

Plant JPM P1

Facility: Davis-Besse

Task No: 000-038-05-0100 042-014-01-0401

Task Title: Perform the actions for a steam leak in the 235 psig Auxiliary Steam (AS) Header IAW Att 6 of DB-OP-02525, Steam Leaks

K/A Reference: 039 A4.01 2.9/2.8 **Job Performance Measure No:** P1 (JPM-092)
040 AA1.03 4.3/4.3

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:

Isolate the 235 psig Aux Steam Header and shutdown the Aux Boiler

Required Materials:

Attachment 6 of DB-OP-02525

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:

18 minutes

EXAMINER COPY**INITIAL CONDITIONS:**

The plant is in Mode 2, with a plant startup in progress.

Auxiliary Steam Header is being transferred from the Auxiliary Boiler to the Main Steam Reducing Station in accordance with DB-OP-06901, Plant Startup.

Both the Auxiliary Boiler and the Main Steam Reducing Station are currently aligned to the Auxiliary Steam Header.

INITIATING CUES:

The Control Room announces a steam leak has developed in the Auxiliary Boiler Room

The Unit Supervisor directs you to perform the actions for a steam leak in the 235 psig Auxiliary Steam Header in accordance with Attachment 6 of DB-OP-02525, Steam Leaks.

The Mechanical Hogger has been started from the Control Room.

Condenser pressure is 7.5 inches HgA.

(Provide the examinee a copy of Attachment 6 of DB-OP-02525)

CANDIDATE COPY**INITIAL CONDITIONS:**

The plant is in Mode 2, with a plant startup in progress.

Auxiliary Steam Header is being transferred from the Auxiliary Boiler to the Main Steam Reducing Station in accordance with DB-OP-06901, Plant Startup.

Both the Auxiliary Boiler and the Main Steam Reducing Station are currently aligned to the Auxiliary Steam Header.

INITIATING CUES:

The Control Room announces a steam leak has developed in the Auxiliary Boiler Room

The Unit Supervisor directs you to perform the actions for a steam leak in the 235 psig Auxiliary Steam Header in accordance with Attachment 6 of DB-OP-02525, Steam Leaks.

The Mechanical Hogger has been started from the Control Room.

Condenser pressure is 7.5 inches HgA.

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: Set the Main Steam to Auxiliary Steam Pressure Reducing Station Controller PIC1650 to 0 psig | DB-OP-02325
Attachment 6
Step 1.a. |
|----|---|--|

STANDARD: Open controller door and adjust the setpoint by moving the setpoint indicator until the line on the set point indicator is over 0 on the process pressure scale

NOTE: Do NOT allow student to open PIC1650 access door (setpoint indicator can be viewed through a window in the door). Provide a picture of PIC 1650 with controller door open when candidate simulates opening door

CUE: PIC 1650 setpoint has been adjusted to 0 psig
If asked, provide DB-OP-06242 Att 20 (PIC1650 Controller)

	SAT UNSAT
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- | | | |
|----|---|--|
| 2. | PERFORMANCE STEP: Close MS 850 MS PRESSURE REDUCING INLET ISOLATION TO 235 LB. AUXILIARY STEAM HEADER
.....C..... | DB-OP-02325
Attachment 6
Step 1.b. |
|----|---|--|

STANDARD: Use the handwheel to manually close MS 850

CUE: Handwheel has been rotated clockwise. Valve stem is down

	SAT UNSAT
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Alternate path starts here. When an attempt is made to enter the door, the cue will be given that, The Auxiliary Boiler Room door handle is too hot to touch and steam is exiting from under the door.

This will prevent room entry and require an alternate path to trip the boiler.

3. PERFORMANCE STEP: Trip the Auxiliary Boiler.	DB-OP-02325 Attachment 6 Step 2. a.
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STANDARD: Recognize the boiler cannot be tripped by normal means due to inability to enter the room

CUE: **The Auxiliary Boiler Room door handle is too hot to touch and steam is exiting from under the door.**

	SAT UNSAT
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4. PERFORMANCE STEP: Open breaker BF3116, AUX BLR FUEL OILC..... PUMP 2	DB-OP-02325 Attachment 6 Step 2. b.
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STANDARD: Manually opens BF3116 on MCC F31A

CUE: **Breaker handle has been moved to the OPEN/OFF position**

	SAT UNSAT
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5. PERFORMANCE STEP: Open breaker BE3134, AUX BLR FUEL OILC.....: PUMP 1.	DB-OP-02325 Attachment 6 Step 2. b.
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STANDARD: Manually opens BE3134 on MCC E31A

CUE: **Breaker handle has been moved to the OPEN/OFF position**

	SAT UNSAT
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6. PERFORMANCE STEP: Open breaker BE1267, FUEL OIL BOOSTERC.....: PUMP 1.	DB-OP-02325 Attachment 6 Step 2. b.
--	---

STANDARD: Manually opens BE1267 on MCC E12B

CUE: **Breaker handle has been moved to the OPEN/OFF position**

	SAT UNSAT
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7. PERFORMANCE STEP: Open breaker BF1267, FUEL OIL BOOSTER
.....**C**.....: PUMP 2

DB-OP-02325
Attachment 6
Step 2. b.

