

# Exelon Nuclear

## Job Performance Measure

### **Provide Alternate Ventilation to the Control Room and the Aux Electric Room**

JPM Number: 2014 ILT NRC JPM k

Revision Number: 00

Date: 10/21/2013

Developed By: \_\_\_\_\_  
Instructor Date

Validated By: \_\_\_\_\_  
SME or Instructor Date

Reviewed By: \_\_\_\_\_  
Operations Representative Date

Approved By: \_\_\_\_\_  
Training Department Date

## 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 SME review.
- \_\_\_\_\_ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (\*).
- \_\_\_\_\_ 8. If an alternate path is used, the task standard contains criteria for successful completion.
- \_\_\_\_\_ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:  
     Procedure QOA 5750-15 Rev: 11  
     Procedure \_\_\_\_\_ Rev: \_\_\_\_\_  
     Procedure \_\_\_\_\_ Rev: \_\_\_\_\_
- \_\_\_\_\_ 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. Subsequent validations, sign and date below:

|                  |      |
|------------------|------|
| SME / Instructor | Date |
| SME / Instructor | Date |
| SME / Instructor | Date |

## **Revision Record (Summary)**

**Revision 00**, Renamed to 2014 ILT NRC JPM k. Restarted numbering accordingly

### **Previous revisions were:**

**Revision 10**, This JPM is developed IAW guidelines established in NUREG 1021 Rev 8 ES-301 and Appendix C. This JPM meets the criteria of Category B.1 "Control Room Systems," for RO/SRO candidates.

JPM revised to match procedure changes.

**Revision 11**, JPM revised to reflect procedure changes.

**Revision 12**, JPM revised to reflect updated completion time.

**Revision 13**, JPM revised to reflect format and completion time change.

**Revision 14**, JPM revised to reflect procedure changes.

**Revision 15**, JPM revised to reflect procedure changes. Specified that normal power was available at wall receptacles in the initial conditions. Updated K/A ratings.

**Revision 16**, Revised JPM to reflect procedure changes.

### INITIAL CONDITIONS

- Both Units are operating at near rated conditions with normal electrical line-up.
- The “B” Control Room HVAC fan was taken out-of-service yesterday to replace the fan motor bearings.
- Approximately 1 hour ago the CONTROL ROOM SPLY/RETURN FAN TRIP (912-5 E-2) alarm came up.
- The Shift Manager was notified of the loss of ventilation and the maintenance department is investigating but, as yet, has not resolved the problem.
- Both the Control Room and the Aux Electric Room temperatures are being monitored by other operators and are approaching 98°F.
- Normal power is available at wall receptacles.
- You have obtained all necessary keys to perform this task.
- This JPM is not time critical.

### INITIATING CUE

The US has directed you to set-up and provide an alternate means of ventilating both the Control Room and the Aux. Electric Room IAW QOA 5750-15.

#### **Provide examinee with:**

Copy of QOA 5750-15.

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

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

UNSAT requires written comments on respective step.

- \* Denotes critical steps.
- Denotes critical elements of a critical step.

Number any comments in the “Comment Number” column on the following pages. Then annotate that comment in the “Comments” section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

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.

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The timeclock starts when the candidate acknowledges the initiating cue.

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JPM K QOA 5750-15,  
Rev 011, COMPLETE

