Admin JPM
RO-A1.1

Facility: Davis-Besse **Task No:** 012-012-02-0100

Task Title: RPS Daily Heat Balance Check per DB-NE-03230

K/A Reference: 2.1.25 (3.9) **Job Performance Measure No**: RO-A1.1 (JPM 216)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom _X_ Simulator ___ 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 a RPS Daily Heat Balance Check per DB-NE-03230.

Required Materials:
- DB-NE-03230 R19
- DB-PF-06703 R26, Miscellaneous Operation Curves CC6.9, CC6.9a, CC6.9b, CC8.1 and CC9.2
- Computer Summary Group 12, Heat Balance Points
- Group 38 printout
- Calculator

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: 19 minutes

EXAMINER COPY

INITIAL CONDITIONS:

Return to 100% power following refueling outage is in progress.

Reactor Power is currently being held at approximately 95%.

Reactor power has been constant (±1%) for 30 minutes.

INITIATION CUE:

The Shift Manager directs you to perform a RPS Daily Heat Balance Check per DB-NE-03230 to verify calibration of the Nuclear Instruments.

Completion of Test Cover Sheet is not required for this JPM.

Working Copy has been verified current.

Use the values from the Plant Process Computer Summary Group 12 and Group 38 printout provided.

Record additional procedural requirements, if any, on this page.

(Provide surveillance test DB-NE-03230, Computer Report DB-NE-03230 printout, and DB-PF-06703, Miscellaneous Operation Curves CC6.9, CC6.9a, CC6.9b, CC8.1 and CC9.2)

CANDIDATE COPY

INITIAL CONDITIONS:

Return to 100% power following refueling outage is in progress.

Reactor Power is currently being held at approximately 95%.

Reactor power has been constant (±1%) for 30 minutes.

INITIATION CUE:

The Shift Manager directs you to perform a RPS Daily Heat Balance Check per DB-NE-03230 to verify calibration of the Nuclear Instruments.

Completion of Test Cover Sheet is not required for this JPM.

Working Copy has been verified current.

Use the values from the Plant Process Computer Summary Group 12 and Group 38 printout provided.

Record additional procedural requirements, if any, on this page.

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 reactor power is constant ±1% for the last 15 minutes (Step 3.1)

   STANDARD: Signs Test Cover Sheet.
   Completes Prerequisites based on initial conditions provided.

   CUE: **None**

   SAT UNSAT

2. PERFORMANCE STEP: Record HBP and NI power in table provided (Step 4.1)

   STANDARD: Using printout provided record HBP and NI power into table and circle Group 38 to indicate source of data.

Circle Source	HBP	R804(NI5)	R795(NI6)	R820(NI7)	R814(NI8)
Group 38/Attachment 1	94.91	95.60	95.90	95.39	93.10

   NOTE: Step 4.2 is N/A

   CUE: **None**

   SAT UNSAT

3. PERFORMANCE STEP: Determine recalibration upper limit (Step 4.3.1)

   C

   STANDARD: Using curve CC6.9 or CC6.9B determine recalibration upper limit to be 97.9% (Acceptable is 97.7 – 98.1) and record data

   CUE: **None**

   SAT UNSAT

4. PERFORMANCE STEP: Determine recommended recalibration lower limit (Step 4.3.2)

C

STANDARD: Determine recommended recalibration lower limit to be 93.41 and record data.

(Recommended Recalibration Lower Limit = 94.91 - 1.5% = 93.41)

COMMEMT: 93.4 is also acceptable

CUE: **None**

SAT UNSAT

5. PERFORMANCE STEP: Determine NI required recalibration limit (Step 4.3.3)

C

STANDARD: Determine NI required recalibration limit to be 92.91 and record data.

(NI Required Recalibration Limit = 94.91 - 2% = 92.91)

COMMEMT: 92.9 is also acceptable

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Notify Shift Manager if any NI value recorded in table is (Step 4.4) above the upper recalibration limit or below the lower recommended recalibration limit.

C

STANDARD: Recognize NI 8 is below the lower recommended recalibration limit and notify the Shift Manager

NOTE: Steps 4.5 and 4.6 are N/A

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Record Feedwater values in table provided (Step 4.7.1)

   STANDARD: Using data provided on Summary Group 12 record data in table provided

H180	F084 KPPH	F085 KPPH	F086 KPPH	F087 KPPH
LEFM	5583	5583	5585	5585

   CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Calculate total indicated feedwater flow (Step 4.7.2)

   C

   STANDARD: Add the 4 flow values and divide by 2000 to determine total indicated feedwater flow value to be 11.168 and record value

   (Total indicated Feedwater Flow (MPPH) = (F084+F085+F086+F087) /2000) = (22336) / 2000 = 11.168 MPPH)
   (Acceptable 11.1 – 11.2)

   CUE: **None**

SAT UNSAT

9. PERFORMANCE STEP: Determine Total Feedwater Flow expected (Step 4.7.3)

   C

   STANDARD: Using curve CC8.1 and HBP recorded in step 4.1 (94.91) determine Total Feedwater Flow expected to be 11.4 MPPH (Acceptable 11.3 – 11.5) and record value

   CUE: **None**

SAT UNSAT

10. PERFORMANCE STEP: Determine minimum flow and maximum flow expected (Step 4.7.4)

C

STANDARD: Using value determined in step 4.7.3 (11.4 MPPH [11.3-11.5]) multiply by .97 for minimum flow expected and multiply by 1.03 for maximum flow expected

minimum flow expected = 11.058 (acceptable 10.961 – 11.155)
maximum flow expected = 11.742 (acceptable 11.639 – 11.845)

CUE: **None**

SAT UNSAT

11. PERFORMANCE STEP: Verify indicated Feedwater Flow is between minimum and (Step 4.7.5) maximum expected values.

STANDARD: Verify indicated Feedwater Flow from step 4.7.2 is between the minimum and maximum expected values

CUE: **None**

SAT UNSAT

12. PERFORMANCE STEP: Record value for computer point J427 (Gen Gross PWR) (Step 4.8.1)

STANDARD: Using data provided on Summary Group 12 record the value of computer point J427 as 896.78 MWe

NOTE: Step 4.7.6 is N/A

CUE: **None**

SAT UNSAT

13. PERFORMANCE STEP: Record Gross Generated Megawatts corresponding to the HBP (Step 4.8.2)

C

STANDARD: Using curve CC9.2 and the HBP recorded in step 4.1 determine the Gross Generated Megawatts corresponding to the HBP to be 900 MWe

NOTE: Acceptable range of 890 to 910 MWe

CUE: **None**

SAT UNSAT

14. PERFORMANCE STEP: Determine minimum and maximum expected Generated MWe (Step 4.8.3)

C

STANDARD: Calculate minimum and maximum expected Generated MWe to be 870 MWe and 930 MWe.

NOTE: Acceptable is calculation of ± 30 applied to value determined in previous performance step.

CUE: **None**

SAT UNSAT

15. PERFORMANCE STEP: Verify indicated Gross Generated Megawatts is within the (Step 4.8.4) minimum and maximum expected values.

STANDARD: Determine indicated Gross Generated Megawatts from step 4.8.1 is between the minimum and maximum expected values determined in step 4.8.3.

CUE: **None**

SAT UNSAT

16. PERFORMANCE STEP: Complete section 4.0

STANDARD: Sign for completed by.

NOTE: Step 4.8.5 is N/A

CUE: **None**

SAT UNSAT

17. PERFORMANCE STEP: Sign applicable acceptance criteria

STANDARD: Sign verified by for acceptance criteria 5.1.1 through 5.1.4. May mark 5.2 N/A.

CUE: **None**

SAT UNSAT

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

END TIME

Admin JPM
RO-A1.2

Facility: Davis-Besse **Task No:** 115-004-02-0100

Task Title: DH831 Valve Stroke / Control of Locked Valves

K/A Reference: 2.1.18 (3.6) **Job Performance Measure No**: RO A1.2 (JPM 261M)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Maintain Locked Valve Log IAW DB-OP-00008, Operation and Control of Locked Valves

Required Materials:
DB-PF-03205, ECCS TRAIN 1 VALVE TEST
ISTB3, Pump and Valve Basis Document, Volume III, Section C
Locked Valve Log (DB-OP-03004, Locked Valve Verification **and** Locked Valve Log Sheet)
DB-OP-00008, Operation and Control of Locked Valves
Stopwatch

General References:
None

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:

DH831 Valve Stroke / Control of Locked Valves

INITIAL CONDITION:

Any IC

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

None

MALFUNCTIONS/FAILURE TO INSERT:

None

ACTION/CUES:

EXAMINER COPY

INITIAL CONDITIONS:

Maintenance has completed a packing adjustment on valve DH831, DH COOLER 1 AND 2 CROSS-CONNECT, to stop a packing leak per Order 200001155.

DB-PF-03205, ECCS TRAIN 1 VALVE TEST Section 3.0 PREREQUISITES are in progress.

INITIATING CUES:

The Unit Supervisor directs you to perform post maintenance valve testing of DH831 in accordance with DB-PF-03205, ECCS TRAIN 1 VALVE TEST.

The Shift Manager has designated you to complete the Locked Valve Log Sheet as required IAW DB-OP-00008, Operation and Control of Locked Valves.

(Provide the Candidate

- **DB-PF-03272 in progress**
- **Locked Valve Log, which includes a copy of DB-OP-03004, Locked Valve Verification)**
- **DB-OP-00008, Operation and Control of Locked Valves)**

CANDIDATE COPY

INITIAL CONDITIONS:

Maintenance has completed a packing adjustment on valve DH831, DH COOLER 1 AND 2 CROSS-CONNECT, to stop a packing leak per Order 200001155.

DB-PF-03205, ECCS TRAIN 1 VALVE TEST Section 3.0 PREREQUISITES are in progress.

INITIATING CUES:

The Unit Supervisor directs you to perform post maintenance valve testing of DH831 in accordance with DB-PF-03205, ECCS TRAIN 1 VALVE TEST.

The Shift Manager has designated you to complete the Locked Valve Log Sheet as required IAW DB-OP-00008, Operation and Control of Locked Valves.

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 DB-PF-03205, ECCS TRAIN 1 VALVE TEST.

   STANDARD: Sign Test Cover Sheet.
   Complete DB-PF-03205 Step 3.1.1.
   1. Obtain permission from the SM to reposition DH831
   2. Initial Step 3.1.1 for DH831
   3. N/A remainder of valves
   4. Sign and Date Section 3.0 completed by line

   NOTE: Performance Steps 1 and 2 can be done in either order.

   CUE: **Role play as shift manager to give permission to stroke DH831.**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Complete the first (6) six columns of the Log Sheet.
   .....C..... **(**DB-OP-00008 Step 6.2.1)

   STANDARD: Complete the following prior to valve stroke.
   1. Fill in Alpha Numeric Designator As identified in DB-OP-03004, Locked Valve Verification (DH831).
   2. Fill in the Normal Position as specified in DB-OP-03004, Locked Valve Verification (Closed).
   3. Enter reason the valve is to be repositioned (DB-PF-03205 or DH831 Valve Stroke are acceptable)
   4. Place a mark in the Elect/Pneu box.
   5. Local Lock box is left blank. (Not Critical)
   6. Relief Valve Isol box is left blank. (Not Critical)

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Obtain Shift Manager (SM) Permission to reposition a locked valve/component. (DB-OP-00008 Step 6.2.2)
.....C.....

STANDARD: Request the SM to initial the SM Permission column.
Record Time and Date in the Time and Date column.

NOTE: The candidate is the designated operator to perform the repositioning per Initiating Cues. (Step 6.2.2.c)

CUE: **When asked, Initial the SM Permission column and Record Time and Date in the Time and Date column.**

SAT UNSAT

4. PERFORMANCE STEP: Complete Step 4.7.1, Verify DH831, DH COOLER 1 AND 2 CROSS-CONNECT, is closed.

STANDARD: Check Green light is lit on HIS831.

CUE: **None.**

SAT UNSAT

5. PERFORMANCE STEP: Mark Step 4.7.2 as N/A

STANDARD: Check Green light is lit on HISDH6B to verify DH Pump 1 is Off.

CUE: **None.**

SAT UNSAT

6. PERFORMANCE STEP: Complete Step 4.7.3, Stroke time DH831 Open and Closed.

STANDARD: Complete the following items
1. Stroke time DH831 open using HIS831.
2. Stroke time DH831 closed using HIS831.
3. Document results on Attachment 1.

COMMENT: The Locked Valve Log may be updated during or after the stroke test.

CUE: **None.**

SAT UNSAT

7. PERFORMANCE STEP: Mark Steps 4.7.4 through 4.7.6 N/A.

   STANDARD: Mark Steps 4.7.4 through 4.7.6 N/A.

