boron Dilution  
flowrate greater than 300 gpm

\*Maintain LPI flow greater than 1350 gpm

Remove control power from DH 1B (not critical)

CUE: **None**

---

SAT UNSAT

- 
7. PERFORMANCE STEP: Communicate with the Technical Support Center

STANDARD: Inform the TSC that Long Term Boron Dilution via DH 11 and DH 12 has  
been established

CUE: **Acknowledge the communication to the TSC**

---

SAT UNSAT

---

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

---

END TIME

Refer to NT-OT-07001 for -

"JPM VERIFICATION OF COMPLETION" (DB-0528)

"JPM EVALUATION SUMMARY" (DB-0526)

**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_



# **SIMULATOR JPM**

## **NS-7**

### **REACTOR OPERATOR SRO - I**

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**Facility:** Davis-Besse **Task No:** 062-023-01-0100**Task Title:** Energize C1 from Bus A**K/A Reference:** (062) A4.07 **Job Performance Measure No:** JPM 220**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:**

Energize C1 fro Bus A

**Required Materials:**

DB-OP-02521, Loss of AC Bus Power Sources, Rev. 17

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

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

**Time Critical Task:** No**Validation Time:** 21 minutes

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

Energize C1 bus from Bus A

**INITIAL CONDITION:**

Initialize to MODE 5 IC with DH Loop 2 operating

**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

Place caution tags on the Hand Switches for both HPI Pumps and both Ctmt Spray Pumps

**MALFUNCTIONS/FAILURE TO INSERT:**

HX01A fail open

IMF E101C

Fail open DH Pump 2 breaker

IMF BDP2C

Emergency Shutdown #1 EDG

IRF G529G

Energize D2 Bus from D1 Bus

**ACTION/CUES:**

Step 9

Equipment Operator cue:  
AC 212 is racked out

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

The plant was in MODE 5 with Decay Heat Loop 2 operating

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

**INITIATING CUES:**

Offsite power has been restored

The Unit Supervisor directs you to energize C1 Bus from A Bus in accordance with Attachment 1 of DB-OP-02521, Loss of AC Bus Power Sources

**(Provide Candidate a copy of Attachment 1 of DB-OP-02521)**

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

The plant was in MODE 5 with Decay Heat Loop 2 operating

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

**INITIATING CUES:**

Offsite power has been restored

The Unit Supervisor directs you to energize C1 Bus from A Bus in accordance with Attachment 1 of DB-OP-02521, Loss of AC Bus Power Sources

**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: Locate the correct procedure step

STANDARD: Finds Attachment 1 step 2.0

CUE: **None**

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

- 
2. PERFORMANCE STEP: Verify Bus A large motor breakers OPEN

STANDARD: Visual check of hand switches:  
RCP 1-1 - HIS RC5B1 Green light LIT  
RCP 2-2 - HIS RC5A2 Green light LIT  
Circ Pump 1 - HIS 876 Green light LIT  
Circ Pump 3 - HIS 928 Green light LIT

CUE: **None**

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

- 
3. PERFORMANCE STEP: Place BUS A SYNC CHECK in the 01 position

STANDARD: HS 6293, BUS A SYNC CHECK, placed in 01 position

CUE: **None**

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

- 
4. PERFORMANCE STEP: Close Bus A supply from 01 transformer

STANDARD: HIS 6203, HX01A, placed to CLOSE

COMMENT: HX01A will NOT close due to failure

CUE: **None**

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

---

5.	PERFORMANCE STEP: Place BUS A SYNC CHECK switch in OFF	
	STANDARD: HS 6293, BUS A SYNC CHECK, placed in OFF position	
	CUE: <b>(If asked), The Unit Supervisor directs you to energize Bus A from Startup Transformer 02</b>	
		<u>SAT</u> <u>UNSAT</u>

---

6.	PERFORMANCE STEP: Place BUS A SYNC CHECK in the 02 position	
	<u><b>C</b></u>	
	STANDARD: HS 6293, BUS A SYNC CHECK, placed in 02 position	
	CUE: <b>None</b>	
		<u>SAT</u> <u>UNSAT</u>

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7.	PERFORMANCE STEP: Close Bus A supply from 02 transformer	
	<u><b>C</b></u>	
	STANDARD: HIS 6201, HX02A, placed to CLOSE	
	CUE: <b>None</b>	
		<u>SAT</u> <u>UNSAT</u>

---

8.	PERFORMANCE STEP: Place BUS A SYNC CHECK switch in OFF	
	STANDARD: HS 6293, BUS A SYNC CHECK, placed in OFF position	
	CUE: <b>None</b>	
		<u>SAT</u> <u>UNSAT</u>