JPM Start Time: \_\_\_\_\_

| STEP  | ELEMENT   | STANDARD  | SAT | UNSAT | Comment Number |
|---|---|---|-----|-------|----------------|
| EVALUATOR: The candidate may perform the steps in any logical order. It is most likely that the candidate will perform all the tasks for one floor level and then repeat at the other floor level.  |   |   |     |       |                |
| EVALUATOR: The initial conditions state that electrical power is available at the outlets. If the candidate chooses to obtain the generators to provide electrical power, this is acceptable provided the suction for the smoke ejector is NOT near the exhaust [breathing hazard to control room personnel]. |   |   |     |       |                |
| *D.3.b.   | • <u>Obtain</u> temporary ventilation equipment for Control Room from Service Building 3rd Floor Hallway to CAS.<br>(1) Extension Cords<br>(2) Collapsible Ductwork<br>(3) Smoke Ejectors.● | Unlocks (if necessary) temporary ventilation equipment located in the Service Building 3 <sup>rd</sup> Floor Hallway to CAS and obtains the following:<br><br>1.) Extension Cords<br><br>2.) Collapsible Ductwork<br><br>3.) Smoke Ejectors                             | —   | —     | —              |
| CUE:  | State, “You have obtained the temporary ventilation equipment.” (Should be smoke ejector, flexible duct, and extension cord.)   |   |     |       |                |
| NOTE: In the following step, the candidate may refer to step D.2.c for a clarification that the “1 <sup>st</sup> floor west of Weld Shop” is the Electrical Distribution Room on the first floor of the Service Building, south of the EMD Truck Bay.   |   |   |     |       |                |
| *D.3.c.   | • <u>Obtain</u> temporary ventilation equipment for Auxiliary Electric Room (located 1st floor west of Weld Shop)<br>(1) Extension Cord<br>(2) Collapsible Ductwork<br>(3) Smoke Ejectors.● | Unlocks (if necessary) temporary ventilation equipment from the Service Building Electric Equipment Room (located 1 <sup>st</sup> floor west of Weld shop) and obtains the following:<br><br>1) Extension Cords<br><br>2) Collapsible Ductwork<br><br>3) Smoke Ejectors | —   | —     | —              |

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| STEP   | ELEMENT   | STANDARD   | SAT | UNSAT | Comment Number |
|--|---|--|-----|-------|----------------|
| CUE:   | State, “You have obtained the temporary ventilation equipment.” (Should be smoke ejectors, flexible duct, and extension cord.)  |  |     |       |                |
| D.3.d.   | Direct Security to establish Control Room AND Aux Electric Room access control.   | Contacts Security and requests access control established to the Control Room and Aux Electric Room.   | —   | —     | —              |
| CUE:   | As security, acknowledge the request and state security personnel are standing by to control access to the Control Room and Aux Electric Room.  |  |     |       |                |
| *D.3.e.  | •Open Control Room double doors and maintain open for cooling.•   | Opens south CR double doors and props them open.   | —   | —     | —              |
| CUE:   | State the Control Room doors are open.  |  |     |       |                |
| EVALUATOR: The single Control Room door enters the RCA. Simulate opening the door. |   |  |     |       |                |
| *D.3.f.  | •Open single Control Room door and maintain open for cooling.•  | Opens west CR single door and props it open.   | —   | —     | —              |
| CUE:   | State the Control Room door is open.  |  |     |       |                |
| *D.3.g. & D.3.h & D.3.i  | •Place smoke ejector AND duct such that air is blown into the Control Room through the double doors•, routing extension cord(s) between smoke ejector and power source.<br><br>Locate convenient wall outlet<br><br>•Plug in smoke ejector• | (Simulates) placing the smoke ejector and ductwork such that the exhaust enters the control room south (double) doors.<br><br>Plugs the smoke ejector into an available electrical outlet. | —   | —     | —              |
| CUE:   | State the smoke ejector/ductwork is placed as the candidate indicates. State the smoke ejector is plugged into the outlet the candidate indicates.  |  |     |       |                |

| STEP   | ELEMENT   | STANDARD   | SAT | UNSAT | Comment Number |
|--|---|--|-----|-------|----------------|
| *D.3.j.  | • <u>Verify</u> smoke ejector is running•   | Turns on smoke ejector<br><br>Observes fan rotation and checks duct for air flow.  | —   | —     | —              |
| CUE:   | State, “Air is flowing into the Control Room.”  |  |     |       |                |
| *D.3.k.  | • <u>Open</u> panel doors in Control Room to ensure a more even temperature distribution.•  | Opens all Control Room panel doors.  | —   | —     | —              |
| CUE:   | State the Control Room panel doors are open.  |  |     |       |                |
| EVALUATOR: The following step is unnecessary and may not be performed by the candidate. It is applicable if electrical power via the outlets were unavailable. |   |  |     |       |                |
| D.3.l.   | <u>Place</u> portable generator in machine shop area.   | Obtains and places a generator in the machine shop area.   |     |       |                |
| CUE:   | State a portable generator has been placed in the machine shop area.  |  |     |       |                |
| D.3.m.   | <u>Inform</u> RP that plant conditions require smoke ejector for Aux Electric Room and that this will involve routing ejector from clean area through radiologically controlled area to clean area. | Contacts Radiation Protection and informs them that temporary ventilation equipment will be routed from the maintenance shop area through the west doors of the Aux Electric Room. |     |       |                |
| CUE:   | As Radiation Protection, acknowledge the information.   |  |     |       |                |
| EVALUATOR: The following step is on the RCA side. The student may choose to perform this step in conjunction with routing the smoke ejector ductwork.          |   |  |     |       |                |
| *D.3.n.  | • <u>Open</u> Aux Electric Room double doors and <u>maintain</u> open for cooling.•   | Opens west Aux Electric Room double doors and props them open.   | —   | —     | —              |
| CUE:   | State the Aux Electric Room double doors are open.  |  |     |       |                |
| *D.3.o.  | • <u>Open</u> single Aux Electric Room door and <u>maintain</u> open for cooling.•  | Opens South Aux Electric Room door and props it open.  | —   | —     | —              |