STANDARD: Manually opens BF1267 on MCC F12B

CUE: **Breaker handle has been moved to the OPEN/OFF position**

SAT UNSAT

TERMINATING
CUES

This JPM is complete. (Terminated by the evaluator)

END TIME _____

ATTACHMENT 6: ISOLATION OF THE 235 PSIG AUX STEAM HEADER

Page 1 of 2

This attachment provides direction to locally isolate the 235 psig Auxiliary Steam Header. The Control Room will start the Mechanical Hogger to maintain Condenser vacuum. Two methods are provided to trip the Auxiliary Boiler in the event access to the Auxiliary Boiler Room is not available due to the steam leak.

1. IF the Main Steam to Aux Steam reducing station is in service,
THEN perform the following:

- _____ a. Set the Main Steam to Aux Steam Pressure Reducing Station Controller PIC1650 to 0 psig.
- _____ b. Close MS 850, MS PRESSURE REDUCING VALVE INLET ISOLATION TO 235 LB. AUXILIARY STEAM HEADER

2. IF the Auxiliary Boiler is in service,
THEN remove the Auxiliary Boiler from service as follow:

- _____ a. IF the Auxiliary Boiler Control Panel is accessible,
THEN place the CONTROL MODE switch in the OFF position.

- _____ b. IF the Auxiliary Boiler Control Panel is NOT accessible,
THEN shutdown the Fuel Oil Supply to the Auxiliary Boiler as follows:

_____ • Open BF3116, AUX BLR FUEL OIL PUMP 2 (MCC F31A located outside the Auxiliary Boiler Room)

_____ • Open BE3134, AUX BLR FUEL OIL PUMP 1 (MCC E31A located outside by the Seal Oil Room)

_____ • Open BE1267, FUEL OIL BOOSTER PUMP 1 (MCC E12B located in #1 Emergency Diesel Generator Room)

_____ • Open BF1267, FUEL OIL BOOSTER PUMP 2 (MCC F12B located in #2 Emergency Diesel Generator Room)

- c. Isolate Steam Flow from the Auxiliary Boiler as follows:

_____ • Close AS40, AUX BOILER NON-RETURN VALVE

OR

_____ • Close AS42, AUX BOILER MAIN STEAM STOP VALVE.

ATTACHMENT 6: ISOLATION OF THE 235 PSIG AUX STEAM HEADER

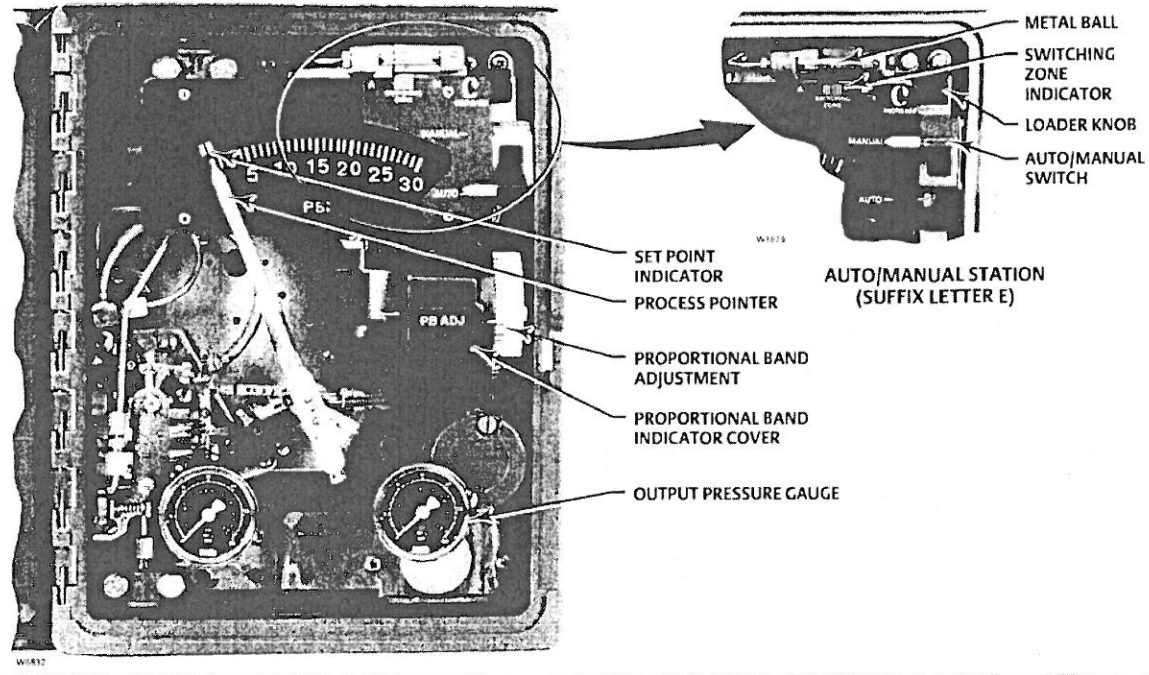
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- _____ d. Complete Aux Boiler shutdown. REFER TO DB-OP-06241, Auxiliary Boiler Operating Procedure.

