



## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**NOTE:** All steps of this checklist should be performed upon initial validation.  
 Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. \_\_\_\_\_
2. Knowledge and Abilities (K/A) references are included. \_\_\_\_\_
3. Performance location specified. (in-plant, control room, simulator, or other) \_\_\_\_\_
4. Initial setup conditions are identified. \_\_\_\_\_
5. Initiating cue (and terminating cue if required) are properly identified. \_\_\_\_\_
6. Task standards identified and verified by instructor or SME review. \_\_\_\_\_
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (\*). \_\_\_\_\_
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. \_\_\_\_\_
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 

Procedure: _____	1BCA-0.0	Revision: _____	304
Procedure: _____	2BCA-0.0	Revision: _____	302
Procedure: _____		Revision: _____	
Procedure: _____		Revision: _____	
10. Verify cues both verbal and visual are free of conflict. \_\_\_\_\_
11. Verify performance time is accurate. \_\_\_\_\_
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. \_\_\_\_\_
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: \_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_  
 SME / Instructor (Print/Sign) Date

\_\_\_\_\_/\_\_\_\_\_  
 SME / Instructor (Print/Sign) Date

\_\_\_\_\_/\_\_\_\_\_  
 SME / Instructor (Print/Sign) Date

**Revision Record (Summary)**

<b>Revision #</b>	<b>Summary</b>
03	Updated to current JPM Template
02	Applied new template TQ-JA-150-02 Rev. 1 Verified/ updated KAs and TPOs to current revision Changed Non Licensed Operator to Equipment Operator

### **SETUP INSTRUCTIONS**

1. This JPM is designed to be performed on either unit. Prior to providing the candidate their cue or reference material, determine which unit (1 or 2) this JPM which executed on and fill in the appropriate lines on the cue.
2. ENSURE a current revision of page 26 of 1BCA-0.0 or page 25 of 2BCA-0.0 LOSS OF ALL AC POWER.
3. This completes the setup for this JPM.

### INITIAL CONDITIONS

1. You are an extra NSO.
2. Both units were at full power when a loss of off-site power combined with Diesel Generator failures resulted in a loss of all AC power (SBO) on Unit \_.
3. The crew is currently performing \_BCA-0.0, Loss of all AC Power and needs to have AF flow reduced to control Steam Generator levels.
4. All available EOs are addressing a SAT fire and other plant issues.

### INITIATING CUE

The US directs you to locally throttle Unit \_ train B \_AF005 flow control valves as directed per \_BCA-0.0 step 17.b RNO.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

#### Information For Evaluator's Use:

UNSAT requires written comments on respective step.

\* Denotes critical steps **3 & 4**

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the candidate had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: \_\_\_\_\_ JPM Sequence #: \_\_\_\_\_ of \_\_\_\_\_

<b>Task Standard:</b> The candidate will be directed to locally operate the train B _AF005 flow control valves. The candidate will proceed into the Aux Building to the 364 elevation and locate the correct valves as directed. The candidate will simulate closing down on the valves by rotating the handwheels in the clockwise direction.					
<b>NOTE:</b> Ensure the candidate does NOT actually reposition anything associated with this JPM. SIMULATE ONLY!					
<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>NOTE:</b> Provide a copy of page 26 of 1BCA-0.0 or page 25 of 2BCA-0.0, as appropriate, to the candidate for place keeping.					
1	Go to Unit _ Train B AF flow control valve location.	Proceed to Unit _ Aux Building and locate train B AF valves <ul style="list-style-type: none"> <li>• 1AF005 valves (364 P10 AB1)</li> <li>OR</li> <li>• 2AF005 valves (364 P25 AB2)</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
2	Contact the control room.	Report to the control room that you are on station and ready to operate Train B AF005 flow control valves.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b>	<b>Lower flow to the _B SG until told to stop.</b>				
<b>NOTE:</b> The candidate may fail air to the valves. It does not matter if air is failed or not for this JPM as all air has been lost for some time.					