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| STEP  | ELEMENT  | STANDARD   | SAT | UNSAT | Comment Number |
|---|--|--|-----|-------|----------------|
| CUE:  | State the Aux Electric Room door is open.  |  |     |       |                |
| *D.3.p & D.3.q & D.3.r  | <ul style="list-style-type: none"><li>Place smoke ejector AND duct such that air is blown into Aux Electric Room through the double doors•, routing extension cord(s) between smoke ejector and power source.</li></ul> <p>Locate convenient wall receptacle.</p> <ul style="list-style-type: none"><li>Plug in smoke ejector. •</li></ul> | <p>Places the smoke ejector and ductwork such that the exhaust enters the Aux Electric Room West (double) doors.</p> <p>Plugs the smoke ejector into an available electrical outlet.</p> | —   | —     | —              |
| *D.3.s.   | <ul style="list-style-type: none"><li>Verify smoke ejector is running•</li></ul>   | <p>Turns on smoke ejector</p> <p>Observes fan rotation and checks duct for air flow.</p>   | —   | —     | —              |
| CUE:  | State, “Air is blowing into the Aux Electric Room.”  |  |     |       |                |
| *D.3.t.   | <ul style="list-style-type: none"><li>Open panel doors in Aux Electric Room to ensure a more even temperature distribution.•</li></ul>   | Unlocks and opens all Aux Electric Room panel doors.   | —   | —     | —              |
| CUE:  | State all Aux Electric Rm panel doors are open.  |  |     |       |                |
| EVALUATOR: The candidate should inform you that the task is complete. |  |  |     |       |                |

JPM Stop Time: \_\_\_\_\_  
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**JPM SUMMARY**

**Operator's Name:** \_\_\_\_\_ **Job Title:** ☐ EO ☐ RO ☐ SRO ☐ FS  
☐ STA/IA ☐ SRO Cert

JPM Title: Provide Alternate Ventilation to the Control Room and the Aux Electric Room

JPM Number: 2014 ILT NRC JPM k Revision Number: 00

Task Number and Title:

**SRN-5750-P18** (Freq: LIC=B NF=B) Given an operating reactor plant with a complete loss of control HVAC, locally establish temporary ventilation for the control room and the aux electric room in accordance with QOA 5750-15.

K/A Number and Importance: **K/A:** 290003 2.1.23 **Rating:** 4.3/4.4

Control Room Heating, Ventilation and Air Conditioning

Ability to perform specific system and integrated plant procedures during all modes of plant operation.

Suggested Testing Environment: Plant

Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No

Reference(s): QOA 5750-15, Rev. 11, Complete Loss of Control Room HVAC

**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 ☐ No

The operator's performance was evaluated against standards contained within this JPM and has been determined to be: ☐ Satisfactory ☐ Unsatisfactory

**Comments:** \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Evaluator's Name:** \_\_\_\_\_ (Print)

**Evaluator's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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

### **INITIAL CONDITIONS**

- Both Units are operating at near rated conditions with normal electrical line-up.
- The "B" Control Room HVAC fan was taken out-of-service yesterday to replace the fan motor bearings.
- Approximately 1 hour ago the CONTROL ROOM SPLY/RETURN FAN TRIP (912-5 E-2) alarm came up.
- The Shift Manager was notified of the loss of ventilation and the maintenance department is investigating but, as yet, has not resolved the problem.
- Both the Control Room and the Aux Electric Room temperatures are being monitored by other operators and are approaching 98°F.
- Normal power is available at wall receptacles.
- You have obtained all necessary keys to perform this task.
- This JPM is not time critical.

### **INITIATING CUE**

The US has directed you to set-up and provide an alternate means of ventilating both the Control Room and the Aux. Electric Room IAW QOA 5750-15.