Facility: Davis-Besse **Task No:** 076-002-04-0100

Task Title: Loss of Service Water Loop 1 to Primary Loads

Job Performance Measure No: A **K/A Reference:** 062 AA1.02 (3.1/3.1)

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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 in Mode 1
All systems are in a normal lineup, except that Service Water Pump 3 is out of service for maintenance
Component Cooling Water Pump 1 is running and supplying primary equipment
Component Cooling Water Pump 2 is in standby

Task Standard: Swap non-essential Component Cooling Water loads from Loop 1 to Loop 2 due to a loss of Service Water Pump 1

Required Materials:

General References: DB-OP-02511, Loss of Service Water Pumps/System

Initiating Cue:
Service Water Pump 1 has tripped
The Unit Supervisor directs you to perform Step 4.1.3 of DB-OP-02511, Loss of Service Water Pumps

Time Critical Task: No

Validation Time: 20 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

100% power

Service Water Pump 3 out of service

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Service Water Loop 1 on primary loads

Place RED tags on Service Water Pump 3 control switches

Trip/Stop Service Water Pump 1 by inserting malfunction **IMF KEP103**

Stop CAC 1 or 3 as 1 and close SW 1366 or SW 1368

MALFUNCTIONS/FAILURE TO INSERT:

Fail Component Cooling Water Loop 1 Temperature indicator, TI 1489, to 118°F using **IMF KA20C**

Fail SW Header 2 pressure transmitter (PT-2809) to < 50 psig by inserting malfunction **IMF KEP9E 0.293**

ACTION/CUES:

None

CUE SHEET

INITIAL CONDITIONS:

The plant is in Mode 1

All systems are in a normal lineup, except that Service Water Pump 3 is out of service for maintenance

Component Cooling Water Pump 1 is running and supplying primary equipment

Component Cooling Water Pump 2 is in standby

INITIATING CUES:

Service Water Pump 1 has tripped

The Unit Supervisor directs you to perform Step 4.1.3 of DB-OP-02511, Loss of Service Water Pumps

Performance Information

Denote critical steps with a check mark Start Time _____

1. PERFORMANCE STEP: Start Component Cooling Water Pump 2
   √

   STANDARD: Component Cooling Water Pump 2 control switch, HIS 1418, rotated clockwise to START

   CUE: **None**

   SAT UNSAT

Sequence of steps 2, 3, and 4 is not critical

2. PERFORMANCE STEP: Shift non-essential loads to Component Cooling Water Loop 2
   √

   STANDARD: Push OPEN on HIS 5096, CC Line 2 Discharge Isolation Valve

   CUE: **None**

   SAT UNSAT

3. PERFORMANCE STEP: Shift non-essential loads to Component Cooling Water Loop 2
   √

   STANDARD: Push OPEN on HIS 5098, CC Line 2 Return Isolation Valve

   CUE: **None**

   SAT UNSAT

4. PERFORMANCE STEP: Shift non-essential loads to Component Cooling Water Loop 2
   √

   STANDARD: Push open on HIS 2649, CC From Aux. Bldg. to Line 2 Isolation

   CUE: **None**

   SAT UNSAT

Sequence of steps 5, 6, and 7 is not critical

5. PERFORMANCE STEP: Isolate Component Cooling Water Loop 1

√

STANDARD: Push CLOSE on HIS 5095, CC Line 1 Discharge Isolation Valve

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Isolate Component Cooling Water Loop 1

√

STANDARD: Push CLOSE on HIS 5097, CC Line 1 Return Isolation Valve

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Isolate Component Cooling Water Loop 1

√

STANDARD: Push CLOSE on HIS 2645, CC from Aux. Bldg. to Line 1 Isolation Valve

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Determine if Component Cooling Water Pump 1 is to remain running

STANDARD: Communicate with the Unit Supervisor

CUE: **The Unit Supervisor directs you to stop Component Cooling Water Pump 1**

SAT UNSAT

9. PERFORMANCE STEP: Recognize Service Water Loop 2 Header pressure is less than 50 psig

   STANDARD: Display Computer Point P946

   CUE: **None**

SAT UNSAT

10. PERFORMANCE STEP: Verify CT 2955 is OPEN
    √

    STANDARD: Depress the OPEN pushbutton on HIS 2955

    CUE: **None**

SAT UNSAT

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

END TIME

Verification of Completion

Job Performance Measure No.: A

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: _____

Facility: Davis-Besse **Task No:** 000-058-05-0100

Task Title: Transfer LPI Suction to the Emergency Sump during a Large Break LOCA

K/A Reference: 011 EA 1.11 (4.2/4.2) **Job Performance Measure No**: B

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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:
A large break LOCA has occurred and the BWST level is approaching nine feet
Both MU pumps and HPI pumps have been stopped in accordance with Specific Rules Section 1 of Attachment 7 of DB-OP-02000 has been completed

Task Standard:
Transfer LPI Suction to the Emergency Sump during a Large Break LOCA when the BWST reaches 9 feet

Required Materials:

General References: Attachment 7 of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE

Initiating Cue:
Annunciator "BWST LO-LO LVL, XFER TO EMER SUMP" (5-3-A) has been received
The Unit Supervisor directs you to transfer LPI suction to the emergency sump in accordance with Section 2 of DB-OP-02000, Attachment 7