ATTACHMENT 20: PIC1650 PRESS REDUCING CONTROLLER SETPOINT ADJUSTMENTS
Page 1 of 1

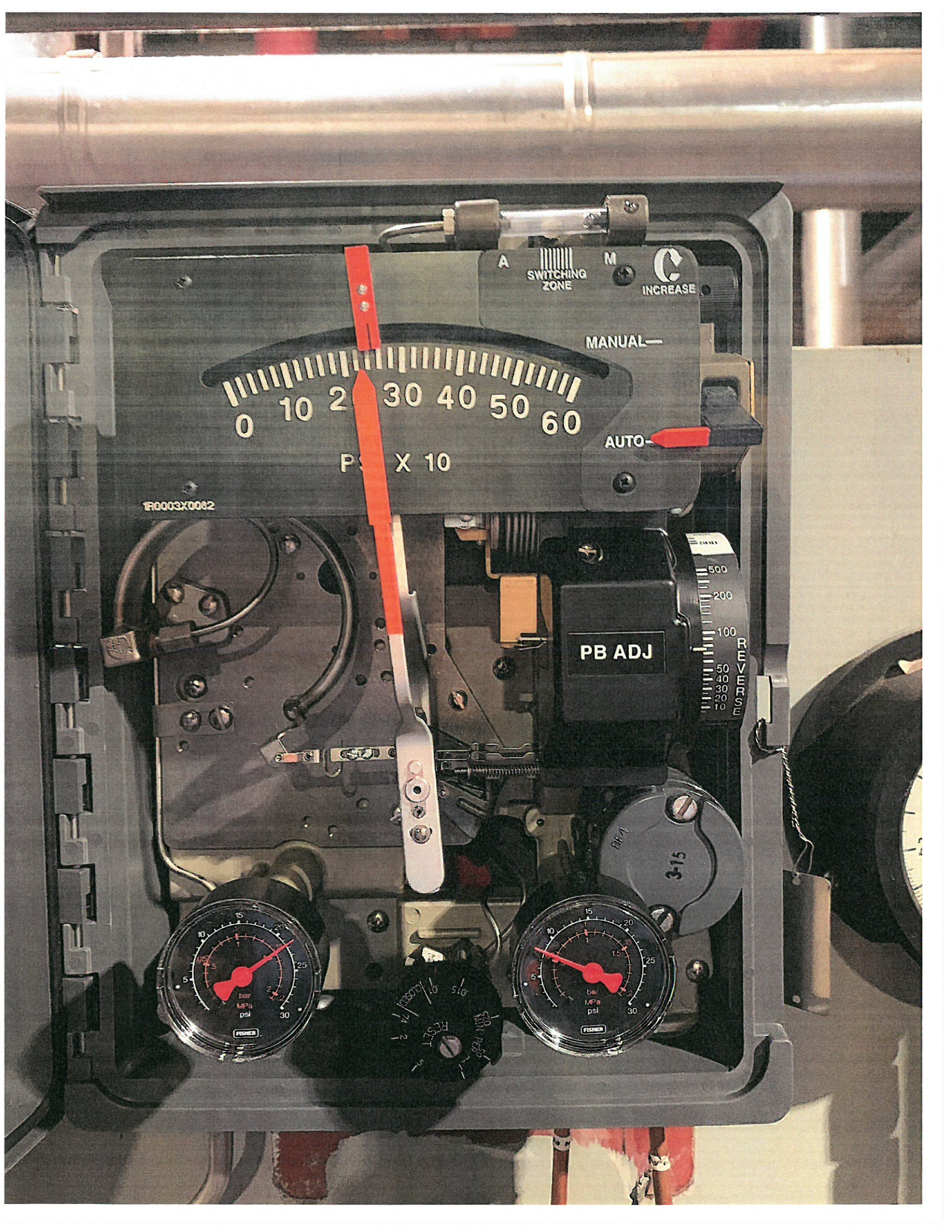
The below information is copied from the vendor manual for the PIC1650 controller.

Figure 3-1. Fisher 4195KA Controller Adjustment Locations



Manual Set Point Adjustment

Adjust the set point by moving the set point indicator until the line on the set point indicator is over the desired value on the process pressure scale. Move the indicator to the right to increase the set point and to the left to decrease it. Adjusting the set point does not affect the proportional band setting.