   CUE: **None.**

SAT UNSAT

8. PERFORMANCE STEP: Complete Step 4.7.7, Restore DH831 as required by Shift Manager.

   STANDARD: Mark Step 4.7.7 as left position as Closed.

   CUE: **Shift Manager informs you that the as left position for DH831 is Closed.**

SAT UNSAT

9. PERFORMANCE STEP: Mark Step 4.7.8 N/A.

   STANDARD: Mark Step 4.7.8 N/A.

   CUE: **None.**

SAT UNSAT

10. PERFORMANCE STEP: Complete Step 4.7.9, Restore DH830, DH COOLER 1 AND 2 CROSS-CONNECT position as required per Shift Manager.

    STANDARD: Mark Step 4.7.9 as left position as Closed.
    Sign and date Section 4.7 completed by lines.

    CUE: **Shift Manager informs you that the as left position for DH830 is Closed.**

SAT UNSAT

11. PERFORMANCE STEP: Complete the Position To and Position By columns in the **.....C.....** Locked Valve Log. (DB-OP-00008 Step 6.2.3)

    STANDARD: Enter Open in the Position To column.
    Initial the Positioned By column.

    COMMENT: The Locked Valve Log may be updated during or after the stroke test.

    CUE: **None.**

SAT UNSAT

12. PERFORMANCE STEP: Complete the Restored By column in the Locked Valve Log.
.....C..... (DB-OP-00008 Step 6.3.3.a)

STANDARD: Initial the Valve/Component Restored By block.

COMMENT: The Locked Valve Log may be updated during or after the stroke test.

NOTE: The Lock Restored By column may be marked N/A.

CUE: **The Field Supervisor will assign an operator to complete the IV.**

_____
SAT UNSAT

---

13. PERFORMANCE STEP: Complete acceptance criteria.

STANDARD: Signs off Step 5.1 and on Attachment 1.
Signs Section 4.y completed by line.
Signs cover sheet.

CUE: **None.**

_____
SAT UNSAT

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

_____
END TIME

Admin JPM
RO-A2

Facility: Davis-Besse **Task No:** 012-017-02-0100

Task Title: Calculate RCS Flow with F744 inoperable

K/A Reference: 2.2.12 (3.7) **Job Performance Measure No**: RO-A2 (JPM 227)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom _X_ Simulator __ 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 Attachment 7: Calculation of RC Total Flow (Computer Point F744 Inoperable) and determine total flow value between 405 and 407 KGPM

Required Materials:
- DB-OP-03006, Miscellaneous Shift Checks, Attachment 1 page 4 of 8, Attachment 7 AND step 4.32.1.b
- Operator Special Summary RCS FLOW CALC
- Page 183 CTRM Steam Table

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: 20 minutes

EXAMINER COPY

INITIAL CONDITIONS:

The unit is at 100% power.

The crew is performing DB-OP-03006, Miscellaneous Instrument Shift Checks.

The Plant Process Computer is available but Computer Point F744, RC CLG TOTAL FLOW (KGPM), is unavailable.

INITIATION CUE:

The Unit Supervisor directs you to perform Attachment 7: Calculation of RC Total Flow (Computer Point F744 Inoperable) in accordance with step 4.32.1.b of DB-OP-03006.

(Provide Candidate the following

- **DB-OP-03006, Attachment 1 page 4 of 8,**
- **DB-OP-03006, Attachment 7**
- **DB-OP-03006, Step 4.32.1.b**
- **Operator Special Summary RCS FLOW CALC**
- **Page 183 CTRM Steam Table)**

CANDIDATE COPY

INITIAL CONDITIONS:

The unit is at 100% power.

The crew is performing DB-OP-03006, Miscellaneous Instrument Shift Checks.

The Plant Process Computer is available but Computer Point F744, RC CLG TOTAL FLOW (KGPM), is unavailable.

INITIATION CUE:

The Unit Supervisor directs you to perform Attachment 7: Calculation of RC Total Flow (Computer Point F744 Inoperable) in accordance with step 4.32.1.b of DB-OP-03006.

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: Enter Computer Point values on Attachment 7

   STANDARD: Enter values on Attachment 7 from printout
   - F857 74.9 (MPPH) (RC Loop 1 HLG Flow)
   - F858 75.5 (MPPH) (RC Loop 2 HLG Flow)
   - P722 2145.3 (PSIG) (RC Loop 1 NR Press)
   - P729 2155.3 (PSIG) (RC Loop 2 NR Press)
   - T780 559.6 (˚F) (RCP 1-1 Disch NR Temp)
   - T800 560.4 (˚F) (RCP 1-2 Disch NR Temp)
   - T820 559.7 (˚F) (RCP 2-1 Disch NR Temp)
   - T840 560.3 (˚F) (RCP 2-2 Disch NR Temp)

   CUE: **Provide Operator Special Summary with computer points. Values for F857 and F858 are averages from trend recorder value per * note at bottom of page**

SAT UNSAT

2. PERFORMANCE STEP: **C** Record Specific Volume using ASME Steam Tables on Attachment 7

   STANDARD: Record Loop 1 average Tavg: (T780 + T800)/2 = **560**

   Record Loop 1 RCS Pressure: P722 + 14.7 = **2160**

   Interpolate Specific Volume (V1) using Steam Table = **.02168**

   (.02166 to .02170 is satisfactory)

   COMMENTS: **Provide ASME Steam Tables page 183**

   CUE: **None**

SAT UNSAT

3. PERFORMANCE STEP: Calculate Loop 1 Flow
C

STANDARD: Performs calculation:

(F857 reading)(V1)(124.675) = **202.451** KGPM

COMMENTS: Loop 1 flow calc between **202.2** and **202.7** KGPM is satisfactory

CUE: **None**

SAT UNSAT

4. PERFORMANCE STEP: Record Specific Volume using ASME Steam Tables, pg. 183 on ATTACHMENT 7
C

STANDARD: Record Loop 2 average Tavg: (T820 + T840)/2 = **560**

Record Loop 2 RCS Pressure: P729 + 14.7 = **2170**

Interpolate Specific Volume (V2) using Steam Table = .**02167**

(.02166 to .02170 is satisfactory)

CUE: **None**

SAT UNSAT

5. PERFORMANCE STEP: Calculate Loop 2 Flow
C

STANDARD: Performs calculation:

(F858 reading)(V2)(124.675) = **203.979** KGPM

COMMENTS: Loop 2 flow calc between **203.8** and **204.3** KGPM is satisfactory

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Calculate RC Total Flow (Loop 1 + Loop 2)
C

STANDARD: Add Loop 1 and Loop 2 flows

Loop 1 + Loop 2 = **406.43**

COMMENTS: Total Flow between **406** and **407** KGPM is satisfactory

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Complete ATTACHMENT 7

STANDARD: Signs and dates Calculation Performed by

CUE: **None**

SAT UNSAT

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

END TIME

ANSWER KEY

ATTACHMENT 7: CALCULATION OF RC TOTAL FLOW
(COMPUTER POINT F744 INOPERABLE)

1.0 Enter the values from the following Computer Points:

F857 = **74.9** MPPH* T780 = **559.6** °F
F858 = **75.5** MPPH* T800 = **560.4** °F
P722 = **2145.3** PSIG T820 = **559.7** °F
P729 = **2155.3** PSIG T840 = **560.3** °F

2.0 Determine Loop 1 Flow:

2.1 Record the Specific Volume for the following conditions using the ASME Steam Tables, page 183:

Temperature = $\frac{T780 + T800}{2}$ = $\frac{(559.6) + (560.4)}{2}$ = **560** °F

Pressure (P722) = **2145.3** PSIG + 14.7 = **2160** PSIA

Specific Volume (V_1) = **.02168** FT^3/LBM, from interpolation

2.2 Calculate Loop 1 Flow:

Loop 1 Flow = (F857)(V_1)(124.675)

Loop 1 Flow = (**74.9**)(**.02168**)(124.675) = **202.451** KGPM

3.0 Determine Loop 2 Flow:

3.1 Record the Specific Volume for the following conditions, using the ASME Steam Tables, page 183:

Temperature = $\frac{T820 + T840}{2}$ = $\frac{(559.7) + (560.3)}{2}$ = **560** °F

Pressure (P729) = **2155.3** PSIG + 14.7 = **2170** PSIA

Specific Volume (V_2) = **.02167** FT^3/LBM, from interpolation

* Place value of F857 and F858 on a trend recorder and use the average of the trend recorder value for the calculation. If a trend recorder is not available, find the average of Special Summary or Digital Voltmeter readings.

ANSWER KEY

ATTACHMENT 7: CALCULATION OF RC TOTAL FLOW
(COMPUTER POINT F744 INOPERABLE)

3.2 Calculate Loop 2 Flow:

Loop 2 Flow = (F858)(V_2)(124.675)

Loop 2 Flow = (**75.5**)(**.02167**)(124.675) = **203.979** KGPM

4.0 Calculate RC Total Flow:

Total Flow = Loop 1 Flow + Loop 2 Flow

Total Flow = (**202.451**) + (**203.979**) = **406.43** KGPM

Calculation performed by _____ Date _____

Independent Verification by _____ Date _____

Admin JPM
RO-A3

Facility: Davis-Besse **Task No:** 073-009-04-0100

Task Title: Perform DB-SC-03200, Shift Channel Check of the Radiation Monitoring System

K/A Reference: 2.3.5 (2.9) **Job Performance Measure No**: RO A3 (New)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ____ Actual Performance _X_

Classroom ____ Simulator _X_ Plant ____

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Perform DB-SC-03200, Shift Channel Check of the Radiation Monitoring System, identify equipment issues and report them to the Shift Manager.

Required Materials:
DB-SC-03200, Shift Channel Check of the Radiation Monitoring System

General References:
None

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 DB-SC-03200, Shift Channel Check of the Radiation Monitoring System

INITIAL CONDITION:

Any IC

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

- Unplug signal generator for 1878A1, verify fail and range lights are on (time delay)
- Turn off 1878B1, install maintenance info tag or OOS placard

MALFUNCTIONS/FAILURE TO INSERT:

Set RI4686 CM75E to 0.00031

ACTION/CUES:

EXAMINER COPY

INITIAL CONDITIONS:

DB-SC-03200, Shift Channel Check of the Radiation Monitoring System is in progress.

The RO previously performing it was dispatched to perform other duties.

INITIATING CUES:

The Unit Supervisor directs you to complete DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

(Provide the Candidate a copy of the in-progress DB-SC-03200, Shift Channel Check of the Radiation Monitoring System)

CANDIDATE COPY

INITIAL CONDITIONS:

DB-SC-03200, Shift Channel Check of the Radiation Monitoring System is in progress.

The RO previously performing it was dispatched to perform other duties.

INITIATING CUES:

The Unit Supervisor directs you to complete DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

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 DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

   STANDARD: Reviews DB-SC-03200, Shift Channel Check of the Radiation Monitoring System to determine what readings are remaining.

   Signs Test Cover Sheet.

   CUE: **None.**

SAT UNSAT

2. PERFORMANCE STEP: Check the status of each monitor listed in Attachment 2, Radiation Monitor Status Checks on DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.
   .....C.....

   STANDARD: Identify Fail Light is lit on RE1878A1.
   Notify the Shift Manager and make a note in the Comments section.

   CUE: **CSRO acknowledges, continue with surveillance.**

SAT UNSAT

3. PERFORMANCE STEP: Check the status of each monitor listed in Attachment 2, Radiation Monitor Status Checks on DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.
   .....C.....

   STANDARD: Identify RE1878B1 is OFF.
   Notify the Shift Manager and make a note in the Comments section.

   CUE: **CSRO acknowledges, RE1878B was removed from service on the prior shift, another operator will place an OOS placard on RE1878B, continue with surveillance.**

SAT UNSAT

4. PERFORMANCE STEP: Check the status of each monitor listed in Attachment 2, Radiation Monitor Status Checks on DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.
.....C.....

STANDARD: Identify RI 4686 High Alarm is lit.
Notify the Shift Manager and make a note in the Comments section.

CUE: **CSRO acknowledges, continue with surveillance.**

SAT UNSAT

5. PERFORMANCE STEP: Complete Section 4.2.

STANDARD: Initial steps 4.2.1, 4.2.2, sign Subsection 4.2 completed by line.

CUE: **None.**

SAT UNSAT

6. PERFORMANCE STEP: Complete Section 4.3
.....C.....

STANDARD:
- Mark Step 4.3.1 N/A. (Not Critical)
- Contact Command SRO to ensure actions for RI 4686 High Alarm are Started. (Critical Step)
- Initial Step 4.3.2 after SRO has been notified. (Not Critical)
- Initial Step 4.3.3. (Not Critical)

CUE: **None.**

SAT UNSAT

7. PERFORMANCE STEP: Complete acceptance criteria.

STANDARD: Reviews shift checks on Attachments 1 and 2 and checks required data have been recorded and evaluated to ensure Shift Channel Check requirements are met.