Time Critical Task: Yes/No

Validation Time: 7 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Initiate a large break LOCA and ensure CTMT Spray is on

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

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

At ~12 ft. in the BWST:

- Block and stop both HPI pumps
- Stop both Makeup pumps and stop their oil pumps

Freeze the simulator when at least two SFAS channels have tripped on Low BWST level

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

MALFUNCTIONS/FAILURE TO INSERT:

Open both hot leg leak valves at the same time, **IMF HH41 1.0 and IMF HH40 1.0**

Fail open DH7B, **IMF BD7BC**

ACTION/CUES:

Step 7: Delete fail open malfunction on DH7B when the trainee depresses the close pushbutton on HIS DH7B, **DMF BD7BC**

CUE SHEET

INITIAL CONDITIONS:

A large break LOCA has occurred and the BWST level is approaching nine feet

Both MU pumps and HPI pumps have been stopped in accordance with Specific Rules

Section 1 of Attachment 7 of DB-OP-02000 has been completed

INITIATING CUES:

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

The Unit Supervisor directs you to transfer LPI suction to the emergency sump in accordance with Section 2 of DB-OP-02000, Attachment 7

Performance Information

Denote critical steps with a check mark Start Time _____

1. PERFORMANCE STEP: Verify both MU pumps are stopped

   STANDARD: Verify GREEN lights lit on HIS MU24A and HIS MU24B

   CUE: **None**

   SAT UNSAT

2. PERFORMANCE STEP: Transfer MU Pump suctions to the MU tank

   STANDARD: Depress OFF and MUT on HIS 3971 and HIS 6405

   CUE: **None**

   SAT UNSAT

3. PERFORMANCE STEP: Verify Section 1 of Attachment 7 has been completed

   STANDARD: Verify per cue sheet section 1 is complete

   CUE: **(If asked) Section 1 is complete**

   SAT UNSAT

4. PERFORMANCE STEP: Block SFAS Level 2 on DH 7A, DH 9A, DH 7B and DH 9B √

   STANDARD: Depress BLOCK pushbuttons for DH 7A or DH 9A and DH 7B or DH 9B

   CUE: **None**

   SAT UNSAT

5. PERFORMANCE STEP: Open DH 9A and DH 9B
√

STANDARD: Depress the OPEN pushbuttons on HIS DH9A and HIS DH9B

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Verify that DH 7A and DH 7B start to close as DH 9A and DH 9B start to open

STANDARD: Recognize DH7A starts to close (HIS DH7A RED light OFF) and DB7B fails to close (HIS DH7B RED light stays ON)

CUE: **(I/S Cue)** - **Delete the failure of DH7B when the CLOSE pushbutton is depressed**

SAT UNSAT

7. PERFORMANCE STEP: Close DH7B
√

STANDARD: Depress the CLOSE pushbutton on HIS DH7B when DH9B is open

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Verify the transfer is complete.

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

CUE: **None.**

SAT UNSAT

9. PERFORMANCE STEP: Verify CS pump discharge valves go to the throttle position

STANDARD: Check IL 1530 and IL 1531 are LIT

CUE: **None.**

SAT UNSAT

10. PERFORMANCE STEP: Close HPI pump Minimum Recirc Valves

√

STANDARD: Depress the CLOSE pushbutton on HIS HP32 and HIS HP31

CUE: **None**

SAT UNSAT

11. PERFORMANCE STEP: Close MU CTMT isolation valves

√

STANDARD: Depress the CLOSE pushbutton on HIS MU 6422 and HIS MU 6421

CUE: **None**

SAT UNSAT

12. PERFORMANCE STEP: Close HPI Injection Valves

√

STANDARD: Depress and hold the CLOSE pushbutton on HIS HP 2A, HIS HP 2B, HIS HP 2C and HIS HP 2D until only the Green light is lit

CUE: **None**

SAT UNSAT

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

END TIME

Verification of Completion

Job Performance Measure No. B

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

Facility: Davis-Besse **Task No:** 012-007-01-0100

Task Title: Place the Reactor Protection System in Shutdown Bypass

K/A Reference: 012 A4.03 (3.6/3.6) **Job Performance Measure No**: C

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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:
A plant shutdown and cooldown is in progress
RCS pressure is between 1700 and 1750 psig

Task Standard: Place all four RPS channels in Shutdown Bypass in accordance with Section 3.3 of DB-OP-06403, RPS and NI Operating Procedure

Required Materials:

General References: DB-OP-06403, RPS and NI Operating Procedure

Initiating Cue:
The Unit Supervisor has directed you to place all four RPS Channels in Shutdown Bypass in accordance with Section 3.3 of DB-OP-06403, RPS and NI Operating Procedure

Time Critical Task: No

Validation Time: 13 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Mode 3, Post Trip

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Depressurize the RCS to ≈1750 psig

Maintain RCS pressure between 1700 and 1750 psig

Use CTS for spray valve fail to position, cycle IMF HV00E between 0.2 and 0 to provide some spray flow

If necessary, use Pressurizer heaters to raise pressure

MALFUNCTIONS/FAILURE TO INSERT:

None

ACTION/CUES:

Sign off steps 3.3.1, 3.3.2, 3.3.3, 3.3.4, and 3.3.5 in DB-OP-06403

CUE SHEET

INITIAL CONDITIONS:

A plant shutdown and cooldown is in progress

RCS pressure is between 1700 and 1750 psig

INITIATING CUES:

The Unit Supervisor directs you to place all four RPS Channels in Shutdown Bypass in accordance with Section 3.3 of DB-OP-06403, RPS and NI Operating Procedure

Performance Information

Denote critical steps with a check mark Start Time _____

1. PERFORMANCE STEP: Obtain keys to RPS cabinet doors and RPS S/D bypass keys

   STANDARD: Obtain the correct keys from the Control Room key cabinet

   CUE: **None**

   _____
   SAT UNSAT

Sequence of RPS Channels is not critical for step 2

2. PERFORMANCE STEP: Place RPS Channels in shutdown bypass.
   √

   STANDARD: At the shutdown bypass key switch module, insert the key and rotate the key operated bypass switch to "Bypass"
   CH1 _____ CH2 _____ CH3 _____ CH4 _____

   CUE: **None**

   _____
   SAT UNSAT

Sequence of RPS Channels is not critical for step 3

3. PERFORMANCE STEP: Check the Shutdown Bypass Auxiliary Relay Module lights are bright

   STANDARD: Visual check of the top three lights on the Shutdown Bypass Auxiliary Relay Module in each RPS Channel
   CH1 _____ CH2 _____ CH3 _____ CH4 _____

   CUE: **None**

   _____
   SAT UNSAT

Sequence of RPS Channels is not critical for step 4

4. PERFORMANCE STEP: Reset S/D bypass high pressure trip bistable
√

STANDARD: Depress the Output State and Output Memory reset switches on the SHUTDOWN BYPASS HIGH PRESSURE TRIP BISTABLE

COMMENTS: Only OUTPUT STATE reset is critical.
CH1 _____ CH2 _____ CH3 _____ CH4 _____

CUE: **None.**

_____
SAT UNSAT

Sequence of RPS Channels is not critical for step 5

5. PERFORMANCE STEP: Check the Output State lights and Output Memory lights are dim

STANDARD: Visual check of the Output State light and Output Memory light in each RPS Channel
CH1 _____ CH2 _____ CH3 _____ CH4 _____

CUE: **None**

_____
SAT UNSAT

Sequence of RPS Channels is not critical for step 6

6. PERFORMANCE STEP: Reset Reactor Trip modules
√

STANDARD: Reactor Trip module Toggle switch to "RESET"
OR
Obtain the Manual Bypass Key
Insert the key and rotate the Manual Bypass Key Switch rotated to actuate the bypass relay for each RPS channel
Rotated the Manual Bypass Key Switch back to the non-bypassed position

COMMENTS: Either method acceptable
CH1 _____ CH2 _____ CH3 _____ CH4 _____

CUE: **None**

_____
SAT UNSAT

7. PERFORMANCE STEP: Verify the channel Protective Subsystem light at the top of each RPS cabinet is dim

   STANDARD: Visual observation of Protective Subsystem light status (on panel and top of cabinet) for each RPS cabinet
   CH1 _____ CH2 _____ CH3 _____ CH4 _____

   CUE: **None**

   _____
   SAT UNSAT

8. PERFORMANCE STEP: Lock the doors and return key

   STANDARD: Doors locked and key returned
   CH1 _____ CH2 _____ CH3 _____ CH4 _____

   CUE: **The Unit Supervisor is referring to DB-OP-06402, CRD Operating Procedure to reset the Reactor Trip breakers and CRD electronic trip devices**

   _____
   SAT UNSAT

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

_____
END TIME

Verification of Completion

Job Performance Measure No. C

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____
_____
_____

Response: _____
_____
_____
_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

Facility: Davis-Besse **Task No:** 013-005-05-0100

Task Title: Manually Initiate the Safety Features Actuation System

K/A Reference: 013 A4.03 (4.5/4.7) **Job Performance Measure No**: D

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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:
A loss of coolant accident has occurred resulting in a loss of Subcooling Margin
Subcooling Margin was subsequently regained
The following valves have been blocked and reopened:
- Containment Sample Valves CV 5010A through E and CV 5011A through E
- PZR and Quench Tank Sample Valves, RC 240A, RC 240B and RC 232
- Letdown Isolation Valves MU2A and MU3

Task Standard:
At the system level, reset SFAS and manually initiate SFAS due to an increase in the RCS leak size OR at the equipment level, place all SFAS actuated components in their required SFAS position

Required Materials:

General References: Attachment 9 of DB-OP-02000, RPS, SFAS, SFRCS TRIP, OR SG TUBE RUPTURE

Initiating Cue:
Due to a change in leak size, RCS pressure is dropping rapidly and Containment pressure is increasing rapidly
The Unit Supervisor directs you to manually actuate all SFAS components including the Containment Spray System

Time Critical Task: No

Validation Time: 6 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Full Power Steady State

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Verify the following conditions:

1. Block and open CV 5010A through E, CV 5011A through E.
2. Block and open RC240A, RC240B, RC232.
3. Block and open MU2A and MU3.
4. Freeze the simulator once conditions established.
5. Run the simulation when directed.