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>NOTE:</b> The candidate is expected to demonstrate simulating rotating the handwheel in the closed (clockwise) direction. Due to the valve handles being inverted, from above, it may appear as if the valves being turned counterclockwise if the motions are simulated from above.					
*3	Operate gag to close _B SG flow control valve.	Turn _AF005F handwheel in clockwise direction.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b>	<b>You have made several turns, the Main Control Room directs you to stop manipulating the valve, and now reduce flow to _D SG.</b>				
*4	Operate gag to close _D SG flow control valve.	Turn _AF005H handwheel in clockwise direction.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b>	<b>You have made several turns, the Main Control Room directs you to stop manipulating the valve, and to stand by.</b>				
<b>CUE:</b>	<b>This JPM is complete.</b>				

JPM Stop Time: \_\_\_\_\_



**JPM SUMMARY****Operator's Name:** \_\_\_\_\_ **Emp. ID#:** \_\_\_\_\_**Job Title:**  EO  RO  SRO  FS  STA/IA  SRO CertJPM Title: Local Operation of AF005 Valves Using Gagging DeviceJPM Number: IP-4S-04-0 Revision Number: 0Task Number and Title: R-OA-019, Locally control safe shutdown equipment

Task Standard: The candidate will be directed to locally operate the train B\_AF005 flow control valves. The candidate will proceed into the Aux Building to the 364 elevation and locate the correct valves as directed. The candidate will simulate closing down on the valves by rotating the handwheels in the clockwise direction.

K/A Number and Importance: 2.1.30 4.4/4.0Suggested Testing Environment: In-PlantAlternate Path:  Yes  No SRO Only:  Yes  No Time Critical:  Yes  No

Reference(s):

Procedure: _____	1BCA-0.0	Revision: _____	304
Procedure: _____	2BCA-0.0	Revision: _____	302
Procedure: _____		Revision: _____	
Procedure: _____		Revision: _____	

**Actual Testing Environment:**  Simulator  Control Room  In-Plant  Other**Testing Method:**  Simulate  Perform**Estimated Time to Complete:** 10 minutes **Actual Time Used:** \_\_\_\_\_ minutes**EVALUATION SUMMARY:**Were all the Critical Elements performed satisfactorily?  Yes  NoThe operator's performance was evaluated against standards contained within this JPM and has been determined to be:  Satisfactory  Unsatisfactory**NOTE:** Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).**Evaluator's Name (Print):** \_\_\_\_\_**Evaluator's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_





### **INITIAL CONDITIONS**

1. You are an extra NSO.
2. Both units were at full power when a loss of off-site power combined with Diesel Generator failures resulted in a loss of all AC power (SBO) on Unit \_.
3. The crew is currently performing \_BCA-0.0, Loss of all AC Power and needs to have AF flow reduced to control Steam Generator levels.
4. All available EOs are addressing a SAT fire and other plant issues.

### **INITIATING CUE**

The US directs you to locally throttle Unit \_ train B \_AF005 flow control valves as directed per \_BCA-0.0 step 17.b RNO.



## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**NOTE:** All steps of this checklist should be performed upon initial validation.  
 Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. \_\_\_\_\_
2. Knowledge and Abilities (K/A) references are included. \_\_\_\_\_
3. Performance location specified. (in-plant, control room, simulator, or other) \_\_\_\_\_
4. Initial setup conditions are identified. \_\_\_\_\_
5. Initiating cue (and terminating cue if required) are properly identified. \_\_\_\_\_
6. Task standards identified and verified by instructor or SME review. \_\_\_\_\_
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (\*). \_\_\_\_\_
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. \_\_\_\_\_
9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 

Procedure: <u>1BOA TG-9</u>	Revision: <u>1</u>
Procedure: <u>2BOA TG-9</u>	Revision: <u>2</u>
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____
10. Verify cues both verbal and visual are free of conflict. \_\_\_\_\_
11. Verify performance time is accurate. \_\_\_\_\_
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. \_\_\_\_\_
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: \_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_  
 SME / Instructor (Print/Sign) Date

\_\_\_\_\_/\_\_\_\_\_  
 SME / Instructor (Print/Sign) Date

\_\_\_\_\_/\_\_\_\_\_  
 SME / Instructor (Print/Sign) Date

**Revision Record (Summary)**

<b>Revision #</b>	<b>Summary</b>
00	• New JPM for 21-1 NRC Exam

## **SETUP INSTRUCTIONS**

1. This is an In-Plant JPM written to be performed on either Unit 1 or Unit 2.
2. ENSURE a current revision of 1/2BOA TG-9 LOSS OF BUS DUCT COOLING Field Operator Action Summary.
3. ENSURE a current revision of 1/2BOA TG-9 LOSS OF BUS DUCT COOLING Attachment A.
4. This completes the setup for this JPM.

