

# Exelon Nuclear

## Job Performance Measure

### Transfer Aux. Power From XFMR 12 to XFMR 11

JPM Number: 2014 ILT NRC JPM f

Revision Number: 00

Date: 10/16/2013

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 QOP 6100-01 Rev: 22  
     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 2014 ILT NRC JPM f. Restarted numbering accordingly.

Previous revisions were

**Revision 14**, 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 revision.

**Revision 15**, This JPM is being revised to reflect procedure revisions.

**Revision 16**, JPM revised to reflect procedure and format changes.

**Revision 17**, JPM revised to reflect procedure changes.

**Revision 18**, JPM revised to reflect procedure changes (load tap changer).

**Revision 19**, JPM revised to current procedure.

## SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to any at power IC with the UAT supplying buses 11 and 14 and the RAT supplying buses 12 and 13 yet low enough in electrical demand not to exceed UAT limits. Recommended ICs are 18, 19, and 20.

IC Description: The unit is operating at \_\_\_\_ power.

**NOTE:** It is okay to use any IC, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently. Also verify that (if using High Power IC's) UAT and RAT will not exceed limits per step E.2.C of QCOP 6100-01.

### 2. Manual Actuation:

Ensure transformer loading requirement will be met.

#### Remotes:

None

#### Overrides:

None

3. Verify a synchronizing key is available for use.
4. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs using the JPM Validation Checklist.
5. This completes the setup for this JPM.



JPM F QOP 6100-01,  
Rev 022, REMOVING F caep.cae



**INITIAL CONDITIONS**

- Unit 1 is currently at \_\_\_\_% power.
- A small oil leak has been discovered on the Unit 1 Reserve Aux Transformer and OAD recommends removing load from the RAT.
- The TSO has granted approval to transfer load to the Unit Aux Transformer and will generate switching orders to operate the ring bus.
- Transformer 82 is supplying the 13.8kV loads.
- The Unit 1 Unit Supervisor has directed Aux. Power transferred from the Reserve Aux Transformer to the Unit Aux Transformer.
- Unit 2 is in a normal electric plant line-up.
- This JPM is NOT time critical.

**INITIATING CUE**

Transfer all Aux. Power from Transformer 12 to Transformer 11 per QOP 6100-01. Report to the Unit Supervisor when all Aux Power has been transferred.

**{When candidate acknowledges the cue, provide the candidate with the procedure QCOP 6100-01}**

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

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**Information For Evaluator's Use:**

Mark up a copy of QOP 6100-01 up to step F.

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. 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 examinee 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.

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

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

| <u>STEP</u>  | <u>ELEMENT</u>                             | <u>STANDARD</u>   | SAT | UNSAT | Comment<br>Number |
|--|--|---|-----|-------|-------------------|
| <b>EVALUATOR NOTE: The order in which the buses are transferred is not critical. The examinee may do steps F.1 through F.9 or step F.10 through F.18 first. Turning OFF the synchronizing switch for the FIRST breaker is critical to allow synchronizing of the second breaker.</b> |  |   |     |       |                   |
| F.1  | <u>Check closed</u> XFMR 11 TO BUS 11 ACB. | Verifies red closed light lit for the XFMR 11 to Bus 11 breaker and green open light extinguished.  | —   | —     | —                 |
| F.2  | <u>Check open</u> XFMR 12 TO BUS 11 ACB.   | Verifies green open light lit for the XFMR 12 to Bus 11 breaker and red closed light extinguished.  | —   | —     | —                 |
| *F.3   | ● <u>Turn on</u> XFMR 11 TO BUS 12 ACB●    | Places synchronizing key into the XFMR 11 to Bus 12 synchronizing keyslot (directly above the XFMR 11 to Bus 12 ACB control switch) and rotates switch to ON. | —   | —     | —                 |
| *F.4   | ● <u>Close</u> XFMR 11 TO BUS 12 ACB●      | Position XFMR 11 to Bus 12 ACB control switch to the close position and verifies:<br>-red closed light lit.<br>-Annunciator 901-8 D-1, alarms.                | —   | —     | —                 |
| *F.5   | ● <u>Open</u> XFMR 12 TO BUS 12 ACB. ●     | Position XFMR 12 to Bus 12 ACB control switch to the open position and verifies:<br>-red closed light lit.<br>-Annunciator 901-8 D-1, clears.                 | —   | —     | —                 |