R0003X0042

SWITCHING ZONE

INCREASE

MANUAL

AUTO

PSI X 10

PB ADJ

500
200
100
50
40
30
20
10
MPa

3-15

15
10
5
0
5
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Bar
MPa
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FISHER

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RESIST
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Plant JPM

P2

Facility: Davis-Besse **Task No:** 022-002-01-0100

Task Title: Align Service Water (SW) to Containment Air Cooler (CAC) 1 IAW DB-OP-02501 Attachment 67

K/A Reference: AA2.17 (3.5/4.3) **Job Performance Measure No:** P2 (JPM-NEW)

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:

Align Service Water to Containment Air Cooler 1 IAW DB-OP-02501, Attachment 67, Restoration of Containment Cooling

Required Materials:

- Copy of DB-OP-02501 Attachment 67, Restoration of Containment Cooling
- Copy of DBRM-OPS-0001, AIR OPERATED VALVE REFERENCE MATERIAL Attachment 31

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:

24 Minutes

EXAMINER COPY**INITIAL CONDITIONS:**

A serious station fire exists in Area BF

The reactor is tripped

Offsite power is lost

D1 bus is locked out due to a fault

Containment Air Cooler 1 is available

Containment Air cooler 3 is aligned to Train 1

INITIATING CUES:

The Shift Manager has directed you to place Containment Air Cooler 1 in service per DB-OP-02501, Serious Station Fire, Attachment 67, Restoration of Containment Cooling

(Provide the examinee a copy of DB-OP-02501, Attachment 67)

CANDIDATE COPY**INITIAL CONDITIONS:**

A serious station fire exists in Area BF

The reactor is tripped

Offsite power is lost

D1 bus is locked out due to a fault

Containment Air Cooler 1 is available

Containment Air cooler 3 is aligned to Train 1

INITIATING CUES:

The Shift Manager has directed you to place Containment Air Cooler 1 in service per DB-OP-02501, Serious Station Fire, Attachment 67, Restoration of Containment Cooling

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: Open BE105 on Unit Substation E1
(#1 LVSGR RM) | DB-OP-02501
ATT 67
Step 1.0 a.1. |
|----|---|--|

STANDARD: Initial step based on cue.

CUE: **Another operator has verified BE105 OPEN**

SAT UNSAT

- | | | |
|----|--|--|
| 2. | PERFORMANCE STEP: Close SW325, CONTAINMENT AIR
COOLER 3 SERVICE WATER OUTLET
ISOLATION (#4 MPR). | DB-OP-02501
ATT 67
Step 1.0 a.2. |
|----|--|--|

STANDARD: Rotate handwheel clockwise to close SW325

CUE: **Handwheel has been verified in the full clockwise position.
SW325 valve position indicates SHUT**

SAT UNSAT

- | | | |
|----|---|--------------------------------------|
| 3. | PERFORMANCE STEP: Open BE1142, CONTAINMENT AIR
COOLER 1 INLET ISOLATION SW1366 on
MCC E11C (corridor to #3 MPR) | DB-OP-02501
ATT 67
Step 1.0 b. |
|----|---|--------------------------------------|

STANDARD: Manually opens BE1142 on MCC E11C

CUE: **The switch for BE1142 has been moved down and indicates
OPEN/OFF**

SAT UNSAT

-
4. PERFORMANCE STEP: Verify SW61, CAC HEADER CROSS
CONNECT FOR COOLER 3 is CLOSED
- DB-OP-02501
ATT 67
Step 1.0 c.

STANDARD: Rotate handwheel clockwise to close SW61

CUE: **Handwheel has been verified in the full clockwise position.
SW61 valve position indicates SHUT**

SAT UNSAT

5. PERFORMANCE STEP: Verify SW62, CAC HEADER CROSS
CONNECT FOR COOLER 3 is CLOSED
- DB-OP-02501
ATT 67
Step 1.0 c.

STANDARD: Rotate handwheel clockwise to close SW62

CUE: **Handwheel has been verified in the full clockwise position.
SW62 valve position indicates SHUT**

SAT UNSAT

6. PERFORMANCE STEP: Verify SW58, CONTAINMENT AIR COOLER
1 INLET ISOLATION is CLOSED
- DB-OP-02501
ATT 67
Step 1.0 c.

STANDARD: Rotate handwheel clockwise to close SW58

CUE: **Handwheel has been verified in the full clockwise position.
SW58 valve position indicates SHUT**

SAT UNSAT

7. PERFORMANCE STEP: Verify SW77, CONTAINMENT AIR COOLER
1 SERVICE WATER OUTLET ISOLATION is
CLOSED
- DB-OP-02501
ATT 67
Step 1.0 c.