---

9..	PERFORMANCE STEP: Close HAAC	
	STANDARD: Verify HIS 6207, HAAC, indicates CLOSED	
	COMMENT: HAAC was already closed Step critical only if HAAC is open at this point	
	CUE: <b>None</b>	
		<u>SAT</u> <u>UNSAT</u>

---

---

10. PERFORMANCE STEP: Close AACC2**C**

STANDARD: HIS 6218, AACC2, rotated to CLOSE

COMMENT: AACC2 was already closed  
Step critical only if AACC2 is open at this pointCUE: **None**

---

SAT UNSAT

---

11. PERFORMANCE STEP: Place SYNC SELECT to BKR TO BUS C2 position**C**

STANDARD: HS 6221, SYNC SELECT switch, to BKR TO BUS C2 position

CUE: **None**

---

SAT UNSAT

---

12. PERFORMANCE STEP: Close AC110**C**

STANDARD: HIS 6223, AC110, rotated to CLOSE

CUE: **None**

---

SAT UNSAT

---

13. PERFORMANCE STEP: Place SYNC SELECT to the OFF position

STANDARD: HS 6221, SYNC SELECT, to the OFF position

CUE: **None**

---

SAT UNSAT

---

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

---

END TIME



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**Verification of Completion**

**Job Performance Measure No.** \_\_\_\_\_

**Examinee's Name:** \_\_\_\_\_

**Examiner's Name:** \_\_\_\_\_

**Date Performed:** \_\_\_\_\_

**Facility Evaluator:** \_\_\_\_\_

**Number of Attempts:** \_\_\_\_\_

**Time to Complete:** \_\_\_\_\_

**Question Documentation:**

**Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Result:** Satisfactory/Unsatisfactory

**Examiner's signature and date:** \_\_\_\_\_

# **SIMULATOR JPM**

**NS - 8**

**REACTOR OPERATOR  
SRO - I**

**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:** (055/056) K3.01 **Job Performance Measure No:** JPM 113**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:**

Vacuum and Gland Steam Actions during a Loss of Instrument Air

**Required Materials:**

DB-OP-02528, Loss of Instrument Air, Rev. 14, Attachments 13 and 11

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

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

**Time Critical Task:** No**Validation Time:** 8 minutes

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

Vacuum and Gland Steam Systems Actions during a Loss of Instrument Air

**INITIAL CONDITION:**

Reactor tripped

SFRCS 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

**(Provide Candidate a copy of Attachment 13 of DB-OP-02528)**

**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

**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 rotated to OFF and pulled

CUE: **None**

SAT UNSAT

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

**C**

STANDARD: HIS 634 rotated to the OPEN BOTH position

CUE: **None**

SAT UNSAT

3. PERFORMANCE STEP: Shutdown Steam Packing Exhauster Fans

**C**

STANDARD: HIS 2411 (HIS 2412) rotated to the OFF position

CUE: **None**

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)**

SAT UNSAT

- 
5. PERFORMANCE STEP: Verify a Condensate Pump is running

STANDARD: Check RED light LIT on HIS for Condensate Pump 1

CUE: **None**

---

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: **(If asked), Command SRO directs you to trip the Heater Drain Pump**

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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: **(If asked), Command SRO directs you to trip the Heater Drain Pump**

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SAT UNSAT

- 
8. PERFORMANCE STEP: Verify CD 420 has failed closed

STANDARD: Check CD 420 position indicator

CUE: **None**

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SAT UNSAT

- 
9. PERFORMANCE STEP: Verify CD 421 has failed closed

STANDARD: Check CD 421 position indicator

CUE: **None**

---

SAT UNSAT

- 
10. PERFORMANCE STEP: Verify CD 550B has failed closed

STANDARD: Check CD 550B position indicator indicates 0% open

CUE: **None**

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SAT UNSAT



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11. PERFORMANCE STEP: Verify CD 550A has failed closed

STANDARD: Check CD 550A position indicator indicates 0% open

CUE: **None**

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SAT UNSAT

---

12. PERFORMANCE STEP: Verify CD 578 has failed open

STANDARD: Check RED light LIT on HIS for CD 578

CUE: **None**

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SAT UNSAT

---

13. PERFORMANCE STEP: Verify CD 2796 has failed open

STANDARD: Check RED light LIT on

CUE: **None**

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SAT UNSAT

---

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

---

END TIME

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**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_

# **SIMULATOR JPM**

**NS - 9**

**SRO - U**

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**Facility:** Davis-Besse **Task No:** 005-012-04-0100**Task Title:** Start High Pressure Injection Pump upon a Loss of One Decay Heat Pump**K/A Reference:** (005) A2.03 **Job Performance Measure No:** JPM 187**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:**