| <u>STEP</u>  | <u>ELEMENT</u>   | <u>STANDARD</u>   | SAT | UNSAT | Comment Number |
|--|--|---|-----|-------|----------------|
| F.6  | <u>Check</u> that UAT 11 picks up entire load  | Does one or more of:<br>-Reviews current reading for transformer 11 to bus 12 and notes it increased approximately by what transformer 12 to bus 12 was carrying.<br>-Evaluates running equipment (i.e., Reactor Feed Pumps B/C and Recirc pump B) and notes their continued operation. | —   | —     | —              |
| <b>EVALUATOR NOTE: The next step is critical because the synchronizing interlock will prevent paralleling bus 13 in step F.13 if the switch is not taken to off.</b> |  |   |     |       |                |
| *F.7   | ● <u>Turn off</u> XFMR 11 TO BUS 12 ACB●   | Rotates synchronizing key to OFF.<br><br>Removes synchronizing key from keyslot.  | —   | —     | —              |
| F.8  | Check UAT 11 load is normal OR refer to QCOP 6500-09 to return transformer load to normal. | Verifies current load on Transformer 11 is within expected range (less than 4100 Amps total to buses 11&12 and <2950 Amps total to buses 13&14).  | —   | —     | —              |
| <b>EVALUATOR NOTE: In the next step, the voltage indicator for buses 11 &amp; 12 do NOT have color bands in the simulator or in the control room.</b>                |  |   |     |       |                |
| F.9  | Check UAT 11 voltage is normal (green band) AND 4KV bus voltages are > 4000V.              | Checks voltage indication for Buses 11, 12, and 14 and verifies the indicated voltages are in the green band and at least 4000V.  | —   | —     | —              |
| F.10   | <u>Check closed</u> XFMR 11 TO BUS 14 ACB  | Verifies red closed light lit for the XFMR 11 to Bus 14 breaker and green open light extinguished.  | —   | —     | —              |

| <u>STEP</u>  | <u>ELEMENT</u>  | <u>STANDARD</u>  | SAT | UNSAT | Comment<br>Number |
|--|---|--|-----|-------|-------------------|
| F.11   | <u>Check open</u> XFMR 12 TO BUS 14 ACB                     | Verifies green open light lit for the XFMR 12 to Bus 14 breaker and red closed light extinguished.   | —   | —     | —                 |
| *F.12  | ● <u>Turn on</u> XFMR 11 TO BUS 13 ACB synchronizing key. ● | Places synchronizing key into the XFMR 11 to Bus 13 synchronizing keyslot (directly above the XFMR 11 to Bus 13 ACB control switch) and rotates switch to ON.  | —   | —     | —                 |
| *F.13  | ● <u>Close</u> XFMR 11 TO BUS 13 ACB. ●                     | Position XFMR 11 to Bus 13 ACB control switch to the close position and verifies:<br>-red closed light lit.<br>-Annunciator 901-8 B-5, alarms.   | —   | —     | —                 |
| *F.14  | ● <u>Open</u> XFMR 12 TO BUS 13 ACB. ●                      | Position XFMR 12 to Bus 13 ACB control switch to the open position and verifies:<br>-red closed light lit.<br>-Annunciator 901-8 B-5, clears.  | —   | —     | —                 |
| F.15   | <u>Check</u> that UAT 11 picks up entire load.              | Does one or more of:<br>-Reviews current reading for transformer 11 to bus 13 and notes it increased approximately by what transformer 12 to bus 13 was carrying.<br>-Evaluates running equipment (e.g., condensate pumps A, B) and notes their continued operation. | —   | —     | —                 |
| <b>EVALUATOR NOTE: The next step is NOT critical because all breaker manipulations are complete if the candidate transferred bus 12 to transformer 11 first.</b> |   |  |     |       |                   |
| F.16   | <u>Turn off</u> XFMR 11 TO BUS 13 ACB synchronizing key.    | Rotates synchronizing key to OFF.<br>Removes synchronizing key from keyslot.   | —   | —     | —                 |

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



| <u>STEP</u>   | <u>ELEMENT</u>  | <u>STANDARD</u>  | SAT | UNSAT | Comment<br>Number |
|---|---|--|-----|-------|-------------------|
| F.17  | <u>Check</u> UAT 11 load is normal OR refer to QCOP 6500-09 to return transformer load to normal. | Verifies current load on Transformer 11 is within expected range (less than 4100 Amps total to buses 11&12 and <2950 Amps total to buses 13&14). | —   | —     | —                 |
| F.18  | <u>Check</u> UAT 11 voltage is normal (green band) AND 4KV bus voltages are > 4000V.              | Checks voltage indication for Buses 11, 12, 13, and 14 and verifies the indicated voltages are in the green band and at least 4000V.             | —   | —     | —                 |
| <b>EVALUATOR: The examinee should inform you that the task is complete.</b> |   |  |     |       |                   |

JPM Stop Time: —

**JPM SUMMARY**

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

JPM Title: Transfer Aux. Power From XFMR 12 to XFMR 11

JPM Number: 2014 ILT NRC JPM f

Revision Number: 00

Task Number and Title:

**SR-6500-P02** (Freq: LIC=B) Given a reactor plant, transfer a 4160 bus from/to T-12 to/from T-11 in accordance with QCOP 6500-09 or QCGP 1-1 or QCGP 2-1. (SOER 83-6 r4)

K/A Number and Importance: **K/A:** 262001.A.4.04 **Rating:** 3.6/3.7

Ability to manually operate and/or monitor in the control room: Synchronizing and paralleling of different A.C. Supplies

Suggested Testing Environment: Simulator

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

Reference(s): QOP 6100-01 Rev 22 REMOVING RESERVE AUXILIARY TRANSFORMER 12 FROM SERVICE WITH UNIT 1 OPERATING

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

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

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

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### **INITIAL CONDITIONS**

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### **INITIATING CUE**

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