STANDARD: Rotate handwheel clockwise to close SW77

CUE: **Handwheel has been verified in the full clockwise position.
SW77 valve position indicates SHUT**

SAT UNSAT

- | | | |
|----|--|--------------------------------------|
| 8. | PERFORMANCE STEP: Locally verify SW1366, SERVICE WATER
..... C
INLET TO CAC 1 is OPEN | DB-OP-02501
ATT 67
Step 1.0 d. |
|----|--|--------------------------------------|

STANDARD: Manually engage SW1366 and OPEN

CUE: **If necessary, both indicating lights on NV1366 are OFF**

Valve has been manually engaged and rotated fully counterclockwise, the position indicator points to the OPEN position

SAT UNSAT

- | | | |
|----|---|--------------------------------------|
| 9. | PERFORMANCE STEP: Fail open SW1356, CONTAINMENT AIR
COOLER 1 OUTLET TEMPERATURE
CONTROL | DB-OP-02501
ATT 67
Step 1.0 e. |
|----|---|--------------------------------------|

STANDARD: • Place IA1356B, SW1356 ACTUATOR VENT, in the vented position (remove clamp & rotate 3-way valve) (Step 1.0 e.1.)
• Place IA1356H, SW1356 ACTUATOR VENT, in the vented position (remove clamp & rotate 3-way valve) (Step 1.0 e.2.)

NOTE: Screen on vent tubing could be mistaken for a cap

CUE: • **Blue C-Clamps have been removed, 3-way valves have been rotated to the vented position, air is heard while air bleeds off. SW1356 valve position indicates OPEN**
• **If asked for, supply DBRM-OPS-0001, AOV Reference Material, Attachment 31 for SW1356**

SAT UNSAT

- | | | |
|-----|---|--------------------------------------|
| 10. | PERFORMANCE STEP: Slowly open SW77, CONTAINMENT AIR
..... C
COOLER 1 OUTLET SERVICE WATER
ISOLATION | DB-OP-02501
ATT 67
Step 1.0 f. |
|-----|---|--------------------------------------|

STANDARD: Rotate SW77 counterclockwise to OPEN

CUE: **Valve has been rotated fully counterclockwise. Valve position indicates OPEN**

SAT UNSAT

11. PERFORMANCE STEP: Slowly open SW58, CONTAINMENT AIR DB-OP-02501
.....**C**..... COOLER 1 INLET ISOLATION ATT 67
Step 1.0 g.

STANDARD: Rotate SW58 counterclockwise to OPEN

CUE: **Valve has been rotated fully counterclockwise. Valve position indicates OPEN**

SAT UNSAT

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

END TIME _____

ATTACHMENT 67: RESTORATION OF CONTAINMENT COOLING
Page 1 of 3

NOTE 1.0

Containment Air Cooler 1 is the preferred Containment Air Cooler to start if a Train 1 Containment Air Cooler is required.

1.0 IF Containment Air Cooler 1 is available,
THEN perform the following:

a. IF Containment Air cooler 3 is aligned to Train 1,
THEN perform the following:

- _____ 1. Open BE105 on Unit Substation E1.
- _____ 2. Close SW325, CONTAINMENT AIR COOLER 3 SERVICE WATER OUTLET ISOLATION (#4 MPR).

_____ b. Open BE1142, supply for SW1366 on MCC E11C (corridor to #3 MPR).

c. Verify the following valves are closed:

- _____ • SW61, CONTAINMENT AIR COOLER HEADER CROSS CONNECT FOR COOLER 3.
- _____ • SW62, CONTAINMENT AIR COOLER HEADER CROSS CONNECT FOR COOLER 3.
- _____ • SW58, CONTAINMENT AIR COOLER 1 INLET ISOLATION
- _____ • SW77, CONTAINMENT AIR COOLER 1 SERVICE WATER OUTLET ISOLATION.

_____ d. Locally verify SW1366, SERVICE WATER INLET TO CAC 1 is open.

e. Fail open SW1356, CONTAINMENT AIR COOLER 1 OUTLET TEMPERATURE CONTROL, by performing the following:

- _____ 1. Place IA1356B, SW1356 ACTUATOR VENT, in the vented position.
- _____ 2. Place IA1356H, SW1356 ACTUATOR VENT VALVE, in the vented position.