Start a High Pressure Injection Pump upon a loss of a Decay Heat Pump

**Required Materials:**

DB-OP-02527, Loss of Decay Heat Removal, Rev. 14

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

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

**Time Critical Task:** No**Validation Time:** 20 minutes

---

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

Start High Pressure Injection Pump upon a Loss of One Decay Heat Pump

**INITIAL CONDITION:**

RCS Drained to 80 inches, DH Loop 2 in Service

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

- Remove breaker open placards from DH7A and DH7B.
- SPDS Decay Heat Removal Screen is not working.
- Verify DH14A, DH14B, DH13A, and DH13B are closed.
- Hang Red Tags on HPI Pumps 1 & 2 control switches.
- Place Ops Info tags on DH 1517, DH 1518, DH 63, DH 64, DH 2733, and DH 2734 stating "breaker open per DB-OP-06012".
- Place OPEN placards on DH 1517 and DH 1518.
- Place CLOSED placards on DH 63, DH 64, DH 2733, and DH 2734.

**MALFUNCTIONS/FAILURE TO INSERT:**

Insert malfunction to fail Decay Heat Pump 2's breaker open (**IMF BDP2C**).

Insert malfunction to fail Decay Heat Pump 1's breaker open (**IMF BDP1C**).

**ACTION/CUES:**

NOTE: Use proper three-part communication for any necessary cues.

1. Step 1: (if sent) Breaker AD112 indicates 50/51 phases A and C relays tripped.
2. Step 1: (if sent) DH Pump 2 shows no abnormal indications.
3. Step 12: Breaker BE 1157-A on E11A for DH7B has been closed. (**IRF BD7B**)
4. Step 13: All tags have been removed from breaker AC111. Breaker AC111 has been racked in (**IRF BFP1A OPERATE**). Breaker AC111 close power fuses have been installed (**IRF BFP1C FALSE**).

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

The plant has been in Mode 5 for 25 days.

RCS temperature is 108°F.

RCS level is 80 inches on LI 10577A and B, RCS level indication, for maintenance activities.

Time to boil is 30 minutes.

Decay Heat Train 2 is in service.

Decay Heat Train 1 is in standby.

No RCS boron dilution is in progress.

The SPDS Decay Heat Removal Screen is not functioning.

**INITIATING CUES:**

Decay Heat Pump 2 has tripped on overcurrent.

CTMT has been evacuated, CTMT closure has been established.

The Shift Manager directs you to start Decay Heat Pump 1 in the decay heat mode using DB-OP-02527.

You have permission to operate any locked valves required.

Desired decay heat flow is 1500 gpm.

**(Provide copy of DB-OP-02527 to Candidate)**

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

The plant has been in Mode 5 for 25 days.

RCS temperature is 108°F.

RCS level is 80 inches on LI 10577A and B, RCS level indication, for maintenance activities.

Time to boil is 30 minutes.

Decay Heat Train 2 is in service.

Decay Heat Train 1 is in standby.

No RCS boron dilution is in progress.

The SPDS Decay Heat Removal Screen is not functioning.

**INITIATING CUES:**

Decay Heat Pump 2 has tripped on overcurrent.

CTMT has been evacuated,

CTMT closure has been established.

The Shift Manager directs you to start Decay Heat Pump 1 in the decay heat mode using DB-OP-02527.

You have permission to operate any locked valves required.

Desired decay heat flow is 1500 gpm.

**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: Locate the correct procedure attachment.

STANDARD: Identify Attachment 1, as the correct procedure attachment.

COMMENT: Examinee will route through Section 4.1 of the procedure to Step 4.1.7, which sends Candidate to Attachment 1. Repeat initiating cues as necessary.

Use proper three-part communication for cues.

CUE: **(If asked) No signs of pump cavitation existed before the pump tripped.**

SAT   UNSAT
-------------

2. PERFORMANCE STEP: Close DH 14B.

STANDARD: Depress auto on HIS DH 14B and verify zero demand is indicated on HIC DH14B and/or Green light comes ON.

CUE: **None.**

SAT   UNSAT
-------------

3. PERFORMANCE STEP: Close DH 13B.

STANDARD: Depress auto on HIS DH 13B and verify zero demand is indicated on HIC DH13B and/or Green light is ON.

COMMENT: Operator should route to step 6. If not, provide appropriate cues.

CUE: **If asked, No signs of cavitation present.**

SAT   UNSAT
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4. PERFORMANCE STEP: Verify open DH 1517

STANDARD: Using HIS 1517, depress open pushbutton looking for red light.

CUE: **None.**

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SAT UNSAT

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5. PERFORMANCE STEP: Verify closed DH 10.

STANDARD: Turn handwheel in closed direction with no movement

CUE: **(I/F) Plant Operator will report DH 10 is closed**

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SAT UNSAT

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6. PERFORMANCE STEP: Verify open DH 11 and DH 12 or DH 21 and DH 23.