Signs off Step 5.1.

CUE: **None.**

SAT UNSAT

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

_____
END TIME

ADMIN JPM
SRO A1.1

Facility: Davis-Besse **Task No:** 333-011-01-0300

Task Title: Review DB-OP-03007

K/A Reference: 2.1.19 (3.8) **Job Performance Measure**: SRO A1.1 (New)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom _X__ Simulator ___ 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.

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

Task Standard:
Identify errors in the performance of DB-OP-03007 and determine Regulatory entry requirements and associated actions.

Required Materials:
- Completed surveillance of DB-OP-03007, MISCELLANEOUS INSTRUMENT DAILY CHECKS
- DB-OP-03007, MISCELLANEOUS INSTRUMENT DAILY CHECKS
- Technical Specifications
- Technical Requirements Manual
- Offsite Dose Calculation Manual (ODCM)
- FIRE HAZARD ANALYSIS REPORT REVISION 30 (FHAR)

General References: None

Time Critical Task: No

Alternate Path: No

Validation Time: 25 minutes

EXAMINER COPY

INITIAL CONDITIONS:

The plant is in Mode 1.

There are no radioactive releases in progress

INITIATING CUES:

You are to review DB-OP-03007, Miscellaneous Instrument Daily Check, Attachment 1 and determine if there are any Regulatory entry requirements and if so, determine the associated actions and completion times.

(Make available the following items.

- **Completed surveillance of DB-OP-03007, Miscellaneous Instrument Daily Check**
- **A clean copy of DB-OP-03007, Miscellaneous Instrument Shift Check**
- **Technical Specifications**
- **Technical Requirements Manual (TRM)**
- **Fire Hazard Analysis Report (FHAR**
- **Off-site Dose Calculation Manual (ODCM))**

CANDIDATE COPY

INITIAL CONDITIONS:

The plant is in Mode 1.

There are no radioactive releases in progress

INITIATING CUES:

You are to review DB-OP-03007, Miscellaneous Instrument Daily Check, Attachment 1 and determine if there are any Regulatory entry requirements and if so, determine the associated actions and completion times.

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: Review Step 4.9.1, Borated Water Storage Tank (BWST) Temperature.
C

STANDARD: Identify that the Acceptance Criteria for BWST Temperature is greater than the high limit.

Required action is to:
Identify LCO 3.5.4, Borated Water Storage Tank (BWST), is NOT met.
Enter CONDITION A. BWST water temperature not within limits.
REQUIRED ACTION: A.1 Restore BWST to OPERABLE status.
COMPLETION TIME: 8 hours

CUE: **None**

SAT UNSAT

2. PERFORMANCE STEP: Review Step 4.11, Waste Gas System Oxygen Monitor
C

STANDARD: Identify that the Acceptance Criteria for Waste Gas System Oxygen Monitor is not met. The concentration of Oxygen is > 2 % by volume and the Hydrogen concentration exceeds 4% by volume.

Required action is to:
Identify TECHNICAL NORMAL CONDITIONS (TNC) 8.7.5 is NOT met.
Enter NONCONFORMANCE A. CONTINGENCY MEASURES A.1: Reduce Waste Gas System oxygen concentration to within the limit.
RESTORATION TIME: 48 hours

CUE: None

SAT UNSAT

3. PERFORMANCE STEP: Review Step 4.6, Fire Water Storage Tank Level

C

STANDARD: Identify the Acceptance Criteria for the Fire Water Storage Tank Level is NOT met. Fire Water Storage Tank level, as indicated by LI1051, STORAGE TANK LEVEL on C5720 is < 30 feet. (FHAR 8.1.2 SR A.1)

Required Action is to:
Initiate the action required by Fire Hazard Analysis Report 8.1.2.
Action A: With the Fire Water Storage Tank or the Ultimate Heat Sink not FUNCTIONAL, confirm the FUNCTIONALITY of the alternate water supply within one hour and every 24 hours thereafter.

CUE: None

SAT UNSAT

4. PERFORMANCE STEP: Review Step 4.8, Missed circling YES for Average Air Temperature is ≤ 120 °F for the operating Containment Air Coolers.

STANDARD: Identifies that Step 4.8 (SR 3.6.5.1) not circled.

CUE: None

SAT UNSAT

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

END TIME

Admin JPM
SRO-A1.2

Facility: Davis-Besse **Task No:** 333-014-01-0300

Task Title: Review a Calculated Shutdown Value

K/A Reference: 2.1.37 (4.6) **Job Performance Measure No**: SRO-A1.2 (JPM 262)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom _X_ Simulator ___ 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:
Review the Shutdown Value calculation and identify errors.

Required Materials:
- DB-NE-06202, Reactivity Balance Calculations Rev 13
- DB-NE-06201, Reactor Operator Curve Book Procedure Rev 20
- Completed SDV calculation
- Straight edge, Calculator

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: 45 minutes

EXAMINER COPY

INITIAL CONDITIONS:

The plant is in Mode 3 with a reactor startup in progress.

All systems are in their normal lineup.

The START program is not available.

The following conditions exist:

- Burnup: 70 EFPD
- Xenon: No Xenon
- Boron Conc: 1875 ppmB
- Tave: 520°F
- APSRs at 29.5%
- Control Rod Group (CRG) 1 at 100%

The Reactor Engineer reports values for the following:

- Transient poisons is -1.5% ΔK/K
- Correction factor for Boron 10 depletion is 0.96
- Reactivity Anomaly is zero.

INITIATING CUES:

As the Unit Supervisor review a shutdown value calculation per DB-NE-06202, Reactivity Balance Calculations, and DB-NE-06201, Reactor Operator Curve Book. Identify any discrepancies below.

(Provide examinee completed SDV calculation, DB-NE-06202, and DB-NE-06201)

CANDIDATE COPY

INITIAL CONDITIONS:

The plant is in Mode 3 with a reactor startup in progress.

All systems are in their normal lineup.

The START program is not available.

The following conditions exist:

- Burnup: 70 EFPD
- Xenon: No Xenon
- Boron Conc: 1875 ppmB
- Tave: 520°F
- APSRs at 29.5%
- Control Rod Group (CRG) 1 at 100%

The Reactor Engineer reports values for the following:

- Transient poisons is -1.5% ΔK/K
- Correction factor for Boron 10 depletion is 0.96
- Reactivity Anomaly is zero.

INITIATING CUES:

As the Unit Supervisor review a shutdown value calculation per DB-NE-06202, Reactivity Balance Calculations, and DB-NE-06201, Reactor Operator Curve Book. Identify any discrepancies below.

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: Verify correct procedure section.

   STANDARD: Identifies Section 9 or Attachment 5 of DB-NE-06202, Reactivity Balance Calculations, as the correct section and reviews the data from the initial conditions.

   CUE: **None**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Determine **ρ(fuel)**, fuel Worth, from Figure 2 based on EFPD. **.....C.....**

   STANDARD: From Figure 2, determine the value entered of 11.93 %ΔK/K for ρ(fuel) is **INCORRECT.**

   The Correct value is 12.57 %ΔK/K.

   COMMENT: Determining the correct value is not critical.

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Determine **B(ROCB**) by completing the following calculation.

   STANDARD: __**1875**__ x __**0.96**__ x (1 - .01) = __**1782**__ ppmB is **CORRECT.**
   B(RCS) CF(B10) B(ROCB)

   CUE: **None**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Determine **ρ(BBOL)**, Boron Worth at Beginning of Life, from Figure 3 based on B(ROCB).

   STANDARD: From Figure 3, determine the value entered of 11.65 is **CORRECT.**

   CUE: **None**

   _____
   SAT UNSAT

5. PERFORMANCE STEP: Determine **CF(FBU)**, Correction Factor for Fuel Burnup, from Figure 4 based on EFPD (Critical curve).

STANDARD: From Figure 4, determine the value entered of 1.0 is **CORRECT.**

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Determine **ρ(boron)**, Boron Worth, by completing the following calculation.

STANDARD: $= \frac{\textbf{(-)11.65}}{\rho\ (BBOL)} \times \frac{\textbf{1.0}}{CF(FBU)} = \frac{\textbf{(-)11.65}}{\rho\ (boron)}$ %Δk/k is **CORRECT.**

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Determine **ρ(tp)**, Transient Poison Worth, from initial cue.

STANDARD: Determine from initial conditions the value entered of -1.5 %ΔK/K is **CORRECT.**

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Determine **ρ(Pu-max)**, Maximum Excess Pu-239 Worth, from Figure 20B based on EFPD.

STANDARD: From Figure 20B, determine the value entered of 0.149 %ΔK/K is **CORRECT.**

CUE: **None**

SAT UNSAT

9. PERFORMANCE STEP: Determine α_T, Temperature Coefficient, from Figure 12 based on EFPD and B(ROCB).

STANDARD: From Figure 12, determine the value entered of 0.008 %ΔK/K/°F is **CORRECT.**

CUE: **None**

SAT UNSAT

10. PERFORMANCE STEP: Determine **ρ(temp)**, Temperature Reactivity and **ΔT** by completing the following calculations.

STANDARD: **(-)0.008** (α_T) x **(-)12** (ΔT) = **0.096** (ρ (temp)) %Δk/k is **CORRECT.**

ΔT = 520 – 532 = (-)12 is **CORRECT.**

CUE: **None**

SAT UNSAT

11. PERFORMANCE: STEP: Determine **ρ(CRG 1-4),** Safety Rod Worth, from Table 1 of ROCB **.....C.....** based on Control Rod Group 1 position.

STANDARD: From Table 1 determine the value entered of (-)3.0661 %ΔK/K is **INCORRECT.**

The Correct value is (-)2.3440 %ΔK/K.

COMMENT: Determining the correct value is not critical.

CUE: **None**

SAT UNSAT

12. PERFORMANCE STEP: Determine **ρ(CRG 5-7),** Control Rod Groups 5-7 Worth, from Figure 9* based on EFPD, ρ(tp), and Rod Index.

STANDARD: From Figure 9A, determine the value entered of (-)2.67 %ΔK/K is **CORRECT.**

CUE: **None**

SAT UNSAT

13. PERFORMANCE STEP: Determine **ρ(CRG 1-7)**, Control Rod Groups 1-7 Worth by **.....C.....** completing the following calculation.

STANDARD: **(-)3.0661** (ρ (CRG 1-4)) + **(-)2.67** (ρ (CRG 5-7)) = **(-)5.7361** (ρ (CRG 1-7)) %Δk/k is **INCORRECT.**

The Correct value is (-)5.014 %ΔK/K.

COMMENT: Determining the correct value is not critical.

CUE: **None**

SAT UNSAT

14. PERFORMANCE STEP: Determine **ρ(APSR)**, APSR Worth, from Figure 11A based on EFPD and APSR position.

STANDARD: From Figure 11A, determine APSR worth of (-)0.107 %ΔK/K is **CORRECT**.

CUE: **None**

SAT UNSAT

15. PERFORMANCE STEP: Determine **ρ(anom)**, Reactivity Worth of HFP Anomaly, from the Initial Conditions.

STANDARD: From Initial Conditions determine the value entered of 0 is **CORRECT.**

CUE: **None**

SAT UNSAT

16. PERFORMANCE STEP: Determine the calculated **Shutdown Value (SDV)** **.....C.....** is **INCORRECT** by performing the following calculation.

STANDARD:

INCORRECT

11.93	**(-)11.65**	**(-)1.5**	**0.149**	**0.096**	**(-)5.7361**	**(-)0.107**	**0**	=	**(-)6.1824** %Δk/k
ρ(fuel)	ρ(boron)	ρ(tp)	ρ(Pu-max)	ρ(temp)	ρ(CRG 1-7)	ρ(APSR)	ρ(anom)		SDV

CORRECT

12.56	**(-)11.65**	**(-)1.5**	**0.149**	**0.096**	**(-)5.014**	**(-)0.107**	**0**	=	**(-)5.466** %Δk/k
ρ(fuel)	ρ(boron)	ρ(tp)	ρ(Pu-max)	ρ(temp)	ρ(CRG 1-7)	ρ(APSR)	ρ(anom)		SDV

COMMENT: Determining the correct value is not critical.