_____ f. Slowly open SW77, CONTAINMENT AIR COOLER 1 OUTLET SERVICE WATER ISOLATION.

_____ g. Slowly open SW58, CONTAINMENT AIR COOLER 1 INLET ISOLATION.

continued

ATTACHMENT 67: RESTORATION OF CONTAINMENT COOLING

Page 2 of 3

1.0 continued

- _____ h. Verify BE110, supply to CAC 1, is closed.
- _____ i. Notify the Control Room Containment Air Cooler 1 is ready to be started.
- 2.0 IF Containment Air Cooler 1 is not available
AND train 1 is the credited train,
THEN start Containment Air Cooler 3 as 1 in slow speed as follows:
- _____ a. Open BE1207, supply for SW1368 on MCC E12A.
- _____ b. Verify the following valves are closed:
- _____ • SW61, CONTAINMENT AIR COOLER HEADER CROSS CONNECT FOR COOLER 3.
 - _____ • SW62, CONTAINMENT AIR COOLER HEADER CROSS CONNECT FOR COOLER 3.
 - _____ • SW331, CONTAINMENT AIR COOLER 3 SERVICE WATER OUTLET ISOLATION.
 - _____ • SW325, CONTAINMENT AIR COOLER 3 SERVICE WATER OUTLET ISOLATION.
- _____ c. Locally verify SW1368, SERVICE WATER INLET TO CAC 3, is open.
- _____ d. Fail open SW1358, CONTAINMENT AIR COOLER 3 OUTLET TEMPERATURE CONTROL, by performing the following:
- _____ 1. Place IA1358B, SW1358 ACTUATOR VENT, in the vented position.
 - _____ 2. Place IA1358H, SW1358 ACTUATOR VENT VALVE, in the vented position.
- _____ e. Slowly open SW325, CONTAINMENT AIR COOLERS SW OUTLET ISOLATION.
- _____ f. Slowly open SW61, CONTAINMENT AIR COOLER HEADER CROSS CONNECT FOR COOLER 3.
- _____ g. Verify BE105, MCC E15 CTMT AIR COOLER 1-3 FAN, at E1, is closed.
- _____ h. Notify the Control Room Containment Air Cooler 3 is ready to be started.
- _____ i. IF Control Room circuits do not function,
THEN start Containment Air Cooler 3 in slow speed at MCC E15 by manually rotating the shaft on the LX Relay inside MCC E15 with a screwdriver.

ATTACHMENT 67: RESTORATION OF CONTAINMENT COOLING

Page 3 of 3

3.0 IF Containment Air Cooler 2 is available,
THEN perform the following:

a. IF Containment Air Cooler 3 is aligned to Train 2,
THEN perform the following:

_____ 1. Open BF105 on Unit Substation F1.

_____ 2. Close SW331, CONTAINMENT AIR COOLER 3 SERVICE WATER
OUTLET ISOLATION (#4 MPR).

_____ b. Open BF1223, supply for SW1367 on MCC F12A (LVSG Rm. 2).

c. Verify the following valves are closed:

_____ • SW60, CONTAINMENT AIR CLR HDR X-CONNECT FOR
COOLER 3.

_____ • SW63, CONTAINMENT AIR CLR HDR X-CONNECT FOR
COOLER 3.

_____ • SW325, CONTAINMENT AIR COOLER 3 SERVICE WATER
OUTLET ISOLATION.

_____ • SW331, CONTAINMENT AIR COOLER 3 SERVICE WATER
OUTLET ISOLATION.

_____ d. Locally verify SW 1367, SERVICE WATER INLET TO CAC 2, is open.

e. Fail open SW 1357, CONTAINMENT AIR COOLER 3 OUTLET
TEMPERATURE CONTROL, by performing the following:

_____ 1. Place IA1357B, SW1357 ACTUATOR VENT, in the vented position.

_____ 2. Place IA1357H, SW1357 ACTUATOR VENT VALVE, in the vented
position.

_____ f. Slowly open SW81, CONTAINMENT AIR COOLER 2 OUTLET
ISOLATION.

_____ g. Slowly open SW59, CONTAINMENT AIR COOLER 2 INLET ISOLATION.

_____ h. Verify BF110, supply to CAC 2, is closed.

_____ i. Notify the Control Room Containment Air Cooler 2 is ready to be started.

DAVIS-BESSE REFERENCE MATERIAL		Number: DBRM-OPS-0001
Title: AIR OPERATED VALVE REFERENCE MATERIAL	Revision: 05	Page 83 of 108

VALTEK SHEARSTREAM SEGMENTED BALL VALVE WITH A 50 SQ. IN ACTUATOR
SW1356, SW1357, or SW1358 CONTAINMENT AIR COOLER OUTLET TEMPERATURE
CONTROL VALVES

A. TO PLACE VALVE IN MANUAL OPERATION

NOTE

It is not required to isolate instrument air or nitrogen to place these valves into manual.

CAUTION

The following steps will cause the valve to open.

1. Rotate the applicable three-way valves to the venting position.
 - IA I 356B and IAI 356H for SW 1356.
 - IA1357B and IA1357H for SW1357.
 - IA1358B and IA1358H for SW1358.

NOTE

Rotation of the handwheel may be required to engage the handwheel.

2. Engage the handwheel by pulling tip on the plunger and raising the clutch handle located on the handwheel. transfer case.
3. Position the valve with the handwheel.

DAVIS-BESSE REFERENCE MATERIAL	Number:	DBRM-OPS-0001
Title: AIR OPERATED VALVE REFERENCE MATERIAL	Revision:	05
		Page 84 of 108

B. TO PLACE VALVE IN SERVICE

1. Rotate the handwheel to the fully OPEN position.

NOTE

Rotation of the handwheel may be required to engage the handwheel.