MALFUNCTIONS/FAILURE TO INSERT:

Insert a RCS Hot Leg leak – **IMF HH40 0.0004**

Trip the Reactor – **IMF L4TRC**

ACTION/CUES:

None

CUE SHEET

INITIAL CONDITIONS:

A loss of coolant accident has occurred resulting in a loss of Subcooling Margin

Subcooling Margin was subsequently regained

CTMT Sample Valves, CV 5010A through E and CV 5011A through E, have been blocked and reopened

Pressurizer and Quench Tank Sample Valves, RC 240A, RC 240B and RC 232, have been blocked and reopened

Letdown Isolation Valves, MU2A and MU3, have been blocked and reopened

INITIATING CUES:

Due to a change in leak size, RCS pressure is dropping rapidly and Containment pressure is increasing rapidly

The Unit Supervisor directs you to manually actuate all SFAS components including the Containment Spray System

Performance Information

Denote critical steps with a check mark Start Time _____

1. PERFORMANCE STEP: Locate the correct procedure section

   STANDARD: Identifies DB-OP-02000, Attachment 9, as the correct procedure section

   COMMENT: Candidate may elect to perform from memory or from the posted operator aid Candidate may elect to actuate components at the equipment level. If this is done, go to step 8 of this JPM

   CUE: **Provide examinee a copy of DB-OP-02000, Attachment 9**

   _____
   SAT UNSAT

Sequence of steps 2 and 3 is not critical

2. PERFORMANCE STEP: Reset SFAS at the system level
   √

   STANDARD: Depress RESET on HIS 2022B

   COMMENT: Steps 2 and 3 must be performed prior to steps 3 or 4

   CUE: **None**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Reset SFAS at the system level
   √

   STANDARD: Push RESET on HIS 2023B

   COMMENT: Operator may elect to actuate individual components. If this is done, ensure all components are actuated

   Step 2 must be performed prior to steps 3 or 4

   CUE: **None**

   _____
   SAT UNSAT

Sequence of steps 4 and 5 is not critical

4. PERFORMANCE STEP: Trip Actuation Channel 1 for all components except Containment Spray
√

STANDARD: Push TRIP pushbutton on HIS 2022A

CUE: **None**

SAT UNSAT

5. PERFORMANCE STEP: Trip Actuation Channel 2 for all components except Containment spray
√

STANDARD: Push TRIP pushbutton on HIS 2023A

CUE: **None**

SAT UNSAT

Sequence of steps 6 and 7 is not critical

6. PERFORMANCE STEP: Manually actuate Train 1 Containment Spray
√

STANDARD: Push TRIP on HIS 2020A

COMMENT: Also acceptable to manually Containment Spray Pump 1

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Manually actuate Train 2 Containment Spray
√

STANDARD: Push TRIP on HIS 2021A

COMMENT: Also acceptable to manually Containment Spray Pump 2

CUE: **None**

SAT UNSAT

Sequence of components is not critical in step 8

8. PERFORMANCE STEP: Actuate SFAS components at the Equipment level
   √ Containment Spray

   STANDARD: ___ Push CLOSE pushbutton on HIS 5010A
   ___ Push CLOSE pushbutton on HIS 5010B
   ___ Push CLOSE pushbutton on HIS 5010C
   ___ Push CLOSE pushbutton on HIS 5010D
   ___ Push CLOSE pushbutton on HIS 5010E
   ___ Push CLOSE pushbutton on HIS 5011A
   ___ Push CLOSE pushbutton on HIS 5011B
   ___ Push CLOSE pushbutton on HIS 5011C
   ___ Push CLOSE pushbutton on HIS 5011D
   ___ Push CLOSE pushbutton on HIS 5011E
   ___ Push CLOSE pushbutton on HIS RC240A
   ___ Push CLOSE pushbutton on HIS RC240B
   ___ Push CLOSE pushbutton on HIS RC232
   ___ Push CLOSE pushbutton on HIS MU2A
   ___ Push CLOSE pushbutton on HIS MU3
   ___ Start Containment Spray Pump 1 using HIS 1533
   ___ Start Containment Spray Pump 2 using HIS 1532

   COMMENT:This step is not required if SFAS was actuated at the system level

   CUE: **None**

SAT UNSAT

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

END TIME

Verification of Completion

Job Performance Measure No. D

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____
_____
_____

Response: _____
_____
_____
_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

Facility: Davis-Besse **Task No:** 029-010-01-0100

Task Title: Start the Containment Purge System in Mode 5

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

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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:
Mode 5

Task Standard:
Align Containment Purge dampers and start the Containment Purge System on Containment

Required Materials:

General References: DB-OP-06503, Containment Purge System Procedure

Initiating Cue:
The Unit Supervisor directs you to initiate a Containment Vessel purge per section 3.1
DB-OP-06503, Containment Purge System Procedure
The Incore Instrument Tank will not be purged at this time
Outside air temperature is 55°F
All prerequisite steps have been completed for section 3.1