STANDARD: Visual verification of Red light on HIS DH11 and HIS DH12.

COMMENT: Use proper three-part communication for cues.

CUE: **If asked: DH 21 and DH 23 are not to be used per SM discretion.**

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SAT UNSAT

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7. PERFORMANCE STEP: Verify CCW and SW cooling is available.

STANDARD: Verify CCW Pump 1 and SW Pump 1 are running and CC 1467 Red  
indicating light is LIT.

COMMENT: May also check SW36 open by placard and/or SW1424 is open or throttled.

CUE: **None.**

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SAT UNSAT

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8. PERFORMANCE STEP: Verify open DH 1B

STANDARD: Visual verification of Red light is LIT on HIS DH1B.

COMMENT: Only critical if DH 1B is closed.

CUE: **None.**

---

SAT UNSAT

9. PERFORMANCE STEP: Start DH Pump 1 using HIS DH 6B.

STANDARD: Recognize DH Pump 1 does not start.

COMMENT: Examinee should route back to procedure step 4.1.7 and perform RNO

CUE: **(If asked) The Shift Manager directs you to continue in the Loss of Decay Heat Removal procedure while he investigates the failure of DH Pump 1.**

---

SAT UNSAT

10. PERFORMANCE STEP: Determine if either SG is functional.

STANDARD: Determine if RCS is intact.

CUE: **(If asked) The SGs are not available.**

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SAT UNSAT

11. PERFORMANCE STEP: Establish a feed flowpath using Attachment 5  
.....**C**.....

STANDARD: Determine that an HPI Pump is the available feed flowpath.

CUE: **(If asked) The Shift Manager directs you to establish a feed flowpath using HPI Pump 1.**

---

SAT UNSAT

12. PERFORMANCE STEP: Locate the correct procedure attachment.  
.....**C**.....

STANDARD: Identify Attachment 7, as the correct procedure attachment.

CUE: **(If asked) The Shift Manager has verified the System Status File and Safety Tagging file for HPI show the system valve lineup is complete for Mode 3 entry.**

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SAT UNSAT

- 
13. PERFORMANCE STEP: Establish a flowpath from the BWST through the HPI Pump into the RCS.

STANDARD: Refer to Attachment 10 for flowpaths available.

COMMENT: Examinee may refer to OS 003 and OS 004 or Attachment 9. Examinee may also direct an Equipment Operator to verify the position of DH and HPI valves in the flowpath.

CUE: **None.**

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SAT UNSAT

- 
14. PERFORMANCE STEP: Verify DH 7B or DH 7A are open  
.....**C**.....

STANDARD: Verify indication using appropriate switch

CUE: **None**

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SAT UNSAT

- 
15. PERFORMANCE STEP: Restore HPI Pump 1 breaker to service, if necessary.  
.....**C**.....

STANDARD: Communicate with an EO to remove tags, rack in, and insert close power fuses on 4160 VAC breaker AC111.

CUE: **(If asked) The Shift Manager has given permission to remove the Safety tag from AC111 breaker for HPI pump 1.**

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SAT UNSAT

- 
16. PERFORMANCE STEP: Close High Pressure Injection valves HP 2C, and 2D.

STANDARD: Visual verification of Green light is LIT on HIS HP2C and HIS HP2D.

CUE: **None.**

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SAT UNSAT

17. PERFORMANCE STEP: Start HPI Pump 1.  
.....**C**.....

STANDARD: Place HIS 1524 to START, then release. Observe the Red light goes ON and the Green light goes OFF.

CUE: **None.**

---

SAT UNSAT

18. PERFORMANCE STEP: Throttle HP 2C, and 2D to establish injection flow  
.....**C**.....

STANDARD: Press the open pushbutton on HP 2C and HP 2D using HIS HP2C and HIS HP2D until flow is established.

COMMENT: Actual flow rate is not critical at this step, provided some flow is provided.

CUE: **None.**

---

SAT UNSAT

19. PERFORMANCE STEP: Monitor incore thermocouples.

STANDARD: Examine incore thermocouple temperatures on the PAM Panels.

CUE: **None.**

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SAT UNSAT

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

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END TIME

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**Verification of Completion****Job Performance Measure No.** \_\_\_\_\_**Examinee's Name:** \_\_\_\_\_**Examiner's Name:** \_\_\_\_\_**Date Performed:** \_\_\_\_\_**Facility Evaluator:** \_\_\_\_\_**Number of Attempts:** \_\_\_\_\_**Time to Complete:** \_\_\_\_\_**Question Documentation:****Question:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Response:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Result:** Satisfactory/Unsatisfactory**Examiner's signature and date:** \_\_\_\_\_