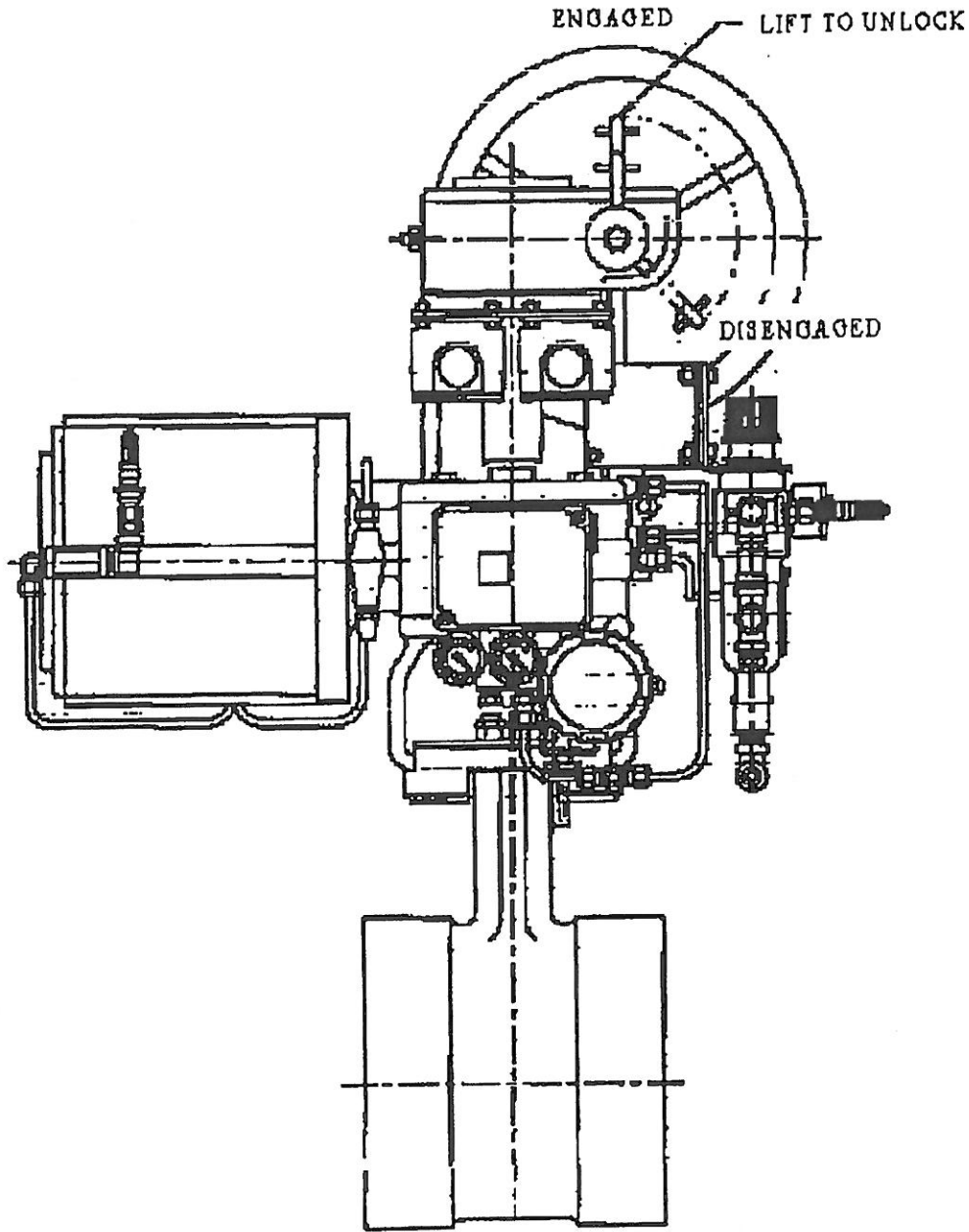
2. Disengage the handwheel by pulling Lip on the plunger and lowering the clutch handle located on the handwheel transfer case.

CAUTION

The following step may cause the valve to reposition.

3. Rotate the applicable three-way valves to the non-venting position.
 - IA1356B and IA1356H for SW1356.
 - IA1357B and IA1357H for SW1357.
 - IA1358B and IA1358H for SW1358.

DAVIS-BESSE REFERENCE MATERIAL	Number: DBRM-OPS-0001	
Title: AIR OPERATED VALVE REFERENCE MATERIAL	Revision: 05	Page 85 of 108



Plant JPM

P3

Facility: Davis-Besse Task No: 086-004-04-0400

Task Title: Actuate deluge for the Exciter and Turbine Gen Bearing

K/A Reference: 086 A4.05 (3.0/3.5) Job Performance Measure No: P3 (JPM 222)

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:

Actuate deluge for the Exciter and Turbine Gen Bearing

Required Materials:

Copy of section 5.5 of DB-OP-06603, Deluge Sprinkler

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

EXAMINER COPY**INITIAL CONDITIONS:**

Fire alarms have been received for an Exciter Bearing **AND** Main Turbine Generator Bearing #8 on Fire Protection Control Panel C5401.