### INITIAL CONDITIONS

- The Unit is in Mode 1 and Full Power.
- You are an extra NSO.
- Unit \_\_ has received Bus Duct Cooling alarms and has entered \_\_ BOA TG-9, Loss of Bus Duct Cooling.
- The Shift Manager has given permission for use of \_\_BOA TG-9 Field Operator Action Summary.

### INITIATING CUE

The Unit \_\_ NSO directs you to:

- Locally determine the cause of the alarms and respond per \_\_ BOA TG-9 LOSS OF BUS DUCT COOLING.
- Check that temperatures are within acceptable limits for continued operation.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

#### Information For Evaluator's Use:

UNSAT requires written comments on respective step.

- \* Denotes critical steps. **3 & 8**

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the candidate had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: \_\_\_\_\_ JPM Sequence #: \_\_\_\_\_ of \_\_\_\_\_

**Task Standard:**

Candidate responds to a tripped Bus Duct Cooling fan. Candidate restores duct cooling by starting the B fan and verifying the B discharge damper is open. Candidate will align bus duct cooling fan control switches and check conductor temperatures are within the acceptable limits for continued operation of less than < 105°F per \_BOA TG-9 Field Operator Action Summary.

**NOTE:** Ensure the candidate does NOT actually reposition anything associated with this JPM. SIMULATE ONLY!

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>NOTE:</b> This step may be performed at any time.					
1.	Refer to _ BOA TG-9	LOCATE and OPEN BOA TG-9 Field Operator Action Summary	<input type="checkbox"/>	<input type="checkbox"/>	—
2.	Verify the Bus Duct Cooling Fan is running	<ul style="list-style-type: none"> <li>• VERIFY _MP01C 'A' or _MP02C 'B' is running               <ul style="list-style-type: none"> <li>○ Fan Running</li> <li>○ C/S in A/C</li> <li>○ Disagreement light NOT LIT</li> </ul> </li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b> (When asked)	<b>The 'A' Fan is NOT RUNNING.</b> <b>The 'A' Fan control switch is in A/C.</b> <b>The amber disagreement light for the 'A' Fan is LIT.</b> <b>The 'B' Fan is NOT RUNNING.</b> <b>The 'B' Fan control switch is in A/T.</b> <b>The amber disagreement light for the 'B' Fan is NOT LIT.</b>				
* 3.	If the fan has tripped THEN start standby Bus Duct Cooling Fan	<ul style="list-style-type: none"> <li>• DETERMINE 'A' Fan has tripped</li> <li>• Place 'B' Fan control switch _MP02C in A/C</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>CUE:</b>	<b>The 'B' Fan control switch is in A/C.</b> <b>The Red Run light for the 'B' Fan is LIT.</b> <b>The 'B' Fan is RUNNING.</b>				
4.	Verify the appropriate discharge damper is open for the bus duct cooling fan in operation	<ul style="list-style-type: none"> <li>Verify 'B' discharge damper _MP02YB is open</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b>	<b>The 'B' discharge damper is OPEN.</b>				
5.	For the tripped Bus Duct Cooling fan place its control switch in the trip position.	<ul style="list-style-type: none"> <li>PLACE 'A' Fan control switch (_MP01C) in A/T</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
6.	Verify the appropriate discharge damper is closed for non running fan.	<ul style="list-style-type: none"> <li>VERIFY 'A' Fan discharge damper _MP02YA is CLOSED</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b>	<b>The 'A' Fan discharge damper is CLOSED</b>				
7.	Verify the appropriate discharge damper is open for the bus duct cooling fan in operation	<ul style="list-style-type: none"> <li>VERIFY 'B' Fan discharge damper _MP02YB is OPEN</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>NOTE:</b>	Per _BOA TG-9, a small ladder and flashlight would be required to properly read the conductor temperature indicators at the bus duct cooling assembly (Phase A and C). Identifying the location of the indicators inside the plexiglass window closest to the fan panel and simulating ladder usage will satisfy identifying the indicators to perform the following step. No actual ladder usage is encouraged for safety purposes.				
*8.	Read conductor temperature indicators at phase A and C plexiglass	<ul style="list-style-type: none"> <li>Read conductor temperature indicators at phase A and C plexiglass TB 426' H3</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—



<b>CUE:</b> (When Asked)	'A' phase reads 90 degrees C 'C' phase reads 90 degrees C				
<b><u>STEP</u></b>	<b><u>ELEMENT</u></b>	<b><u>STANDARD</u></b>	<b>SAT</b>	<b>UNSAT</b>	<b>Comment Number</b>
9.	Inform Unit NSO of temperature readings	<ul style="list-style-type: none"> <li>INFORM Unit NSO of temperature</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE:</b>	This JPM is complete.				