CUE: **None**

SAT UNSAT

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

END TIME: _____

Admin JPM
SRO-A2

Facility: Davis-Besse **Task No:** 331-014-03-0300

Task Title: Review Post-Maintenance Testing Surveillance

K/A Reference: 2.2.37 (4.6) **Job Performance Measure No**: SRO-A2 (JPM273M)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ____ Actual Performance X

Classroom X Simulator _____ 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:
- Identify Valve Stroke time is > Maximum Permissible time
- Identify LCO 3.6.3 is not met for CV5010D

Required Materials:
- DB-PF-03272, Post Maintenance Valve Test, filled out with actual stroke time >ISTB3 maximum stroke time and Acceptance Criteria filled out incorrectly

General References:
- Tech Specs
- Tech Spec Bases
- DB-OP-06412, PROCESS AND AREA RADIATION MONITOR
- DB-OP-06417, CTMT VESSEL ATMOSPHERE H2 ANALYZER SYSTEM
- OS-033E SH 1
- ISTB3, Pump and Valve Basis Document, Volume III, Section C

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

Time Critical Task: No

Alternate Path: No

Validation Time: 30 minutes

EXAMINER COPY

INITIAL CONDITIONS:

The plant is starting up and is in Mode 3.

Maintenance has completed a packing adjustment on valve CV5010D, CONTAINMENT AIR SAMPLE, to stop a packing leak per Order 200001155.

DB-PF-03272, Post Maintenance Valve Testing, has been completed and the Operator has given you the test for review.

INITIATING CUES:

Perform a review of DB-PF-03272 for CV5010D.

On this page below.

- Identify any errors found.
- Identify if any further actions are required.

(Hand Candidate the filled-out copy of DB-PF-03272)

CANDIDATE COPY

INITIAL CONDITIONS:

The plant is starting up and is in Mode 3.

Maintenance has completed a packing adjustment on valve CV5010D, CONTAINMENT AIR SAMPLE, to stop a packing leak per Order 200001155.

DB-PF-03272, Post Maintenance Valve Testing, has been completed and the Operator has given you the test for review.

INITIATING CUES:

Perform a review of DB-PF-03272 for CV5010D.

On this page below.

- Identify any errors found.
- Identify if any further actions are required.

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: Reviews DB-PF-03272, step 4.2.2, first bullet
   C

   STANDARD: Identify open stroke time exceeds Maximum Allowable Open Stroke Time (Acceptance Criteria step 5.2)

   CUE: None

   SAT UNSAT

2. PERFORMANCE STEP: Reviews DB-PF-03272, step 4.2.2, third bullet
   C

   STANDARD: Identify close stroke time exceeds Maximum Allowable Close Stroke Time (Acceptance Criteria step 5.2)

   CUE: None

   SAT UNSAT

3. PERFORMANCE STEP: Reviews DB-PF-03272 step 4.2.3

   STANDARD: Identify step should be “N/A” (valve stroke time exceeds maximum allowed)

   CUE: None

   SAT UNSAT

4. PERFORMANCE STEP: Reviews DB-PF-03272, step 4.2.4. Corrects step 4.2.4. Step 4.2.4 should have been completed.
   C

   STANDARD: Declares CV5010D inoperable
   Initiate a Condition Report (Not Critical)

   CUE: None

   SAT UNSAT

5. PERFORMANCE STEP: Reviews DB-PF-03272 step 4.2.5

   STANDARD: Corrects step 4.2.5. Step 4.2.5 should have been marked N/A.

   CUE: None

SAT UNSAT

6. PERFORMANCE STEP: Reviews DB-PF-03272 Acceptance Criteria step 5.2

   STANDARD: Identify Acceptance Criteria step 5.2 was not met.

   CUE: None

SAT UNSAT

7. PERFORMANCE STEP: Reviews LCO 3.6.3 Each containment isolation valve shall be **C** OPERABLE.

   STANDARD: Identifies the following.

   - LCO 3.6.3 is not met due to CV5010D being inoperable.
   - Enter Condition A. One or more penetration flow paths with one containment isolation valve inoperable for reasons other than Condition D or E.
   - Required Action A.1: Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.
     Completion Time: 4 hours.
   - Required Action A. 2: Verify the affected penetration flow path is isolated.
     Completion Time:
     - Once per 31 days for isolation devices outside containment.
     - Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment

   CUE: None

SAT UNSAT

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

END TIME

Admin JPM
SRO-A3

Facility: Davis-Besse **Task No:** 333-011-01-0300, 332-002-02-0300

Task Title: Review DB-SC-03200, Shift Channel Check of the Radiation Monitoring System

K/A Reference: 2.3.14 (3.8) **Job Performance Measure No**: SRO-A3 (New)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom ___X___ Simulator _____ 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:
- Identify required actions for RE4686, Storm Sewer Drain Monitor, being Non-Functional.

Required Materials:
- DB-SC-03200 R23, Shift Channel Check of the Radiation Monitoring System
- Offsite Dose Calculation Manual (ODCM)

General References:
None

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

Time Critical Task: No

Alternate Path: No

Validation Time: 30 minutes

EXAMINER COPY

INITIAL CONDITIONS:

The plant is in Mode 1.

A Reactor Operator has completed DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

INITIATING CUES:

Perform a review of DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

On this page below.

- Identify any errors made by the Reactor Operator.
- Identify required actions, if applicable.

(Hand Candidate the filled-out copy of DB-PF-03200)

CANDIDATE COPY

INITIAL CONDITIONS:

The plant is in Mode 1.

A Reactor Operator has completed DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

INITIATING CUES:

Perform a review of DB-SC-03200, Shift Channel Check of the Radiation Monitoring System.

On this page below.

- Identify any errors made by the Reactor Operator.
- Identify required actions, if applicable.

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: Reviews DB-SC-03200, SHIFT CHANNEL CHECK OF THE RADIATION MONITORING SYSTEM
   C

   STANDARD: Identify RI4686 High Alarm light was recorded as ON.
   - Declare RE 4686, Storm Sewer Drain Monitor Non-Functional.
   - Comply with actions of ODCM Table 2-1 Action C.
   - A grab sample shall be taken and analyzed once every 12 hours.

   CUE: None

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Reviews DB-SC-03200, SHIFT CHANNEL CHECK OF THE RADIATION MONITORING SYSTEM
   C

   STANDARD: Initiate DB-SC-03200, Attachment 3, Chemistry Compensatory Actions for RE 4686.

   CUE: None

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Reviews DB-SC-03200, SHIFT CHANNEL CHECK OF THE RADIATION MONITORING SYSTEM

   STANDARD: Identify step 4.2.2 should be signed for RE 4686.

   CUE: None

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Reviews DB-SC-03200, SHIFT CHANNEL CHECK OF THE RADIATION MONITORING SYSTEM

   STANDARD: Identify step 4.3.1 should be signed for RE 4686.

   CUE: None

SAT UNSAT

5. PERFORMANCE STEP: Reviews DB-SC-03200, SHIFT CHANNEL CHECK OF THE RADIATION MONITORING SYSTEM

   STANDARD: Identify step 4.3.2 should be signed for RE 4686.

   CUE: None

SAT UNSAT

6. PERFORMANCE STEP: Reviews DB-SC-03200, SHIFT CHANNEL CHECK OF THE RADIATION MONITORING SYSTEM

   STANDARD: Identify step 5.1 should not have been signed by the Reactor Operator.

   NOTE: Once required actions are completed and the remaining shift checks are evaluated, the acceptance criteria can be signed.

   CUE: None

SAT UNSAT

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

END TIME

Admin JPM
SRO-A4

Facility: Davis-Besse **Task No:** 334-004-05-0300

Task Title: Determine the off-site PAR

K/A Reference: 2.4.44 (4.4) **Job Performance Measure No**: SRO-A4 (JPM 150)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom _X___ Simulator ___ 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:
Determine the off-site protective action recommendations and initiate notifications within 15 minutes.

Required Materials:
- RA-EP-01900, General Emergency, Rev 13 (Marked Up copy in progress)
- RA-EP-02110, Emergency Notification, Rev 19
- RA-EP-02245, Protective Action Guidelines, Rev 9
- RA-EP-02240, Offsite Dose Assessment, Rev 10
- RA-EP-01500, Emergency Classification, Rev 16
- E-Plan Implementation Forms envelope (Forms DBEP-010-12 and DBEP-012-12)

General References: None

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

Time Critical Task: Yes

Alternate Path: No

Validation Time: 12 minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

This JPM is not dependent on any specific simulator initial conditions since the task is administrative in nature.

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

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

If this JPM is not conducted in the simulator, the following references need to be available to the examinee:

- RA-EP-01500, Emergency Classification
- RA-EP-02240, Offsite Dose Assessment
- RA-EP-02110, Emergency Notification
- RA-EP-02245, Protective Action Guidelines
- E-Plan Implementation Forms envelope

MALFUNCTIONS/FAILURE TO INSERT:

None

ACTION/CUES:

See body of JPM

EXAMINER COPY

INITIAL CONDITIONS:

Damage to a fuel assembly in the Fuel Pool has resulted in a release from the Station Vent.

A General Emergency has been declared (3 minutes ago) per EAL RG1.1.

The Emergency Response Organization is being notified of the General Emergency.

Information reviewed for the General Emergency declaration determined that,
- There is no Loss or Potential Loss of the CTMT Fission Product Barrier.
- There is no Hostile Action or Evacuation Impediments reported by the state or counties.

Due to a power failure,
- Rascal Interface (URI), Dose Assessment Software, is unavailable.
- The current wind direction is unknown.

INITIATING CUE:

You are the Emergency Director.

The following off-site dose assessment data is provided.

TEDE RATE		TOTAL TEDE RELEASE
3.0 Rem/hr at 0.75 Miles	X 2 hour estimated release duration	6.0 Rem at 0.75 Miles
0.6 Rem/hr at 2 Miles		1.2 Rem at 2 Miles
0.2 Rem/hr at 5 Miles		0.4 Rem at 5 Miles
0.075 Rem/hr at 10 Miles		0.15 Rem at 10 Miles

Determine the off-site protective action recommendations starting with step 6.1.1.i of RA-EP-01900, General Emergency.

Use the TEDE values only (Child Thyroid dose equivalent values not yet available) **AND** make required offsite notifications.

This is a Time Critical JPM. The instructor will inform you when the clock begins and stops.

Provide copy of in progress RA-EP-01900, General Emergency, and have available the following procedures:

- **RA-EP-01500, Emergency Classification**
- **RA-EP-02240, Offsite Dose Assessment**
- **RA-EP-02110, Emergency Notification**
- **RA-EP-02245, Protective Action Guidelines**
- **E-Plan Implementation Forms envelope**

CANDIDATE COPY

INITIAL CONDITIONS:

Damage to a fuel assembly in the Fuel Pool has resulted in a release from the Station Vent.

A General Emergency has been declared (3 minutes ago) per EAL RG1.1.

The Emergency Response Organization is being notified of the General Emergency.

Information reviewed for the General Emergency declaration determined that,
- There is no Loss or Potential Loss of the CTMT Fission Product Barrier.
- There is no Hostile Action or Evacuation Impediments reported by the state or counties.

Due to a power failure,
- Rascal Interface (URI), Dose Assessment Software, is unavailable.
- The current wind direction is unknown.

INITIATING CUE:

You are the Emergency Director.

The following off-site dose assessment data is provided.

TEDE RATE		TOTAL TEDE RELEASE
3.0 Rem/hr at 0.75 Miles	X 2 hour estimated release duration	6.0 Rem at 0.75 Miles
0.6 Rem/hr at 2 Miles		1.2 Rem at 2 Miles
0.2 Rem/hr at 5 Miles		0.4 Rem at 5 Miles
0.075 Rem/hr at 10 Miles		0.15 Rem at 10 Miles

Determine the off-site protective action recommendations starting with step 6.1.1.i of RA-EP-01900, General Emergency.

Use the TEDE values only (Child Thyroid dose equivalent values not yet available) **AND** make required offsite notifications.

This is a Time Critical JPM. The instructor will inform you when the clock begins and stops.

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: Refer to RA-EP-02245, Protective Action Guidelines and refer to Attachment 1.

   STANDARD: Obtains RA-EP-02245 and refers to Attachment 1.

   CUE: "**Time Critical clock begins now**" _____ **(Record Time)**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Determine PAR using page 1 of Attachment 1.

   STANDARD: Determines a General Emergency IS declared
   Determines this is the Initial PAR
   Determines Rapidly Progressing Severe Accident NOT in progress (NOTE1)
   Determines Hostile Action or Impediment to Evacuation NOT in progress
   Determines a release IS in progress
   Determines the release is NOT terminable by operator action
   OR
   Determines the release duration will be > 1 hour
   Determines TEDE projected doses are < 1 Rem at 5 miles

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Determine PAR using page 2 of Attachment 1.
   .....C.....

   STANDARD: Uses Column A on Page 2 of Attachment 1.
   Using the unknown wind direction, determines the affected subareas for 2-mile radius and 5 miles down wind are 1, 2, 6, 10 and 12.

   CUE: **None**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Make notifications to offsite agencies

   STANDARD: Refers to RA-EP-02110, Emergency Notification as needed.