Time Critical Task: No

Validation Time: 10 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Mode 5

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

- Turn off Containment Purge Supply and Exhaust Fans
- Close dampers CV 5004, 5016, 5009 and 5021
- Install fuses in SFAS cabinets
- Verify dampers CV 5005, 5006, 5007, and 5008 closed

MALFUNCTIONS/FAILURE TO INSERT:

None

ACTION/CUES:

CUE SHEET

INITIAL CONDITIONS:

The plant is in Mode 5

INITIATING CUES:

The Unit Supervisor directs you to initiate a Containment Vessel purge per section 3.1 DB-OP-06503, Containment Purge System Procedure

The Incore Instrument Tank will not be purged at this time

Outside air temperature is 55°F

All prerequisite steps have been completed for section 3.1

Performance Information

Denote critical steps with a check mark Start Time _____

1. PERFORMANCE STEP: Make a plant announcement

   STANDARD: Use the GAI-TRONICS announce starting of Containment Purge

   CUE: **None**

   SAT UNSAT

Sequence of steps 2, 3, 4 and 5 is not critical

2. PERFORMANCE STEP: Open the Containment Purge Isolation valve CV 5008 √

   STANDARD: Press the OPEN pushbutton on HIS 5008

   CUE: **None**

   SAT UNSAT

3. PERFORMANCE STEP: Open the Containment Purge Isolation valve, CV 5006 √

   STANDARD: Press the OPEN pushbutton on HIS 5006

   CUE: **None**

   SAT UNSAT

4. PERFORMANCE STEP: Open the Containment Purge Isolation valve, CV 5005 √

   STANDARD: Press the OPEN pushbutton on HIS 5005

   CUE: **None**

   SAT UNSAT

5. PERFORMANCE STEP: Open the Containment Purge Isolation valve, CV 5007

   √

   STANDARD: Press the OPEN pushbutton on HIS 5007

   CUE: **None**

   SAT UNSAT

6. PERFORMANCE STEP: Start Containment Purge Exhaust Fan

   √

   STANDARD: Turn handswitch HIS 5013 to START

   CUE: **None**

   SAT UNSAT

7. PERFORMANCE STEP: Verify automatic actions occur

   STANDARD: Visually verify RED indicating light for Containment Purge Exhaust Fan ON

   COMMENTS: The fan will start in approximately 120 seconds

   CUE: **None**

   SAT UNSAT

8. PERFORMANCE STEP: Start the Containment Purge Supply Fan

   √

   STANDARD: Within 20 seconds after the exhaust fan starts, turn handswitch HIS 5003 to START

   CUE: **None**

   SAT UNSAT

9. PERFORMANCE STEP: Verify automatic actions occur.

   STANDARD: Visually verify RED indicating light for Containment Purge Supply Fan ON

   CUE: **None**

_____
SAT UNSAT

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

_____
END TIME

Verification of Completion

Job Performance Measure No. E

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____
_____
_____

Response: _____
_____
_____
_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

Facility: Davis-Besse **Task No:** 001-046-04-0100

Task Title: Recover from a CRD Sequence Fault

K/A Reference: 001 A2.14 (3.7/3.9) **Job Performance Measure No**: F

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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 in Mode 2
A Reactor startup is in progress

Task Standard:
Reset the Relative Position Indication for Control Rod Group 5 during a Reactor startup

Required Materials:

General References: DB-OP-02005, Primary Instrumentation Alarm Panel 5 Annunciators

Initiating Cue:
The Unit Supervisor directs you to respond to Annunciator 5-6-E CRD SEQ FAULT in accordance with DB-OP-02005 Primary Instrumentation Alarm Panel 5 Annunciators

Time Critical Task: No

Validation Time: 14 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Mode 2 with a Reactor startup in progress

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Establish a startup IC with control rod group 6 around 2% withdrawn
Lower group 5 RPI to 60%
Withdraw group 6 until the CRD SEQ FAULT annunciator comes IN

MALFUNCTIONS/FAILURE TO INSERT:

None

ACTION/CUES:

None

CUE SHEET

INITIAL CONDITIONS:

The plant is in Mode 2

A Reactor startup is in progress

Annunciator 5-6-E CRD SEQ FAULT has just been received

INITIATING CUES:

The Unit Supervisor directs you to respond to Annunciator 5-6-E CRD SEQ FAULT in accordance with DB-OP-02005 Primary Instrumentation Alarm Panel 5 Annunciators

Performance Information

Denote critical steps with a check mark Start Time _____

1. PERFORMANCE STEP: Locate the correct procedure section

   STANDARD: Go to the section of DB-OP-02005 for annunciator 5-6-E

   COMMENT: Provide the candidate a copy of the procedure section for annunciator 5-6-E from DB-OP-02005

   CUE: **(If asked) Rod Control Panel was in MANUAL prior to the alarm**
   (If asked) SEQ BYPASS operation is <u>NOT</u> required at this time

   SAT UNSAT

2. PERFORMANCE STEP: Determine that Group 5 rods are initiating the Sequence Fault signal

   STANDARD: Compare Group 5 API and RPI indication by positioning the toggle switch between ABSOLUTE and RELATIVE

   CUE: **The Unit Supervisor directs you to reset the RPI for the rods that are initiating the CRD Sequence Fault signal**