A fire has been observed on both the Inboard Exciter Bearing **AND** Main Turbine Generator Bearing #8.

The Main Turbine Generator has been tripped.

INITIATING CUES:

The Unit Supervisor directs you to actuate the manual deluge system for the Exciter Bearing **AND** Main Turbine Generator Bearing #8 in accordance with DB-OP-06603 Deluge Sprinkler System Section 5.5.

(Provide the examinee a copy of Section 5.5 of DB-OP-06603, Deluge Sprinkler)

CANDIDATE COPY**INITIAL CONDITIONS:**

Fire alarms have been received for an Exciter Bearing **AND** Main Turbine Generator Bearing #8 on Fire Protection Control Panel C5401.

A fire has been observed on both the Inboard Exciter Bearing **AND** Main Turbine Generator Bearing #8.

The Main Turbine Generator has been tripped.

INITIATING CUES:

The Unit Supervisor directs you to actuate the manual deluge system for the Exciter Bearing **AND** Main Turbine Generator Bearing #8 in accordance with DB-OP-06603 Deluge Sprinkler System Section 5.5.

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: Unlock and open FP154 Turbine Bearing
..... C Sprinkler Header Isolation | DB-OP-06603
Step 5.5.3 |
|----|---|---------------------------|

STANDARD: FP154 opened

COMMENT: Completion of the Prerequisites is given in the Initial Conditions

- CUE:
- **Lock has been unlocked**
 - **Fire Protection (FP) 154 handwheel has been rotated counterclockwise**
 - **Valve stem is out**
 - **Handwheel stops turning**

	SAT UNSAT
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- | | | |
|----|---|---------------------------|
| 2. | PERFORMANCE STEP: Unseal and open FP204, Main Turbine
..... C Generator Bearing #8 Manual Sprinkler
Isolation | DB-OP-06603
Step 5.5.4 |
|----|---|---------------------------|

STANDARD: FP204 opened

- CUE:
- **Valve has been unsealed**
 - **FP 204 handwheel has been rotated counterclockwise**
 - **Valve stem is out**
 - **Handwheel stops turning**

	SAT UNSAT
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-
3. PERFORMANCE STEP: Unseal and open FP209, Exciter Bearing
.....**C**..... Manual Sprinkler Isolation DB-OP-06603
Step 5.5.4

STANDARD: FP209 opened

- CUE: • **Valve has been unsealed**
• **FP 209 handwheel has been rotated counterclockwise**
• **Valve stem is out**
• **Handwheel stops turning**

SAT UNSAT

-
4. PERFORMANCE STEP: Go to DB-OP-02529 Fire Procedure DB-OP-06603
Step 5.5.5

STANDARD: Verbal indication of routing to DB-OP-02529

CUE: **Control Room Crew is implementing the Fire Procedure**

SAT UNSAT

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

END TIME _____

5.5 Emergency Actuation of the Main Turbine and Generator Bearings Manual Deluge Subsystems

Prerequisites

5.5.1 Check Fire Protection Control Panel C5401 to determine which Main Turbine and Generator Bearings Subsystem is in alarm.

5.5.2 A fire has been observed on any of the following Main Turbine and Generator Bearings:

- Main TG Bearing #1
- Main TG Bearings #2&3
- Main TG Bearings #4&5
- Main TG Bearings #6&7
- Main TG Bearing #8
- Exciter Bearing

Procedure

5.5.3 Unlock
AND open FP154, TURBINE BEARING SPRINKLER HEADER ISOLATION, (located on the turbine deck outside the door to the Shift Manager's office (Door 507)).

5.5.4 Open the affected Main Turbine and Generator Bearings Manual Deluge Subsystem isolation valve, (located on the turbine deck outside the door to the Shift Manager's office (Door 507):

WORKING COPY	
VERIFIED CURRENT	
Initial/Date	Initial/Date
SRO/Today	

- FP200, MAIN TG BEARING #1 MANUAL SPRINKLER ISO.
- FP201, MAIN TG BEARINGS #2&3 MANUAL SPRINKLER ISO.
- FP202, MAIN TG BEARINGS #4&5 MANUAL SPRINKLER ISO.
- FP203, MAIN TG BEARINGS #6&7 MANUAL SPRINKLER ISO.
- FP204, MAIN TG BEARING #8 MANUAL SPRINKLER ISO.
- FP209, EXCITER BEARING MANUAL SPRINKLER ISO.

5.5.5 GO TO DB-OP-02529, Fire Procedure.