   CUE: **None**

SAT UNSAT

5. PERFORMANCE STEP: Complete an Initial Notification Form (DBEP-010) and a Davis-Besse Notification Cover Sheet (DBEP-012).
   .....C.....

   STANDARD: Fill out and approve an Davis-Besse Nuclear Power Plant Initial Notification Form (DBEP-010) AND fill out a Davis-Besse Emergency Notification Cover Sheet (DBEP-012).

   Obtain an independent check of the information entered on the Davis-Besse Nuclear Power Plant Initial Notification (DBEP-010) and document this on the Davis-Besse Emergency Notification Cover Sheet (DBEP-012) prior to authorizing the communication of the information.

   NOTE: Item 2. is not critical.
   Item 3.a. is not critical.
   Emergency Director Signature is not critical.
   Information on Form DBEP-012-12, Davis-Besse Notification Cover Sheet is not critical.

   CUE: **If asked, provide an independent check of the data entered and sign the Davis-Besse Notification Cover Sheet.**

SAT UNSAT

6. PERFORMANCE STEP: Initiate the Initial Notification using the 4-Way Ring-Down Circuit. **.....C.....**

STANDARD: Use the Davis-Besse Emergency Notification Cover Sheet (DBEP-012) and Davis-Besse Nuclear Power Plant Initial Notification Form (DBEP-010) to initiate a notification of the GENERAL EMERGENCY with Ottawa County, Lucas County, and the State of Ohio representatives as soon as possible using the 4-way phone AND within 15 minutes of the time the GENERAL EMERGENCY was declared. Refer to RA-EP-02110, Emergency Notification, as required.

NOTE: **Time Critical clock stops when the 4-Way Ring-Down phone is picked up.** Critical Time is ≤12 minutes from start time since declaration of General Emergency was declared "3 minutes ago" by initial conditions.

_____ (Record Time)

CUE: **None**

_____
SAT UNSAT

TERMINATING CUES: **Time Critical clock is stopped. This JPM is complete.** (Terminated by the evaluator).

_____
END TIME

Simulator JPM
S1

Facility: Davis-Besse **Task No:** 000-093-05-0100

Task Title: Emergency Borate the RCS

K/A Reference: 004 A4.10 (3.7) **Job Performance Measure No**: S1 (New)

Examinee: _____

Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance __X__

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Transfer Boric Acid from the BAAT to the RCS via the Batch Controller

Required Materials:
DB-OP-02000 Revision 32
- Specific Rule 1, Reactivity Control
- ATTACHMENT 13, Section 2, Adding Boric Acid to the Makeup Tank

(Use Simulator Hard Cards)

General References:
None

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

Time Critical Task:
No

Alternate Path:
Yes

Validation Time:
11 minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Emergency Borate the RCS

INITIAL CONDITION:

Reactor Trip - more than one Control Rod failed to insert

MUP 1 OOS – Cautioned Tagged

IC322

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

None

MALFUNCTIONS/FAILURE TO INSERT:

MU 3971 failed as-is (MUT)

ACTION/CUES:

None

Ensure Batch Controller in STOP prior to starting JPM

Reset Batch size and Total Batch prior to starting JPM

EXAMINER COPY

INITIAL CONDITIONS:

A reactor trip has occurred

Immediate Actions have been completed

Specific Rule and Symptom Checks have been completed

Makeup Pump 1 is OOS

The Aux Building is NOT accessible

INITIATING CUES:

More than one Control Rod has failed to insert

The Command SRO directs you to Emergency Borate the Reactor Coolant System per Specific Rule 1.

(NOTE: Specific Rule 1 and Attachment 13 are Operator aids located at the ATC Panel. No aids will be given to the Candidate during this JPM.)

CANDIDATE COPY

INITIAL CONDITIONS:

A reactor trip has occurred

Immediate Actions have been completed

Specific Rule and Symptom Checks have been completed

Makeup Pump 1 is OOS

The Aux Building is NOT accessible

INITIATING CUES:

More than one Control Rod has failed to insert

The Command SRO directs you to Emergency Borate the Reactor Coolant System per Specific Rule 1.

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 MU Pump 1 suction in the BWST position. (Specific Rule 1, Step 1.2, BWST Method Step 1.)

   STANDARD: Depress BWST on HIS 6405, observe MU 6405 reposition to the BWST position.

   NOTE: Steps 1 and 2 can be performed in any order.

   CUE: **None**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Lock MU Pump 2 suction in the BWST position. (Specific Rule 1, Step 1.2, BWST Method Step 1.)

   STANDARD: Depress BWST on HIS 3971, recognize MU 3971 has failed in the MUT position.

   Determines the RNO step is NOT an option since the Aux Building is NOT accessible.

   Determines the **Boric Acid Addition Tank Method** is the only option

   REFERs TO Attachment 13, Controlling the Makeup System, Section 2, Adding Boric Acid to the Makeup Tank.

   CUE: **If necessary, The Command SRO directs you to Emergency Borate the Reactor Coolant System per Specific Rule 1**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Review Attachment 13, Controlling the Makeup System, Section 2, Adding Boric Acid to the Makeup Tank.

   STANDARD: Determines Method B, Adding Boric Acid via the Batch Controller is required. (Alternate Path)

   CUE: **None**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Verify MU39, BATCH FLOW CONTROL VALVE is closed

   STANDARD: On the Batch Controller,
   - press VALVE SET
   - press ACK (“0”)
   - press ENTER
   - check indicated valve % is at ZERO.

   CUE: **None**

SAT UNSAT

5. PERFORMANCE STEP: Verify MU23, FLOW CONTROL, is closed using HC MU23.

   STANDARD: Check demand on HC MU23 is at ZERO

   CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Verify WC 3526, BOOSTER SYSTEM BYPASS, is closed using HIS 3526.

   STANDARD: Checks green light is lit on HIS 3526

   CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Set Batch Controller to desired batch size.
   C

   STANDARD: On the Batch Controller,
   - press BATCH SET
   - press number keys equating to desired batch size in gallons
   - press ENTER
   - *Exit BATCH SET mode by pressing DISPLAY (“Lower”)
   - *Display batch size in lower display by pressing BATCH (“4”)

NOTE: *Indicates step is NOT Critical to perform

CUE: **If asked, Command SRO directs a desired batch size of 1000 gallons.**

SAT UNSAT

8. PERFORMANCE STEP: Reset the indicated total on the Batch Controller

   STANDARD: On the Batch Controller,
   - press DISPLAY (“Lower”)
   - press TOTAL (“7”)
   - press TOTAL RESET (“6”)

   CUE: **None**

   SAT UNSAT

9. PERFORMANCE STEP: Display FLOW RATE in the upper display

   STANDARD: On the Batch Controller,
   - press DISPLAY (“upper”)
   - press RATE (“8”)
   - Notify the Command SRO that the Batch Controller is aligned for Boric Acid addition

   CUE: **Acknowledge Batch Controller is aligned for Boric Acid addition**

   SAT UNSAT

10. PERFORMANCE STEP: Enable the Batch Controller
    C

    STANDARD: On the Batch Controller,
    - press RUN

    CUE: **None**

    SAT UNSAT

11. PERFORMANCE STEP: Open MU40, BATCH ISO
    C

    STANDARD: Depress Open on HIS MU40, observe red light on, green light off

    CUE: **None**

    SAT UNSAT

12. PERFORMANCE STEP: Start a Boric Acid Pump
C

STANDARD: Rotate HIS MU50A, Boric Acid Pump 1
OR
HIS MU50B, Boric Acid Pump 2 to START.
Observe the red light comes on, green light goes off

CUE: **None**

SAT UNSAT

13. PERFORMANCE STEP: Throttle boric acid flow with MU23, FLOW CONTROL,
C

STANDARD: Adjust HC MU23, while observing flow indication on the upper display of the Batch Controller or FIMU41

CUE: **None**

SAT UNSAT

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

END TIME

Reset Batch Controller between JPMs

Ensure Batch Controller in STOP prior to starting next JPM

Simulator JPM
S2

Facility: Davis-Besse **Task No:** 000-093-05-0100

Task Title: Transfer LPI Suctions to the Emergency Sump

K/A Reference: 006 A4.05 (4.1) **Job Performance Measure No**: S2 (JPM 291)

Examinee: _____

Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance __X__

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Transfer LPI Suctions to the Emergency Sump

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

General References:
None

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

Time Critical Task:
No

Alternate Path:
Yes

Validation Time:
15 minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Transfer LPI Suctions to the Emergency Sump

INITIAL CONDITION:

Large Break LOCA

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

IC326

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

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

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

Freeze the simulator when BWST level is less than 9 feet

Annunciator 5-3-A, BWST LO-LOLVL XFER TO EMER SUMP is in alarm. Output modules L512 and L514 have failed to trip.

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

Unlock all 4 SFAS cabinets

Ensure BWST Recirc Pump is off

MALFUNCTIONS/FAILURE TO INSERT:

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

Fail Ch 2 level 5 output modules to trip

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

Load Event Schedule

EXAMINER COPY

INITIAL CONDITIONS:

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

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

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

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

INITIATING CUES:

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

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

(Provide the examinee a copy of DB-OP-02000, Attachment 7 Section 2.)

(If asked)

- **This NOT a time critical JPM.**
- **For the purpose of this JPM the Command SRO is not directing the step by step performance of this attachment.**

Unfreeze simulator when examinee is ready to start JPM

CANDIDATE COPY

INITIAL CONDITIONS:

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

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

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

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

INITIATING CUES:

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

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

PERFORMANCE INFORMATION

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

START TIME: _____

NOTE: Unfreeze simulator when student has completed procedure review

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

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

   COMMENT: Blocking either DH7A or DH9A will block the other as does DH7B/9B. It is not critical to depress all 4 BLOCK pushbuttons, ONLY to verify all 4 valves are blocked

   CUE: **None**

   _____
   SAT UNSAT

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

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

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Open Containment Emergency Sump Isolation Valve DH9A. (Step 5.C)

   STANDARD: Depress the OPEN pushbutton on HIS DH9A.

   CUE: **None**

   NOTE: Steps 3 and 5 can be performed in any order.

   _____
   SAT UNSAT

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

4. PERFORMANCE STEP: Recognize DH9A does not open. (Step 5.C)

   STANDARD: HIS DH9A green light remains lit.

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

   SAT UNSAT

5. PERFORMANCE STEP: Open Containment Emergency Sump Isolation Valve DH9B. (Step 5.C)
   C

   STANDARD: Depress the OPEN pushbutton on HIS DH9B. Check red light comes on, green light goes off.

   CUE: **None**

   SAT UNSAT

6. PERFORMANCE STEP: Check DH7B starts to close as DH9B starts to open. (Step 6)

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

   CUE: **None**

   SAT UNSAT

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

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

   CUE: **SFAS Cabinets have been unlocked.**
   (**If required) Another RO is monitoring conditions for cavitation.**

   SAT UNSAT

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

   STANDARD: Depress the OPEN pushbutton on HIS DH9A.

   CUE: **None**

   SAT UNSAT

9. PERFORMANCE STEP: Verify that DH 9A starts to open. (Step 5.D.3)

   STANDARD: Check GREEN light OFF on HIS DH9A.

   CUE: **None**

SAT UNSAT

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

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

    CUE: **None**

SAT UNSAT

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

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

    CUE: **None.**

SAT UNSAT

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

END TIME

Simulator JPM
S3

Facility: Davis-Besse **Task No:** 010-018-01-0100

Task Title: Boron equalization between Pressurizer and the Reactor Coolant System

K/A Reference: 010 A4.01 (3.8) **Job Performance Measure No**: S3 (JPM275)

Examinee: _____

Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:
The plant is operating at 100% power.

Task Standard:
- Initiate boron equalization between Pressurizer and the Reactor Coolant System (Turn on Pressurizer Heaters and throttle open the Spray valve)
- Recognize spray valve failure and take required immediate action (Close the Spray Block Valve)

Required Materials:
DB-OP-06003, Pressurizer Operating Procedure, 4.3 Spraying PZR for Boron Equalization

General References:
None

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

Time Critical Task:
No

Alternate Path:
Yes

Validation Time:
15 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:

IC328

Mode 1 (RX Pwr ≥95%)

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Raise RCS Pressure on Narrow Range to ~2160 psig from 2155 psig.

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.

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

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

3. PERFORMANCE STEP: Throttle open RC2, Pzr Spray, when RCS pressure is between 2170 and 2200 psig

   C

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

   CUE: None

SAT UNSAT

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

   STANDARD: Observe RCS pressure indication. May turn on more heaters.