   SAT UNSAT

3. PERFORMANCE STEP: Verify Rod Control Panel is in SEQ BYPASS
   √

   STANDARD: Depress SEQ BYPASS button

   CUE: **None**

   SAT UNSAT

4. PERFORMANCE STEP: Select Group 5

√

STANDARD: Rotate the GROUP SELECT switch to the 5 position

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Select all rods in Group 5

√

STANDARD: Rotate the SINGLE SELECT switch to the ALL position

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Select Relative Position Indication on the PI Panel

STANDARD: Move the POSITION INDICATION SELECT toggle switch to the RELATIVE position

CUE: **None**

SAT UNSAT

8. PERFORMANCE STEP: Align Group 5 RPI with Group 5 API

√

STANDARD: RPI RESET switch held to RAISE until group 5 RPI is approximately equal to API and the CRD Control Panel SEQ INHIBIT light is OFF

COMMENT: Multiple adjustments may be made to align Group 5 API and RPI

CUE: **None**

SAT UNSAT

9. PERFORMANCE STEP: Select Absolute Position Indication on the PI Panel

STANDARD: Move the POSITION INDICATION SELECT toggle switch to the ABSOLUTE position

CUE: **None**

SAT UNSAT

10. PERFORMANCE STEP: Place the Rod Control Panel in the SEQUENCE mode √

STANDARD: Depress the SEQ pushbutton on Rod Control Panel

CUE: **None**

SAT UNSAT

11. PERFORMANCE STEP: Turn SINGLE SELECT switch to OFF

STANDARD: SINGLE SELECT switch rotated to OFF

CUE: **None**

SAT UNSAT

12. PERFORMANCE STEP: Turn GROUP SELECT switch to OFF

STANDARD: GROUP SELECT switch rotated to OFF

CUE: **None**

SAT UNSAT

13. PERFORMANCE STEP: Determine that rod group overlap is satisfactory.

STANDARD: Compare group 5 and 6 API. Determine that overlap is 20-30%

COMMENT: No overlap adjustment should be necessary from special IC

CUE: **None**

SAT UNSAT

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

END TIME

Verification of Completion

Job Performance Measure No. F

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____

_____

_____

Response: _____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

Facility: Davis-Besse **Task No:** 000-079-04-0100

Task Title: Station Vent High Radiation Response

K/A Reference: 071 A3.03 (3.6/3.8) **Job Performance Measure No**: G

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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 in Mode _____
A leak has developed on the Waste Gas Decay Tank
High radiation has been detected in the Auxiliary Building and in the Station Vent.
Annunciator 9-3-A, UNIT VENT RAD HI has alarmed

Task Standard:
Shutdown normal Control Room Ventilation and start Control Room Emergency Ventilation due to high radiation in the Station Vent

Required Materials:

General References: DB-OP-02009

Initiating Cue:
The Unit Supervisor directs you to implement alarm procedure DB-OP-02009 Plant Services Alarm Panel 9 Annunciators for annunciator 9-3-A

Time Critical Task: No

Validation Time: 9 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Any Mode

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

Raise Activity in WGDT #3 to maximum
AA65B 1-3 MED RAD UCS, CB=500

IMF CDG4E 0.001
IMF CDI4E 0.001
IMF CD43B
IMF CD44B
IMF CD45B
IMF CD47B
IMF CD48B
IMF CD49B

MALFUNCTIONS/FAILURE TO INSERT:

Insert leak on #3 WGDT

IMF AA65I 0.1

Override ON Annunciator 9-3-A UNIT VENT RAD HI

ACTION/CUES:

CUE SHEET

INITIAL CONDITIONS:

The plant is in Mode _____

A leak has developed on the Waste Gas Decay Tank

High radiation has been detected in the Auxiliary Building and in the Station Vent.

Annunciator 9-3-A, UNIT VENT RAD HI has alarmed

INITIATING CUES:

The Unit Supervisor directs you to implement alarm procedure DB-OP-02009 Plant Services Alarm Panel 9 Annunciators for annunciator 9-3-A

Performance Information

Denote critical steps with a check mark Start Time _____

Sequence of steps 1, 2, 3, and 4 is not critical

1. PERFORMANCE STEP: Verify Control Room Ventilation Unit 1 has shutdown
   √

   STANDARD: Depress HIS 5316 CONTROL ROOM VENT SYS 1

   CUE: **None**

   SAT UNSAT

2. PERFORMANCE STEP: Verify Control Room HVAC dampers have closed
   √

   STANDARD: Depress CLOSE on HIS 5301 HA 5301A-H, 5361A&B

   CUE: **None**

   SAT UNSAT

3. PERFORMANCE STEP: Verify Control Room Ventilation Unit 2 has shutdown

   STANDARD: Visual check of HIS 5317 CONTROL ROOM VENT SYS 2 green light lit

   CUE: **None**

   SAT UNSAT

4. PERFORMANCE STEP: Verify Control Room HVAC dampers have closed
   √

   STANDARD: Depress CLOSE on HIS 5311 HA 5311A-H, 5362A&B

   CUE: **The Unit Supervisor has assigned another Operator to refer to DB-OP-06412 for actions for a Radioactive Release Event**