JPM Stop Time: \_\_\_\_\_



**JPM SUMMARY****Operator's Name:** \_\_\_\_\_ **Emp. ID#:** \_\_\_\_\_**Job Title:**  EO  RO  SRO  FS  STA/IA  SRO CertJPM Title: Local actions for Loss of Bus Duct CoolingJPM Number: TG-9 Revision Number: 0Task Number and Title: R-OA-133 Respond to a loss of Bus Duct Cooling per OA TG-9

Task Standard:

Candidate responds to a tripped Bus Duct Cooling fan. Candidate restores duct cooling by starting the B fan and verifying the B discharge damper is open. Candidate will align bus duct cooling fan control switches and check conductor temperatures are within the acceptable limits for continued operation of less than < 105°F as per \_BOA TG-9 Field Operator Action Summary.

K/A Number and Importance: 062A2.01 (3.4/3.9)Suggested Testing Environment: In-PlantAlternate Path:  Yes  No SRO Only:  Yes  No Time Critical:  Yes  No

Reference(s):

Procedure: <u>1BOA TG-9</u>	Revision: <u>1</u>
Procedure: <u>2BOA TG-9</u>	Revision: <u>2</u>
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____

**Actual Testing Environment:**  Simulator  Control Room  In-Plant  Other**Testing Method:**  Simulate  Perform**Estimated Time to Complete:** 10 minutes **Actual Time Used:** \_\_\_\_\_ minutes**EVALUATION SUMMARY:**Were all the Critical Elements performed satisfactorily?  Yes  NoThe operator's performance was evaluated against standards contained within this JPM and has been determined to be:  Satisfactory  Unsatisfactory**NOTE:** Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).**Evaluator's Name (Print):** \_\_\_\_\_**Evaluator's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_



### **INITIAL CONDITIONS**

- The Unit is in Mode 1 and Full Power.
- You are an extra NSO.
- Unit \_ has received Bus Duct Cooling alarms and has entered \_ BOA TG-9, Loss of Bus Duct Cooling.
- The Shift Manager has given permission for use of \_BOA TG-9 Field Operator Action Summary.

### **INITIATING CUE**

The Unit \_\_ NSO directs you to:

- Locally determine the cause of the alarms and respond per \_\_ BOA TG-9 LOSS OF BUS DUCT COOLING.
- Check that temperatures are within acceptable limits for continued operation.

REV. 1

LOSS OF BUS DUCT COOLING  
UNIT 1

1B0A  
TG-9

ATTACHMENT A

A. Perform Conductor Temperature Monitoring Shiftly as follows:

- 1) Perform twice per shift if ANY indicators are  $\geq 90^{\circ}\text{C}$  ( $194^{\circ}\text{F}$ )
- 2) Perform once per shift if ALL indicators are  $< 90^{\circ}\text{C}$  ( $194^{\circ}\text{F}$ )

Step continued on next page

ATTACHMENT A

Step A (continued)

Date		
Time		
Fan	A / B	circle operating fan(s)
Phase A Return Temperature (Transformer)	1TS-MP031 #	°C
	Conductor Temp (Plexiglass) #	°C
Phase C Return Temperature (Transformer)	1TS-MP033 #	°C
	Conductor Temp (Plexiglass) #	°C
Phase A Bypass Temperature (Generator)	1TS-MP030	°C
	Conductor Temp (Plexiglass)	°C
Phase C Bypass Temperature (Generator)	1TS-MP032	°C
	Conductor Temp (Plexiglass)	°C
Return Plenum	1TIC-MP035	°F
BUS DUCT COOLER_A OUTLET TEMP INDICATOR	1TI-WS029	°F
BUS DUCT COOLER_B OUTLET TEMP INDICATOR	1TI-WS030	°F
Exciter Cooler Service Water Inlet Temperature	1TI-WS019	°F