   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; JPM Performance 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:** 045-015-04-0100

Task Title: Trip Main Turbine at low power

K/A Reference: 045 A4.14 (3.6) **Job Performance Measure No**: S4 (New)

Examinee: _____

Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance __X__

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Trip the reactor and Initiate and Isolate SFRCS when the Main Turbine fails to trip

Required Materials:
DB-SS-04150, MAIN TURBINE STOP VALVE TEST in progress
DB-OP-02015, Annunciator 15-2-E, T-G Bearing VIB HI
DB-OP-02500, Turbine Trip, Step 4.1

General References:
None

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

Time Critical Task:
No

Alternate Path:
Yes

Validation Time:
14 minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Trip the reactor and Initiate and Isolate SFRCS when the Main Turbine fails to trip.

INITIAL CONDITION:

35% Power and Main Turbine Stop Valve testing is in progress.

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

All 4 ARTs Channels are in TURBINE-GEN Bypass.

<Tests><MSV/CV> screen is selected on the Top DEHC HMI.

Load Control is selected on the Bottom DEHC HMI.

ICS SG/RX Hand/Auto station in HAND

MALFUNCTIONS/FAILURE TO INSERT:

Turbine Trip fails

EHC Pump 1 switch fails

ARTS fails to trip the Reactor

EXAMINER COPY

INITIAL CONDITIONS:

Plant startup is in progress

Reactor power is being held at 35% power to perform Main Turbine Stop Valve Testing

DB-SS-04150, MAIN TURBINE STOP VALVE TEST is in progress
- Section 3.0, Prerequisites are complete
- Section 4.1, Preliminaries are complete

An Operator is stationed at MSV 1 and is ready to observe valve travel.

INITIATING CUES:

The Command SRO directs you to complete Main Turbine Stop Valve Testing IAW DB-SS-04150, MAIN TURBINE STOP VALVE TEST, Starting at Section 4.6, Main Stop Valve 1 <45% RTP.

(Provide the examinee a copy of DB-SS-04150, Main Turbine Stop Valve Test)

CANDIDATE COPY

INITIAL CONDITIONS:

Plant startup is in progress

Reactor power is being held at 35% power to perform Main Turbine Stop Valve Testing

DB-SS-04150, MAIN TURBINE STOP VALVE TEST is in progress
- Section 3.0, Prerequisites are complete
- Section 4.1, Preliminaries are complete

An Operator is stationed at MSV 1 and is ready to observe valve travel.

INITIATING CUES:

The Command SRO directs you to complete Main Turbine Stop Valve Testing IAW DB-SS-04150, MAIN TURBINE STOP VALVE TEST, Starting at Section 4.6, Main Stop Valve 1 <45% RTP.

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 the plant is in MODE 1, <45% RTP. (Step 4.6.1)

   STANDARD: Checks current plant conditions, signs cover sheet, initials step 4.6.1.

   CUE: **None**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Verify the following ARTS Channels TURBINE-GEN Bypass switches are in BYPASS position. (Step 4.6.2)

   STANDARD: Checks ARTs Channels 1, 2, 3, and 4 Bypass Switches
   - ARTS Channel 1 Cabinet C5784A
   - ARTS Channel 2 Cabinet C5784B
   - ARTS Channel 3 Cabinet C5784C
   - ARTS Channel 4 Cabinet C5784D

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Verify PT SP16B, HI PRESS TURB 2 INLT PRESS MN LN 1 PRESS TRANS, is selected using HIS SP16, TURB THROT PRSS SLCTR HND SWTCH. (Step 4.6.3)

   STANDARD: Depress the “Y” Pushbutton on HIS SP16, check the light comes on and the button stays indented.

   CUE: **None**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Verify the following: (Steps 4.6.4 and 4.6.5)
   - Computer Point Q004, ARTS TEST TRIP, indicates BYPS.
   - Annunciator (5-6-F) ARTS TEST TRIP BYPASS is LIT.
   - An Operator is stationed at MSV 1

   STANDARD: Reviews the following:
   - Check Computer Point Q004 indicates BYPS.
   - Observes Annunciator (5-6-F) is Lit.
   - Initials step 4.6.5 based on initial cue

   CUE: **If asked, "An Operator is stationed at MSV 1 and is ready to observe valve travel."**

   SAT UNSAT

5. PERFORMANCE STEP: Perform the following at the DEHC HMI:
   - Verify the <Tests><MSV/CV> screen is selected. (Step 4.6.6)
   - Select MSV #1. (Step 4.6.7)
   - Select Test START. (Step 4.6.8)

   STANDARD: Perform the following at the DEHC HMI:
   - Observes the <Tests><MSV/CV> screen is selected.
   - (Touch Screen) Depresses MSV #1.
   - (Touch Screen) Depresses Test START.

   CUE: **None**

   SAT UNSAT

NOTE:

MSV 1 closes at a moderate rate until it is approximately ten percent open. MSV 1 then trips (fast closes) the last ten percent of travel.

When MSV 1 closes, MSV 4 will unexpectantly cycle close and open, causing Turbine Vibrations to rise.

6. PERFORMANCE STEP: Check the following: (Step 4.6.9)
   - MSV 1 closes at a moderate rate until it is approximately ten percent open.
   - MSV 1 trips (fast closes) the last ten percent of travel (approximately 1 inch).

STANDARD: Observes the DEHC HMI for proper response.
If observed, Crew Update MSV 4 has unexpectantly cycled closed and back to open.

CUE: **If required, Acknowledge as the Command SRO that Main Stop Valve 4 has closed. Complete MSV 1 test.**

SAT UNSAT

7. PERFORMANCE STEP: Select PRINT to print the recorded display. (Step 4.6.10)

STANDARD: (Touch Screen) Depresses Print.

NOTE: No feedback from screen that the print feature worked. An EO normally obtains the printout after the test is complete.

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Select Test OFF (Step 4.6.11)
Check MSV 1 fully opens at a moderate rate. (Step 4.6.12)

STANDARD: (Touch Screen) Depresses Test OFF.
Observe MSV 1 remains Closed.

NOTE: 4.6.13 is N/A

CUE: **None**

SAT UNSAT

9. PERFORMANCE STEP: Respond to Annunciator 15-2-E, T-G BEARING VIB HI (Alarm comes in at 10 mils, trip is required at 12 mils)

   STANDARD: Announce Annunciator 15-2-E, T-G BEARING VIB HI using three part communication. May also use a crew update.

   Implement Annunciator 15-2-E. Verify bearing vibration location and intensity DEHC HMI, Monitor, Vibration, display. (DB-OP-02015 15-2-E Step 3.1)

   CUE: **When found, hand candidate a copy of DB-OP-02015 Annunciator 15-2-E, T-G BEARING VIB HI.**

   _____
   SAT UNSAT

---

10. PERFORMANCE STEP: Observe vibration intensity is greater than 12 mils, attempt to trip the turbine. (DB-OP-02015 Step 3.2.b & c)

    STANDARD: Attempt to trip the Turbine Generator using BOTH DEHC Emergency Trip Pushbuttons. GO TO DB-OP-02500, Turbine Trip.

    CUE: **The CSRO directs you to Trip the Turbine IAW DB-OP-02500, Turbine Trip. When found, hand candidate a copy of DB-OP-02500.**

    _____
    SAT UNSAT

---

11. PERFORMANCE STEP: Verify all Turbine Stop Valves OR all Control Valves are Closed. (DB-OP-02500 Step 4.1)

    STANDARD: Observes Turbine Stop Valves AND all Control Valves did NOT Close, routes to RNO:
    - Press the EMERGENCY TRIP pushbuttons.
    - Stop BOTH EHC Fluid Pumps by placing HIS2413, PUMP 1, AND HIS2414, PUMP 2 in LOCKOUT.
    - Dispatches an Operator to Press the EMERGENCY TRIP pushbuttons at the Turbine Front Standard.

    CUE: **The EMERGENCY TRIP pushbuttons at the Turbine Front Standard have been depressed**.

    _____
    SAT UNSAT

---

12. PERFORMANCE STEP: Trip the Reactor (DB-OP-02500 Step 4.1 RNO)
C

STANDARD: Depress Reactor Trip Pushbuttons
Observe Reactor Power is lowering on the Intermediate Range.
May depress the Turbine Trip Pushbuttons again as part of trip script.

CUE: **None**

SAT UNSAT

13. PERFORMANCE STEP: Initiate and Isolate SFRCS using Manual Actuation Switches.
C (DB-OP-02500 Step 4.1 RNO)

STANDARD: Depress both SFRCS Manual Actuation Switches. Observes MSIVs Close.

CUE: **None**

SAT UNSAT

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

END TIME

Simulator JPM
S5

Facility: Davis-Besse **Task No:** 005-012-04-0100

Task Title: Establish flow to the RCS from the BWST via HPI upon a Loss of Decay Heat

K/A Reference: 025 AA1.03 (4.0) **Job Performance Measure No**: S5 (JPM187Mod)

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Initiate flow to the RCS from the BWST via the High Pressure Injection System

Required Materials:
DB-OP-02527, Loss of Decay Heat Removal
- Attachment 5, ESTABLISH FEED AND BLEED COOLING
- Attachment 7, USING HIGH PRESSURE INJECTION SYSTEM TO INJECT WATER

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:
12 Minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Establish flow to the RCS from the BWST via HPI upon a Loss of Decay Heat

INITIAL CONDITION:

IC324

RCS Drained to 80 inches, DH Loop 2 in Service

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

- SPDS Decay Heat Removal Screen is not working.
- Verify DH14B and DH13B are closed.
- Hang Yellow Caution 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 IAW DB-OP-06012, Placing DH Loop in STBY DH Mode.
- Place OPEN placards on DH 1517 and DH 1518.
- Place CLOSED placards on DH 63, DH 64, DH 2733, and DH 2734.
- Place Ops Info tags on HIS DH7A and HIS DH7B IAW DB-OP-06904 Step 3.18.4.

Do not take Simulator to run until student is ready to begin JPM

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)**.

EXAMINER COPY

INITIAL CONDITIONS:

The plant has been in Mode 5 for 25 days.

RCS temperature is 108°F.

RCS level is 81 inches on LI 10577A and B, RCS level indication, for maintenance activities.

Time to boil is 30 minutes.

No RCS boron dilution is in progress.

The SPDS Decay Heat Removal Screen is not functioning.

SGs Upper Primary Manways are removed.

INITIATING CUES:

Decay Heat Pump 2 has tripped on overcurrent.

The Crew has entered DB-OP-02527 for a Loss of Decay Heat Pump 2.

Decay Heat Pump 1 failed to start.

CTMT has been evacuated.

CTMT closure has been established.

The Shift Manager directs you to Perform Attachment 5, Establish Feed and Bleed Cooling utilizing High Pressure Injection Train 1.

You have permission to operate any locked valves required.

Provide the following attachments to the candidate.

- **DB-OP-02527, Attachment 5, Establish Feed and Bleed Cooling**
- **DB-OP-02527, Attachment 7, Using High Pressure Injection System To Inject Water**

CANDIDATE COPY

INITIAL CONDITIONS:

The plant has been in Mode 5 for 25 days.

RCS temperature is 108°F.

RCS level is 81 inches on LI 10577A and B, RCS level indication, for maintenance activities.

Time to boil is 30 minutes.

No RCS boron dilution is in progress.

The SPDS Decay Heat Removal Screen is not functioning.

SGs Upper Primary Manways are removed.

INITIATING CUES:

Decay Heat Pump 2 has tripped on overcurrent.

The Crew has entered DB-OP-02527 for a Loss of Decay Heat Pump 2.

Decay Heat Pump 1 failed to start.

CTMT has been evacuated.

CTMT closure has been established.

The Shift Manager directs you to Perform Attachment 5, Establish Feed and Bleed Cooling utilizing High Pressure Injection Train 1.

You have permission to operate any locked valves required.

PERFORMANCE INFORMATION

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

START TIME: _____

NOTE: Do not take Simulator to run until student is ready to begin JPM.

1. PERFORMANCE STEP: Verify the correct procedure attachment.

   STANDARD: Identify Attachment 5, as the correct procedure attachment.

   CUE: **None**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Continue efforts to establish SG Heat Transfer if possible. (Attachment 5 Step 1)

   STANDARD: REFER TO Attachment 3, Establish SG Heat Transfer.

   CUE: **The Command SRO will refer to Attachment 3.**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Verify Containment is evacuated prior to establishing feed and bleed cooling. (Attachment 5 Step 2)

   STANDARD: Initial Step 2 based on Initial Conditions.

   CUE: **None**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Select AND implement one OR more Inventory Injection Sources. (Attachment 5 Step 3)

   STANDARD: REFER TO Attachment 7, USING HPI PUMP TO INJECT WATER.

   CUE: (**If required) The Command SRO directs you to utilize High Pressure Injection Train 1 to inject water from the BWST to the Reactor Coolant System. (Attachment 7 Step 1)**

   _____
   SAT UNSAT

5. PERFORMANCE STEP: Verify the HPI Pump Suction from the BWST is available by opening DH7B, BWST OUTLET LINE 1. (Attachment 7 Step 2a)
   .....C.....