   The Unit Supervisor directs you to continue in this procedure

   SAT UNSAT

Sequence of steps 5 and 6 is not critical

5. PERFORMANCE STEP: Start Control Room Emergency Ventilation System Train 1
√

STANDARD: Rotate HIS 5261 CONTROL ROOM EMER VENT FAN 1 to START

CUE: **(If asked) The Unit Supervisor has assigned an Equipment Operator to refer to DB- OP-06505 to perform the required local actions for the startup of Control Room Emergency Ventilation System Train 1**

The Unit Supervisor directs you to continue in this procedure

SAT UNSAT

6. PERFORMANCE STEP: Start Control Room Emergency Ventilation System Train 2
√

STANDARD: Rotate HIS 5262 CONTROL ROOM EMER VENT FAN 2 to START

CUE: **The Unit Supervisor has assigned an Equipment Operator to refer to DB-OP-06505 to perform the required local actions for the startup of Control Room Emergency Ventilation System Train 2**

The Unit Supervisor directs you to continue in this procedure

(If asked) None of the following activities are in progress:
WGDT Batch Release
Containment Purge
Boric Acid Evaporator operation

SAT UNSAT

7. PERFORMANCE STEP: Go to RA-EP-02861 Radiological Incidents

STANDARD: Indicate intent to implement RA-EP-02861

CUE: **The Unit Supervisor has implemented RA-EP-02861 Radiological Incidents**

SAT UNSAT

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

END TIME

Verification of Completion

Job Performance Measure No. G

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____
_____
_____

Response: _____
_____
_____
_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____

Facility: Davis-Besse **Task No:** 045-004-01-0100

Task Title: Synchronize the Main Generator to the Grid

K/A Reference: 062 A4.07 (3.1/3.1) **Job Performance Measure No**: H

Examinee: _____ **NRC Examiner:** _____

Facility Evaluator: _____ **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:
A plant startup is in progress
Reactor power is ≈18% power
The Main Turbine is rolling at 1800 RPM
Section 3.1 of DB-OP-06301, Generator and Exciter Operating Procedure, has been completed to prepare the Main Generator and Exciter for startup

Task Standard:
Synchronize the Main Generator to the grid and apply an initial load to the Generator

Required Materials:

General References: DB-OP-06301, Generator and Exciter Operating Procedure

Initiating Cue:
The Unit Supervisor directs you to synchronize the Main Generator to the grid and apply initial load in accordance with section 3.2 of DB-OP-06301

Time Critical Task: No

Validation Time: 21 Minutes

SIMULATOR INSTRUCTIONS

INITIAL CONDITION:

Reactor power at ≈18% power

ADDITIONAL SETUP/DEVIATION FROM INITIAL CONDITION:

DB-OP-06901 has been completed up to step 3.63

Main Turbine is rolling at 1800 RPM

Section 3.1 of DB-OP-06301 is complete

The prerequisites of Section 3.2 of DB-OP-06301 are complete

MALFUNCTIONS/FAILURE TO INSERT:

None

ACTION/CUES:

Step 9 - **Role play as the System Dispatcher to acknowledge the Generator is ready to be synchronized**

Step 10 - **Role play as the CAS operator to acknowledge that breaker operation in the switchyard is about to be performed**

Step 11 - **Role play as an Equipment Operator to close ABS 34620**

CUE SHEET

INITIAL CONDITIONS:

A plant startup is in progress

Reactor power is ≈18% power

The Main Turbine is rolling at 1800 RPM

Section 3.1 of DB-OP-06301, Generator and Exciter Operating Procedure, has been completed to prepare the Main Generator and Exciter for startup

INITIATING CUES:

The Unit Supervisor directs you to synchronize the Main Generator to the grid and apply initial load in accordance with section 3.2 of DB-OP-06301

Section 3.2 prerequisites have been completed

Performance Information

Denote critical steps with a check mark Start Time _____

Sequence of steps 1 and 2 is not critical

1. PERFORMANCE STEP: Open ACB 34560, Generator Breaker to Bus J
   √

   STANDARD: Rotate HIS 6111 to the TRIP position

   CUE: **(If asked) The Shift Manager is referring to Tech Spec 3.8.1.1 for A.C. Sources**

   _____
   SAT UNSAT

2. PERFORMANCE STEP: Open ACB 34561, Generator Breaker to Bus K
   √

   STANDARD: Rotate HIS 6113 to the TRIP position

   CUE: **(If asked) The Shift Manager is referring to Tech Spec 3.8.1.1 for A.C. Sources**

   _____
   SAT UNSAT

3. PERFORMANCE STEP: Verify TD-3B03 Disconnect 94AMX/G disconnects are closed

   STANDARD: Visual check of TD-3B03 knife switches in the CLOSED position

   CUE: TD-3B03 is closed

   _____
   SAT UNSAT

4. PERFORMANCE STEP: Close the Exciter Field Breaker
   √ .

   STANDARD: Rotate HIS 6021 to the CLOSE position

   CUE: **None**

   _____
   SAT UNSAT

5. PERFORMANCE STEP: Close the Generator Field Breaker
√

STANDARD: Rotate HIS 6010 to the CLOSE position

CUE: **None**

SAT UNSAT

6. PERFORMANCE STEP: Raise Generator Voltage using the Manual Voltage Regulator
√

STANDARD: Rotate HIS 6012 to the RAISE/LOWER position and increase/decrease to 24.5KV on EI 6000

CUE: **None**

SAT UNSAT

7. PERFORMANCE STEP: Null Generator Field Transfer Volts using the Automatic Voltage Regulator
√

STANDARD: Rotate HIS 6014 to the RAISE/LOWER position and null indication on EI 6008

CUE: None.