Provide copy to MP System Manager

1 DISPATCH AN OPERATOR TO VERIFY  
CAUSE OF ALARM:

- a. Verify the Bus Duct Cooling Fan is running
- o 1MP01C 'A'
  - o 1MP02C 'B'
- a. IF the fan has tripped, THEN start standby Bus Duct Cooling Fan as follows:
- 1) Start 1A/B Isolated Phase Bus Duct Cooling Fan:
    - o 1MP01C 'A'
    - o 1MP02C 'B'
  - 2) Verify the appropriate discharge damper is open for running fan:
    - o 1MP02YA, 1A Fan Damper
    - o 1MP02YB, 1B Fan Damper
  - 3) For the tripped Bus Duct Cooling Fan place its control switch in the trip position.
  - 4) Verify the appropriate discharge damper is closed for non-running fan.
    - o 1MP02YA, 1A Fan Damper
    - o 1MP02YB, 1B Fan Damper
- b. Verify the appropriate discharge damper is open for the bus duct cooling fan in operation
- o 1MP02YA, 1A Fan Damper
  - o 1MP02YB, 1B Fan Damper
- b. IF the running coil inlet damper 1MP01YA/B is closed, THEN swap to the standby Bus Duct Cooling Fan as follows:
- 1) Start the standby bus duct cooling fan:
    - o 1MP01C 'A'
    - o 1MP02C 'B'
  - 2) Verify appropriate discharge damper opens for running fan:
    - o 1MP02YA, 1A Fan Damper
    - o 1MP02YB, 1B Fan Damper
  - 3) Secure the bus duct cooling fan with the failed discharge damper:
    - o 1MP01C 'A'
    - o 1MP02C 'B'

3 DISPATCH AN OPERATOR TO READ  
CONDUCTOR TEMP INDICATORS AT  
PHASE A AND C (PLEXIGLASS) AT  
TURBINE BUILDING 426' :

a. Verify conductor temp  
is LESS THAN 120°C (248°F)

- Conductor temp phase A  
plexiglass (426' H3 TB1)
- Conductor temp phase C  
plexiglass (426' H3 TB1)

b. Verify conductor  
temperature is LESS THAN  
105°C (221°F)

- Conductor temp phase A  
plexiglass (426' H3 TB1)
- Conductor temp phase C  
plexiglass (426' H3 TB1)

c. Verify conductor  
temperature is LESS THAN  
95°C (203°F)

- Conductor temp phase A  
plexiglass (426' H3 TB1)
- Conductor temp phase C  
plexiglass (426' H3 TB1)

a. Notify Unit Supervisor

b. Notify the Unit Supervisor

Continue to monitor conductor  
temperatures. WHEN all conductor  
temperatures are <105°C (221°F),  
THEN PROCEED to Step 3c.

c. IF available start the second bus duct  
cooling fan at the Unit Supervisor's  
discretion as follows:

- 1) Start 1A/B Isolated Phase Bus Duct  
Cooling Fan:
  - o 1MP01C 'A'
  - o 1MP02C 'B'
- 2) Verify the appropriate discharge  
damper is open for running fan:
  - o 1MP02YA, 1A Fan Damper
  - o 1MP02YB, 1B Fan Damper

4 IMPLEMENT CONDUCTOR TEMPRATURE MONITORING SHIFTLY

a. Perform conductor temperature monitoring per  
1BOA TG-9, Attachment A.







**Revision Record (Summary)**

<b>Revision #</b>	<b>Summary</b>
06	<ul style="list-style-type: none"><li>- Applied new template TQ-JA-150-02 Rev.1</li><li>- Verified/ updated KAs and TPOs to current revision</li><li>- Changed Non Licensed Operator to Equipment Operator</li><li>- Validated 9/19/11 by Lynn Sanders and Mike McCue.</li><li>- Validated 11/3/17 by Eric Hipp. Procedure revisions have no effect on JPM.</li></ul>
08	<ul style="list-style-type: none"><li>- Updated per current JPM template.</li><li>- Validated by Brian Kleinfeldt and Matt Lane.</li></ul>
09	<ul style="list-style-type: none"><li>- Updated to current template</li><li>- Modified from N049a</li></ul>

### **INITIAL CONDITIONS**

- You are an Extra NSO.
- A fire exists in the \_B Diesel Generator room as determined by an alarm at \_PM09J and local report.
- Automatic actuation of CO2 to the \_B Diesel Generator room has failed.
- The detection zone in alarm is \_D-71.
- All BOP FP-22 prerequisites have been met.