   STANDARD: Communicate with EO to close BE1157 breaker for DH7B.

   Depress OPEN on HISDH7B, BWST OUTLET LINE 1. Observe Red Light ON, Green light OFF.

   CUE: **(I/F) DH7B breaker, BE1157, is closed**

   SAT UNSAT

6. PERFORMANCE STEP: Determine if forced flow is required. (Attachment 7 Step 2.b.)

   STANDARD: Communicates with CSRO to determine if forced flow is required. Mark Attachment 7, Step 2.b. N/A.

   NOTE: Initiating Conditions stated RCS level is at 81 inches and SGs Upper Primary Manways are removed. The HPI Pumps are normally tagged OOS in this plant condition.

   CUE: (**If asked or as necessary) The Shift Manager has determined forced flow is not required.**

   SAT UNSAT

7. PERFORMANCE STEP: Close High Pressure Injection valves HP 2C and 2D. (Attachment 7 Step 2.c)

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

   NOTE: Attachment 7, Step 2.d should be marked N/A.

   CUE: **None**

   SAT UNSAT

8. PERFORMANCE STEP: Throttle HP 2C, and 2D to establish injection flow.
   .....C..... (Attachment 7 Step 2.e)

   STANDARD: Press the open pushbutton on HP 2C and/or HP 2D using HIS HP2C and HIS HP2D until flow is established. Both Red and Green lights are ON

when the valve is throttled.

   COMMENT: Actual flow rate is not critical at this step, provided some flow is provided. Not required to open both valves.

   CUE: **None**

_____
SAT UNSAT

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

_____
END TIME

Simulator JPM
S6

Facility: Davis-Besse **Task No:** 000-065-05-0100

Task Title: Establish Containment Closure

K/A Reference: 103 A3.01 (4.2) **Job Performance Measure No**: S6 (JPM 219)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Establish Containment Closure IAW step 11.1.5 of DB-OP-06904 Shutdown Operations.

Required Materials:
DB-OP-06904, Shutdown Operations, Section 11
DB-OP-02000 Table 2, SFAS Actuated Equipment, Sheet 1 of 5 SFAS INCIDENT LEVEL 1.

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:
9 minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Establish Containment closure

INITIAL CONDITION:

IC330

MODE 5 IC with DH Loop 2 operating and CTMT Purge Shutdown

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

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

Emergency Shutdown #1 EDG

irf g529g

Energize D2 Bus from D1 Bus to restore Instrument Air

MALFUNCTIONS/FAILURE TO INSERT:

DH Pump #2 breaker fail open

imf bdp2c

EXAMINER COPY

INITIAL CONDITIONS:

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

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

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

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

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

INITIATING CUES:

The Shift Manager directs you to establish Containment Closure in accordance with step 11.1.5 of DB-OP-06904 Shutdown Operations.

(Provide section 11 of DB-OP-06904)

CANDIDATE COPY

INITIAL CONDITIONS:

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

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

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

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

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

INITIATING CUES:

The Shift Manager directs you to establish Containment Closure in accordance with step 11.1.5 of DB-OP-06904 Shutdown Operations.

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

   STANDARD: Use Gaitronics to announce the following:

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

   CUE: **None.**

   SAT UNSAT

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

   STANDARD: Visual check of Containment Purge supply and Exhaust Fan control switch indications indicate fans are shutdown. No power, lights are OFF.

   CUE: **None**

   SAT UNSAT

3. PERFORMANCE STEP: Perform selected isolation of SFAS Containment penetrations as directed by Shift Supervision. (Step 11.1.5.c).

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

   CUE: **Hand candidate a copy of DB-OP-02000 Table 2, SFAS Actuated Equipment, Sheet 1 of 5 SFAS INCIDENT LEVEL 1.**

   The Shift Manager directs you to Close SFAS Containment Vessel Dampers indirect connection with the containment atmosphere for SFAS INCIDENT LEVEL 1.

   SAT UNSAT

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

   STANDARD: Press CLOSE on the following switches, check green lights ON, red lights OFF

   - CV 5008 CTMT PURGE OUT (Not Critical)
   - CV 5006 CTMT PURGE IN

   COMMENT: CV 5008 will NOT close due to failure. May not press Close on CV5008.

   CUE: **None**

   SAT UNSAT

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

   STANDARD: Press CLOSE on the following switches, check green lights ON, red lights OFF

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

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

   CUE: **None**

   SAT UNSAT

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

   STANDARD: Press CLOSE on the following switches, check green lights ON, red lights OFF

   - CV 5007 CTMT PURGE OUT
   - CV 5005 CTMT PURGE IN (Not Critical)

   COMMENT: CV 5005 will NOT close due to failure. May not press close on CV 5005.

   CUE: **None**

   SAT UNSAT

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

   STANDARD: Communication with Field Supervisor.

   CUE: **The Field Supervisor is verifying that all LLRTs are isolated.**

   _____
   SAT UNSAT

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

   STANDARD: Communication with Field Supervisor.

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

   _____
   SAT UNSAT

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

_____
END TIME

Simulator JPM
S7

Facility: Davis-Besse **Task No:** 012-009-01-0100

Task Title: Remove RPS Ch 2 from service IAW DB-OP-02505 Step 4.1.9

K/A Reference: 012 A4.02 (3.8) **Job Performance Measure No**: S7 (New)

Examinee: _____

Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance __X__

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
- Place RPS Channel 2 in Manual Bypass
- Place RPS Channel 2 Power Range Test Module switch in TEST OPERATE

Required Materials:
- DB-OP-02505, Nuclear Instrumentation Failures, Step 4.1.9
- DB-OP-06403, Reactor Protection System (RPS) and Nuclear Instrumentation (NI) Operating Procedure, Section 4.5 Placing an RPS Channel in Manual Bypass

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:
11 minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Remove RPS Ch 2 from service IAW DB-OP-02505 Step 4.1.9

INITIAL CONDITION:

IC323

100% Power

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Place the Rod Control Panel in MANUAL and the Reactor Demand Hand Auto Station in HAND.

Verify all 4 cabinets are unlocked

MALFUNCTIONS/FAILURE TO INSERT:

NI5 Failed High

ACTION/CUES:

None

EXAMINER COPY

INITIAL CONDITIONS:

The plant is operating at 100% power

NI5 has failed high

The crew has entered DB-OP-02505, Nuclear Instrumentation Failures

All required steps through 4.1.8 have been completed

INITIATING CUES:

IAW DB-OP-02505 Step 4.1.9, the Command SRO directs you to.

- Place the affected RPS Channel in Manual Bypass. REFER TO DB-OP-06403, Reactor Protection System (RPS) and Nuclear Instrumentation (NI) Operating Procedure.
- Place the Power Range Test Module for the affected channel in TEST OPERATE.

(Provide the examinee a copy of DB-OP-02505, Step 4.1.9 and DB-OP-06403, Section 4.5.)

CANDIDATE COPY

INITIAL CONDITIONS:

The plant is operating at 100% power

NI5 has failed high

The crew has entered DB-OP-02505, Nuclear Instrumentation Failures

All required steps through 4.1.8 have been completed

INITIATING CUES:

IAW DB-OP-02505 Step 4.1.9, the Command SRO directs you to.

- Place the affected RPS Channel in Manual Bypass. REFER TO DB-OP-06403, Reactor Protection System (RPS) and Nuclear Instrumentation (NI) Operating Procedure.
- Place the Power Range Test Module for the affected channel in TEST OPERATE.

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: Review DB-OP-02505, Step 4.1.9 and DB-OP-06403, Section 4.5.

   STANDARD: Determines RPS Ch 2 is the correct channel to bypass and place it's Power Range Test Module in Test Operate.

   NOTE: Step 4.1.9 is bulleted – can be done in any order - DB-OP-06403 is listed first. Go to Step 4 if the candidate decides to place the Power Range Test Module in Test Operate first.

   CUE: **If asked, place the affected RPS Channel in Manual Bypass.**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Obtain the RPS Manual Bypass key.

   STANDARD: Obtain key, and initials the key log, for the RPS Manual Bypass switch at the CTRM key cabinet.

   NOTE: Door key should not be removed from the key cabinet. All 4 doors will be unlocked as part of set-up to minimize wear on door locks. Key log should not be initialed for exam security purposes.

   CUE: **All 4 RPS Channel Cabinet doors have been unlocked by another operator.**

   Do NOT Initial the Key Log for this JPM.

   The Command SRO is complying with the applicable Required Actions of TS 3.3.1.

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Place RPS Ch 2 in Manual Bypass.
   C

   STANDARD:
   - Rotate the MANUAL BY-PASS KEY SWITCH to actuate the manual bypass relay.
   - *Check the MANUAL BY-PASS light on the indicating panel is BRIGHT. (Two indicating lights are available. One at the top of the panel and one next to the key switch)
   - *Check the protective SUB-SYSTEM light on the indicating panel in DIM.

   NOTE: *Indicates NOT part of the critical step.

   CUE: **None**

   _____
   SAT UNSAT

---

4. PERFORMANCE STEP: Place the Power Range Test Module in RPS Ch 2 in TEST OPERATE
   C

   STANDARD: Rotate the Power Range Test Module switch to TEST OPERATE. Observe the Test light changes from Dim to Bright.

   CUE: **None**

   _____
   SAT UNSAT

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

_____
END TIME

Simulator JPM
S8

Facility: Davis-Besse **Task No:** 029-007-01-0100

Task Title: Penetration Room Purge - Startup

K/A Reference: 029 A2.03 2.7/3.1 **Job Performance Measure No**: S8 (JPM15)

Examinee: _____

Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance ___ Actual Performance _X_

Classroom ___ Simulator _X_ Plant ___

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Line-up the Containment Purge Supply and Exhaust Fan valves and place system in service.

Required Materials:
DB-OP-06503, Containment Purge System Section 3.3, prerequisites completed.

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:
10 Minutes

SIMULATOR INSTRUCTIONS

TASK DESCRIPTION:

Place Containment Purge Supply and Exhaust Fans in service to the Mechanical Penetration Rooms.

INITIAL CONDITION:

IC327

100% Power

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

- Turn off CTMT Purge Supply and Exhaust Fans.
- Close dampers CV 5009, 5016, 5004 and 5021.

MALFUNCTIONS/FAILURE TO INSERT:

None

EXAMINER COPY

INITIAL CONDITIONS:

The plant is at 100% power. Maintenance on CTMT purge has just been completed.

INITIATING CUES:

The Unit Supervisor directs you to start CTMT purge on the penetration rooms per DB-OP-06503, Containment Purge System Procedure, Section 3.3, Penetration Room Purge – Startup.

Prerequisites have been completed.

Roll filter media is NOT required to be operational.

(Provide the examinee a copy of DB-OP-06503, section 3.3 prerequisites completed)

CANDIDATE COPY

INITIAL CONDITIONS:

The plant is at 100% power. Maintenance on CTMT purge has just been completed.

INITIATING CUES:

The Unit Supervisor directs you to start CTMT purge on the penetration rooms per DB-OP-06503, Containment Purge System Procedure, Section 3.3, Penetration Room Purge – Startup.

Prerequisites have been completed.

Roll filter media is NOT required to be operational.

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: Verifies correct procedure and section.

   STANDARD: Reviews DB-OP-06503, Section 3.3.

   CUE: **None**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Make plant announcement. (Step 3.3.6)

   STANDARD: Announce over the GAI-Tronics,

   "Attention all station personnel, starting Mechanical Penetration Room Purge System".

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Open the purge Mechanical Penetration Room isolation
   .....C..... valve CV5009. (Step 3.3.7)

   STANDARD: Press the OPEN pushbutton on HIS 5009. RED light ON, GREEN light OFF

   COMMENT: Procedure Step 3.3.7 is bulleted, sequence NOT required for JPM Performance Steps 3, 4, 5, & 6

   CUE: **None**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Open the purge Mechanical Penetration Room isolation
   .....C..... valve, CV5016. (Step 3.3.7)

   STANDARD: Press the OPEN pushbutton on HIS 5016. RED light ON, GREEN light OFF

   CUE: **None**

   _____
   SAT UNSAT

5. PERFORMANCE STEP: Open the purge Mechanical Penetration Room isolation **.....C.....** valve, CV5004. (Step 3.3.7)

   STANDARD: Press the OPEN pushbutton on HIS 5004. RED light ON, GREEN light OFF

   CUE: **None**

   _____
   SAT UNSAT

---

6. PERFORMANCE STEP: Open the purge Mechanical Penetration Room isolation **.....C.....** valve, CV5021. (Step 3.3.7)

   STANDARD: Press the OPEN pushbutton on HIS 5021. RED light ON, GREEN light OFF

   NOTE: Step 3.3.38 should be marked N/A per initial cue.