SAT UNSAT

8. PERFORMANCE STEP: Place the Main Generator Voltage Regulator in automatic
√

STANDARD: Rotate HIS 6011 to AUTO position

CUE: None.

SAT UNSAT

9. PERFORMANCE STEP: Notify System Dispatcher the Generator is ready to be synchronized

STANDARD: Communicate with the System Dispatcher

CUE:

SAT UNSAT

10. PERFORMANCE STEP: Notify the CAS operator that breaker operation in the switchyard is about to be performed

    STANDARD: Communicate with the CAS operator

    CUE: **None**

SAT UNSAT

11. PERFORMANCE STEP: Direct an Equipment Operator to close ABS 34620 in the 345 KV Switchyard
    √

    STANDARD: Communicate with an Equipment Operator in the Switchyard to close ABS 34620

    CUE: **None**

SAT UNSAT

12. PERFORMANCE STEP: Turn on the synchroscope for ACB 34561 or ACB 34560
    √

    STANDARD: Rotate HIS 6113 to ON for ACB 34561
    OR
    Rotate HIS 6111 to ON for ACB 34560

    COMMENT: Either ACB 34561or ACB 34560 can be used for synchronization

    CUE: **(If asked) The Shift Manager directs you to synchronize the Main Generator using ACB 34560**

SAT UNSAT

13. PERFORMANCE STEP: Match Generator voltage with Grid voltage by matching EI 6016, Incoming Volts, with EI 6018, Running Volts
    √

    STANDARD: Rotate HIS 6014 to the RAISE/LOWER to match EI 6016 with EI 6018

    CUE: **None**

SAT UNSAT

14. PERFORMANCE STEP: Adjust Generator frequency to slightly higher value than the Grid frequency speed
√

STANDARD: Rotate HIS 6022 to the RAISE or LOWER position to cause SY 6017, Synchroscope, to rotate slowly in the FAST direction

COMMENT: May need to readjust HIS 6014 to maintain Running and Incoming Voltages matched

CUE: **None**

SAT UNSAT

15. PERFORMANCE STEP: Make a plant announcement

STANDARD: Use the Gai-Tronics to inform all station personnel of the Generator Synchronization

CUE: **None**

SAT UNSAT

16. PERFORMANCE STEP: Close ACB 34561 or ACB 34560
√

STANDARD: Rotate HIS 6113 or HIS 6111 to the CLOSE position when the Synchroscope is at or just before the 12 o'clock position

CUE: **None**

SAT UNSAT

17. PERFORMANCE STEP: Raise the Generator loading rate

STANDARD: Depress the LOADING RATE LIMIT 10% pushbutton

CUE: **None**

SAT UNSAT

18. PERFORMANCE STEP: Raise Generator Load to prevent a reverse power/anti-motoring trip
√

STANDARD: Depress the INCREASE pushbutton on the LOAD CONTROL SELECTOR to raise Generator load to ≈ 50 MWE

CUE: **None**

SAT UNSAT

19. PERFORMANCE STEP: Turn off the synchroscope for ACB 34561 or ACB 34560

STANDARD: Rotate HIS 6113 to OFF for ACB 34561
OR
Rotate HIS 6111 to OFF for ACB 34560

CUE: **None**

SAT UNSAT

20. PERFORMANCE STEP: Turn on the synchroscope for ACB 34561 or ACB 34560

STANDARD: Rotate HIS 6113 to ON for ACB 34561
OR
Rotate HIS 6111 to ON for ACB 34560

COMMENT: Turn on the synchroscope for the breaker that was NOT closed previously

CUE: **None**

SAT UNSAT

21. PERFORMANCE STEP: Check the synchroscope at the 12 o'clock position or synchroscope lights are OFF

STANDARD: Visual check of the SY6017, Synchroscope and/or the SL6017A and SL6017B, Synchroscope lights

CUE: **None**

SAT UNSAT

22. PERFORMANCE STEP: Close ACB 34561 or ACB 34560

STANDARD: Rotate HIS 6113 or HIS 6111 to the CLOSE position

COMMENT: Close the breaker that was NOT closed previously

CUE: **None**

_____
SAT UNSAT

23. PERFORMANCE STEP: Turn off the synchroscope for ACB 34561 or ACB 34560

STANDARD: Rotate HIS 6113 to OFF for ACB 34561
OR
Rotate HIS 6111 to OFF for ACB 34560

CUE: **(If asked) The Shift Manager is referring to Tech Spec 3.8.1.1 for A.C. Sources**

_____
SAT UNSAT

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

_____
END TIME

Verification of Completion

Job Performance Measure No. H

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question: _____
_____
_____

Response: _____
_____
_____
_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____