### **INITIATING CUE**

The Fire Chief directs you to manually initiate CO2 to the \_B Diesel Generator room using BOP FP-22.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

#### **Information For Evaluator's Use:**

UNSAT requires written comments on respective step.

\* Denotes critical steps. **12, 14, 15, 17, & 18**

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the candidate had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: \_\_\_\_\_ JPM Sequence #: \_\_\_\_\_ of \_\_\_\_\_

<u>Task Standard:</u>					
Automatic fire suppression has failed in the 1B DG room. The candidate will attempt to actuate CO <sub>2</sub> manually via pushbutton. Alternate path starts when pushbutton fails to actuate CO <sub>2</sub> . The candidate will need to determine to actuate CO <sub>2</sub> manually without control power. This will require the candidate to verify valve alignment, manually actuate an EMPC lever, wait for the required time, and then manually terminate the CO <sub>2</sub> actuation after the allotted time. The JPM is successfully completed after the timed CO <sub>2</sub> actuation to the room.					
<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>CUE</b>	(if requested) <b>The detection zone in alarm is _D-71</b>				
<b>CUE</b>	(If requested) <b>The local panel has control power indication.</b>				
1	Refer to BOP FP-22, Manual Operation of the Carbon Dioxide and Halon Fire Suppression Systems	LOCATE and OPEN BOP FP-22.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>NOTE</b>	Provide the candidate with a copy of BOP FP-22.				
<b>NOTE</b>	All prerequisites have been met.				
2	Refer to Section G to determine attachment	DETERMINE attachment for detection zone _D-71: <ul style="list-style-type: none"> <li>FP-22A20 for DG 1B.</li> <li>FP-22A25 for DG 2B.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>NOTE</b>	Provide the candidate with a copy of FP-22A20 for DG 1B OR FP-22A25 for DG 2B as appropriate.				
3	Request MCR to contact Security	REQUEST Center Desk to call Security to ensure room clear of personnel.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE</b>	<b>Security has verified the room is clear of personnel.</b>				
4	Request a page announcement.	REQUEST Center Desk to page plant for pending initiation.	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>CUE</b>	<b>Page announcement has been made.</b>				
5	Verify open CO2 block valve.	VERIFY/OPEN _CO5022B	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE</b>	<b>_CO5022B is 'PARALLEL' to the piping (OPEN).</b>				
6	Verify Abort Switch not in Abort.	VERIFY _HS-CO004 NOT in ABORT.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE</b>	<b>_HS-CO004 is as indicated</b>				
7	Pull down the CO2 push button station cover.	PULL DOWN cover for: <ul style="list-style-type: none"> <li>• _HS-CO002</li> <li>OR</li> <li>• _HS-CO003</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE</b>	<b>HS-CO002 button cover is DOWN</b> <b>OR</b> <b>HS-CO003 button cover is DOWN</b>				
8	Locally actuate system	DEPRESS CO2 button: <ul style="list-style-type: none"> <li>• _HS-CO002</li> <li>OR</li> <li>• _HS-CO003</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE</b>	<b>_HS-CO002 button is DEPRESSED</b> <b>OR</b> <b>_HS-CO003 button is DEPRESSED</b>				
9	Verify system actuates locally.	At _CO03J, verify CO2 System Actuated light LIT.	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>NOTE</b>	<b>Alternate path initiated begins here.</b>				
<b>CUE</b>	<b>The CO2 System Actuated light is NOT LIT on _CO03J.</b>				
10	Verify alarm received on _PM09J.	VERIFY suppression alarm on _PM09J.	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>CUE</b>	<b>The Unit NSO reports that the suppression alarm was NOT received on _PM09J.</b>				
<b>NOTE</b>	If the candidate elects to try the second push button, repeat steps 7 - 9, then continue.				
11	Determine manual initiation without control power is required	PROCEED to step B.1.	<input type="checkbox"/>	<input type="checkbox"/>	___
* 12	Open the Master EMPC.	VERIFY/OPEN 0CO09J.	<input type="checkbox"/>	<input type="checkbox"/>	___
<b>CUE</b>	<b>0CO09J actuator lever is in the OPEN position.</b>				
<b>NOTE</b>	_C05022B was previously verified open (JPM step 5)				
13	Verify open CO2 block valve.	VERIFY/OPEN _CO5022B.	<input type="checkbox"/>	<input type="checkbox"/>	___
<b>CUE</b>	<b>_CO5022B is 'PARALLEL' to the piping (OPEN).</b>				
14	Break glass on _CO03JB	BREAK glass cover on _CO03JB.	<input type="checkbox"/>	<input type="checkbox"/>	___
<b>CUE</b>	<b>The glass cover has been broken on _CO03JB.</b>				
* 15	Actuate using EMPC actuator lever	PLACE actuator lever for _CO03JB in OPEN.  NOTE time.	<input type="checkbox"/>	<input type="checkbox"/>	___
<b>CUE</b>	<b>_CO03JB actuator lever is in the OPEN position.</b>				
16	Verify alarm received on _PM09J.	<ul style="list-style-type: none"> <li>VERIFY suppression alarm on _PM09J (_S-37).</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	___
<b>CUE</b>	<b>The Unit NSO reports that the suppression alarm _S-37 was received on _PM09J.</b>				
* 17	Terminate CO <sub>2</sub>	WHEN 1 minute 10 seconds for 1B DG <u>OR</u> 1 minute and 40 seconds for 2B DG has passed, THEN PLACE _CO03JB actuator lever in CLOSE.	<input type="checkbox"/>	<input type="checkbox"/>	___