   CUE: **If asked, roll filter media is NOT required to be operational**.

   _____
   SAT UNSAT

---

7. PERFORMANCE STEP: Start CTMT purge exhaust fan. (Step 3.3.9)
   .....C.....

   STANDARD: Turn handswitch HIS 5013, to START.
   Verifies HIS 5013 RED light ON, GREEN light OFF.

   COMMENT: The fan will start in approximately 120 seconds.

   CUE: **None**

   _____
   SAT UNSAT

---

8. PERFORMANCE STEP: Start the CTMT purge supply fan. (Step 3.3.10)
   .....C.....

   STANDARD: WHEN the CTMT PURGE EXHAUST FAN starts, as indicated by HIS5013, THEN place HIS5003, CTMT PURGE SUPPLY SYS in START. Checks HIS 5003 RED light ON, GREEN light OFF.

   CUE: **None**

   _____
   SAT UNSAT

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

_____
END TIME

Plant JPM
P1

Facility: Davis-Besse **Task No:** 001-043-05-0100

Task Title: Trip the Reactor from the Low Voltage Switchgear Rooms

K/A Reference: 007 EA2.04 (4.0/4.4) **Job Performance Measure No**: P1 (JPM 042)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance X Actual Performance ____

Classroom ___ Simulator ____ Plant X

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task Standard:
Trip open RTBs “A” or “C”, and “B” in the Low Voltage Switchgear Rooms

Required Materials:
DB-OP-02000 Step 3.3

General References: None

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

Time Critical Task: No

Alternate Path: No

Validation Time: 5 minutes

EXAMINER COPY

INITIAL CONDITIONS:

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

The reactor did not trip.

INITIATING CUES:

The Unit Supervisor directs you to deenergize the Control Rod Drive System in accordance with DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture Step 3.3 Response Not Obtained (RNO) Step 4.

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

CANDIDATE COPY

INITIAL CONDITIONS:

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

The reactor did not trip.

INITIATING CUES:

The Unit Supervisor directs you to deenergize the Control Rod Drive System in accordance with DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture Step 3.3 Response Not Obtained (RNO) Step 4.

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: Recognize the correct procedure section.

   STANDARD: Reviews DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture, Step 3.3 RNO Step 4.

   CUE: **None**

SAT UNSAT

2. PERFORMANCE STEP: Trip Control Rod Drive Breaker A.
   C

   STANDARD: Push the TRIP pushbutton on Control Rod Drive Breaker A.

   COMMENT: Performance steps 2, 3, and 4 may be performed in any order.

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

   Green TRIP flag is visible.

   NOTE: It is only critical to trip Breakers A or C, and B to trip the reactor.

SAT UNSAT

3. PERFORMANCE STEP: Trip Control Rod Drive Breaker C.
   C

   STANDARD: Push the TRIP pushbutton on Control Rod Drive Breaker C.

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

   Green TRIP flag is visible.

   NOTE: It is only critical to trip Breakers A or C, and B to trip the reactor.

SAT UNSAT

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

STANDARD: Push the TRIP pushbutton on Control Rod Drive Breaker B.

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

Green TRIP flag is visible.

SAT UNSAT

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

END TIME

Plant JPM
P2

Facility: Davis-Besse **Task No:** 064-008-05-0401

Task Title: Emergency Shutdown the Emergency Diesel Generator 1 or 2

K/A Reference: (026) AA2.06 2.8/3.1 G2.1.30 4.4/4.0 **Job Performance Measure No**: P2 (JPM 115)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance X Actual Performance_____

Classroom_____ Simulator _____ Plant X

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

NOTE: This JPM has been developed to be performed on either Train 1 or Train 2 based on Plant Protected Train.

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: None

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

Time Critical Task: No

Alternate Path: Yes

Validation Time: 9 minutes

EXAMINER 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

You have a Locked Valve Key.

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

CANDIDATE 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

You have a Locked Valve Key.

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 1

   STANDARD: Depress the Emergency Shutdown pushbutton on Panel C3621.

   CUE: **Emergency shutdown pushbutton is DEPRESSED**
   EDG 1 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 1
   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

   (If Stated) Fuel Rack lever is released

   _____
   SAT UNSAT

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**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Close EDG 1 air start valves
C

STANDARD: Unlock and close DA30

CUE: **(If asked) Field Supervisor has given permission to unlock valves**

DA30 has been unlocked, handwheel rotated CLOCKWISE; stem is DOWN

SAT UNSAT

5. PERFORMANCE STEP: Close EDG 1 air start valves
C

STANDARD: Unlock and close DA44

CUE: **(If asked) Field Supervisor has given permission to unlock valves**

DA44 has been unlocked, handwheel rotated CLOCKWISE; stem is DOWN

SAT UNSAT

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**

SAT UNSAT

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

END TIME

EXAMINER 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

You have a Locked Valve Key.

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

CANDIDATE 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

You have a Locked Valve Key.

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: Depress the Emergency shutdown pushbutton on Panel C3622.

   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

   (If Stated) Fuel Rack lever is released

   _____
   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 is unlocked, handwheel rotated CLOCKWISE; stem is DOWN

SAT UNSAT

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 is unlocked, handwheel rotated CLOCKWISE; stem is DOWN

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**

SAT UNSAT

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

END TIME

Plant JPM
P3

Facility: Davis-Besse **Task No:** 000-048-05-0100

Task Title: Establish High Pressure Injection Alternate Minimum Recirc Flowpath Train 1 or Train 2

K/A Reference: 006 A.05 3.9/3.8 **Job Performance Measure No**: P3 (JPM 226)

Examinee: _____

NRC Examiner: _____ **Date:** _____

Method of testing:

Simulated Performance X Actual Performance ____

Classroom ____ Simulator ____ Plant X

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

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

Task STANDARD:
Establish High Pressure Injection Alternate Minimum Recirc Flowpath

Required Materials:
Attachment 14 of DB-OP-02000

General References: None

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

NOTE: This JPM is setup to perform Train 1 or Train 2 depending on the Protected Train.

Time Critical Task: No

Alternate Path: No

Validation Time: 9 minutes

EXAMINER COPY

INITIAL CONDITIONS:

A Loss of Coolant Accident has caused a loss of Subcooling Margin. Subcooling Margin has been regained. Borated Water Storage Tank level is lowering at 1.5 feet/hour.

INITIATING CUES:

The Unit Supervisor directs you to place the High-Pressure Injection Pump 1 alternate minimum recirc flow path in service in accordance with Attachment 14 Section 1.0 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.

The Shift Manager has given permission to operate locked valves during the lineup.

(Provide examinee a copy of Attachment 14 Section 1.0 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.)

CANDIDATE COPY

INITIAL CONDITIONS:

A Loss of Coolant Accident has caused a loss of Subcooling Margin. Subcooling Margin has been regained. Borated Water Storage Tank level is lowering at 1.5 feet/hour.

INITIATING CUES:

The Unit Supervisor directs you to place the High-Pressure Injection Pump 1 alternate minimum recirc flow path in service in accordance with Attachment 14 Section 1.0 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.

The Shift Manager has given permission to operate locked valves during the lineup.

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: Proceed to ECCS Room 1

   STANDRD: Proceed to ECCS Room 1

   CUE: **None**

   SAT UNSAT

2. PERFORMANCE STEP: Record HPI Pump 1 discharge pressure

   STANDARD: Record pressure indicated on PIHP5B

   CUE: **PIHP5B indicates 1800 psi**

   SAT UNSAT

3. PERFORMANCE STEP: Disable DH64
   C

   STANDARD: Place HSDH64 in the DISABL position

   CUE: **HSDH64 RED disable pushbutton has been depressed. HSDH64 GREEN enable pushbutton pops out**

   SAT UNSAT

4. PERFORMANCE STEP: Record Decay Heat Pump 1 discharge pressure

   STANDARD: Record pressure indicated on PIDH05B

   CUE: **PIDH05B indicates 195 psi**

   SAT UNSAT

5. PERFORMANCE STEP: Record HPI Pump 1 alternate minimum recirc line pressure

   STANDARD: Record pressure indicated on PI3000.

   CUE: **PI3000 indicates 0 psi**

SAT UNSAT

6. PERFORMANCE STEP: Unlock and open HP91, HPI 1 Alternate Minimum Flow Line Upstream Isolation.
   C

   STANDARD: Unlock and rotate handwheel of HP91 in the counter clockwise direction

   CUE: **HP91 has been unlocked. HP91 handwheel has been rotated in counter clockwise direction. The valve stem is up.**

SAT UNSAT

7. PERFORMANCE STEP: Unlock and open HP92, HPI 1 Alternate Minimum Flow Line Downstream Isolation
   C

   STANDARD: Unlock and rotate handwheel of HP92 in the counter clockwise direction

   CUE: **HP92 has been unlocked. HP92 handwheel has been rotated in counter clockwise direction. The valve stem and handwheel rise.**

SAT UNSAT

8. PERFORMANCE STEP: Record HPI Pump 1 alternate minimum recirc line pressure

   STANDARD: Record pressure indicated on PI3000.

   CUE: **PI3000 indicates 950 psi**

SAT UNSAT

9. PERFORMANCE STEP: Notify the Control Room HPI 1 alternate minimum recirc line-up is complete

   STANDARD: Use GAI-TRONICS or radio to communicate with the Control Room.

   CUE: **Control Room acknowledges HPI 1 alternate recirc line-up is complete**

SAT UNSAT

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

END TIME

EVALUATOR COPY

INITIAL CONDITIONS:

A Loss of Coolant Accident has caused a loss of Subcooling Margin. Subcooling Margin has been regained. Borated Water Storage Tank level is lowering at 1.5 feet/hour.

INITIATING CUES:

The Unit Supervisor directs you to place the High Pressure Injection Pump 2 alternate minimum recirc flowpath in service in accordance with Attachment 14 Section 2.0 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.

The Shift Manager has given permission to operate locked valves during the lineup.

(Provide examinee a copy of Attachment 14 Section 2 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.)

CANDIDATE COPY

INITIAL CONDITIONS:

A Loss of Coolant Accident has caused a loss of Subcooling Margin. Subcooling Margin has been regained. Borated Water Storage Tank level is lowering at 1.5 feet/hour.

INITIATING CUES:

The Unit Supervisor directs you to place the High Pressure Injection Pump 2 alternate minimum recirc flowpath in service in accordance with Attachment 14 Section 2.0 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.

The Shift Manager has given permission to operate locked valves during the lineup.

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: Proceed to ECCS Room 2

   STANDARD: Use the Auxiliary Building Stairwell next to the elevator

   CUE: **None**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Record HPI Pump 2 discharge pressure

   STANDARD: Record pressure indicated on PIHP5A

   CUE: **PIHP5A indicates 1800 psi**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Disable DH63
   C

   STANDARD: Disable DH 63 using HSDH63

   CUE: **HSDH63 RED disable pushbutton has been depressed. HSDH63 GREEN enable pushbutton pops out**

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Record Decay Heat Pump 2 discharge pressure

   STANDARD: Record pressure indicated on PIDH5A

   CUE: **PIDH5A indicates 195 psi**

   _____
   SAT UNSAT

5. PERFORMANCE STEP: Record HPI Pump 2 alternate minimum recirc line pressure

   STANDARD: Record pressure indicated on PI3001.

   CUE: **PI3001 indicates 0 psi**

SAT UNSAT

---

6. PERFORMANCE STEP: Unlock and open HP94, HPI 2 Alternate Minimum Flow Line Upstream Isolation
   C

   STANDARD: Unlock and rotate handwheel of HP94 in the counter clockwise direction

   CUE: **HP94 has been unlocked. HP94 handwheel has been rotated in counter clockwise direction. The valve stem is out.**

SAT UNSAT

---

7. PERFORMANCE STEP: Unlock and open HP95, HPI 2 Alternate Minimum Flow Line Downstream Isolation
   C

   STANDARD: Unlock and rotate handwheel of HP95 in the counter clockwise direction

   CUE: **HP95 has been unlocked. HP95 handwheel has been rotated in counter clockwise direction. The valve stem and handwheel rise.**

SAT UNSAT

---

8. PERFORMANCE STEP: Record HPI Pump 2 alternate minimum recirc line pressure

   STANDARD: Record pressure indicated on PI3001.

   CUE: **PI3001 indicates 950 psi.**

SAT UNSAT

---

9. PERFORMANCE STEP: Notify the Control Room HPI 2 alternate minimum recirc line-up is complete

   STANDARD: Use GAI-TRONICS or radio to communicate with the Control Room.

   CUE: **Control Room acknowledges HPI 2 alternate recirc line-up is complete**

SAT UNSAT

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

END TIME