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
<b>CUE</b>	<b>The _CO03JB actuator lever is in the CLOSED position.</b>				
<b>* 18</b>	Close CO2 block valve.	CLOSE _CO5022B	<input type="checkbox"/>	<input type="checkbox"/>	—
<b>CUE</b>	<b>_CO5022B is 'PERPENDICULAR' to the piping.</b>				
<b>CUE</b>	<b>This JPM is complete.</b>				

JPM Stop Time: \_\_\_\_\_



**JPM SUMMARY****Operator's Name:** \_\_\_\_\_ **Emp. ID#:** \_\_\_\_\_**Job Title:**  EO  RO  SRO  FS  STA/IA  SRO CertJPM Title: Operate the Fire Detection/Alarm Equipment (without control power)JPM Number: IP-8-03-0 Revision Number: 09Task Number and Title: 4C.FP-02 OPERATE the Fire Detection/Alarm equipment

Task Standard: Automatic fire suppression has failed in the 1B DG room. The candidate will attempt to actuate CO<sub>2</sub> manually via pushbutton. Alternate path starts when pushbutton fails to actuate CO<sub>2</sub>. The candidate will need to determine to actuate CO<sub>2</sub> manually without control power. This will require the candidate to verify valve alignment, manually actuate an EMPC lever, wait for the required time, and then manually terminate the CO<sub>2</sub> actuation after time complete. The JPM is successfully after the completion of the timed CO<sub>2</sub> actuation to the room.

K/A Number and Importance: 086A2.04 3.3/3.9Suggested Testing Environment: In PlantAlternate Path:  Yes  No SRO Only:  Yes  No Time Critical:  Yes  No

Reference(s):

Procedure: <u>BOP FP-22</u>	Revision: <u>7</u>
Procedure: <u>BOP FP-22A20</u>	Revision: <u>1</u>
Procedure: <u>BOP FP-22A25</u>	Revision: <u>0</u>
Procedure: _____	Revision: _____

**Actual Testing Environment:**  Simulator  Control Room  In-Plant  Other**Testing Method:**  Simulate  Perform**Estimated Time to Complete:** 15 minutes **Actual Time Used:** \_\_\_\_\_ minutes**EVALUATION SUMMARY:**Were all the Critical Elements performed satisfactorily?  Yes  NoThe operator's performance was evaluated against standards contained within this JPM and has been determined to be:  Satisfactory  Unsatisfactory**NOTE:** Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).**Evaluator's Name (Print):** \_\_\_\_\_**Evaluator's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

SRRS: 3D.105 (when utilized for operator initial or continuing training)





### **INITIAL CONDITIONS**

- You are an Extra NSO.
- A fire exists in the \_B Diesel Generator room as determined by an alarm at \_PM09J and local report.
- Automatic actuation of CO2 to the \_B Diesel Generator room has failed.
- The detection zone in alarm is \_D-71.
- All BOP FP-22 prerequisites have been met.

### **INITIATING CUE**

The Fire Chief directs you to manually initiate CO2 to the \_B Diesel Generator room using BOP FP-22.