

# **Exelon Nuclear**

## **Job Performance Measure**

Defeat Unit-1 HPCS High Level Isolation per LGA-HP-01

JPM Number: NRC InPlant-01

Revision Number: 00

Date: 02/21/2005

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

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

**Review By:** \_\_\_\_\_  
**Operations Representative** **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 8 and 11 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, or simulator)
- \_\_\_\_\_ 4. Initial setup conditions are identified.
- \_\_\_\_\_ 5. Initiating and terminating cues 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. Verify the procedure referenced by this JPM matches the most current revision of that procedure:  
Procedure Rev. \_\_\_\_\_ Date \_\_\_\_\_
- \_\_\_\_\_ 9. Pilot test the JPM:
  - a. verify cues both verbal and visual are free of conflict, and
  - b. ensure performance time is accurate.
- \_\_\_\_\_ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- \_\_\_\_\_ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

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SME/Instructor

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Date

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SME/Instructor

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Date

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SME/Instructor

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Date

## **Revision Record (Summary)**

1. **Revision 00:** This JPM was written by J.E. Ross for the 2003-01 ILT NRC Exam given on the week of 03/07/2005. It is modeled after LaSalle County Station JPM P-HP-02.

## **MATERIALS**

1. The following material is required to be provided to the examinee:
  - a. Copy of LGA-HP-01 (after demonstrating ability to locate controlled copy)
  - b. Laser Pointer
2. The following material is to be obtained by the examinee:
  - a. LGA Support Locker key
3. The following equipment may be identified by the examinee but NOT removed from its normal storage location:
  - a. Unit-1 LGA-HP-01 equipment bag containing the following:
    - 1 Flat blade screwdriver
    - 1 Flat blade holding screwdriver
    - Electrical tape
  - b. Flashlights/lantern

## INITIAL CONDITIONS

You are an Extra NSO:

- Unit-1 RPV level cannot be determined and LGA-005, RPV Flooding, has been entered.
- HPCS is available for flooding, but the injection valve is closed due to RPV level instrumentation reference leg flashing.
- Radiation conditions are normal.
- You have a plant Radio.

## INITIATING CUE

The Unit-1 Unit Supervisor has directed you to perform Attachment 1A of LGA-HP-01 to defeat the high level isolation. Inform the control room when LGA-HP-01 Attachment 1A has been completed.

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.
- 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.

The timeclock starts when the candidate acknowledges the initiating cue.

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

<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>
*1.	Obtain a copy of LGA-HP-01.	Examinee demonstrates ability to obtain LGA-HP-01.	—	—	—
<b>CUE</b> After examinee demonstrates ability to obtain the procedure, then hand him a copy of LGA-HP-01.					
2.	Obtains LGA Support Locker key.	Examinee obtains LGA Support Locker key (may use personal key, obtain key form Unit Supervisor's or Shift Manager's desk.	—	—	—
<b>NOTE</b> To complete the task, the examinee must have the equipment in the equipment bag as described on page 4 of this JPM.					
*3.	Obtains Unit-1 LGA-HP-01 equipment bag from the LGA Support Locker.	At 731-foot Auxiliary Building, examinee obtains the equipment bag and checks the contents per Step B.3 of LGA-HP-01.	—	—	—
<b>CUE</b> Tell the examinee that the equipment bag contains the equipment he described.					
*4.	At 1H13-P625 (687-foot Auxiliary Building) in the Division 3 Switchgear Room, LIFT lead from Terminal Block BB, Point 18.	Refers to Attachment 1A, describes lifting and taping lead from Terminal Block BB, Point 18.	—	—	—
<b>NOTE</b> The examinee should describe using the screwdriver to lift the lead and include taping the exposed end of the lead after lifting.					
5.	Document lifting the lead.	Examinee signs and enters current date and time in the blanks provided on LGA-HP-01, Attachment 1A.	—	—	—

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

\_\_\_\_\_

**Operator's Name:** \_\_\_\_\_  
**Job Title:** ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

**JPM Title:** Defeat Unit-1 HPCS High Level Isolation per LGA-HP-01

**JPM Number:** NRC InPlant-01

**Revision Number:** 00

**Task Number and Title:**

401.000 Given a LGA in progress, evaluate plant conditions, locate and perform LGA-HP-01, including lifting a lead.

**K/A Number and Importance:**

209002 High Pressure Core Spray: A2.03 Ability to (a) predict the impact of the following on the HIGH PRESSURE CORE SPRAY SYSTEM (HPCS); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Valves closures 3.2/3.4.

**Suggested Testing Environment:** In-Plant

**Actual Testing Environment:** ☐ Simulator ☐ Control Room ☒ In-Plant

**Testing Method:** ☒ Simulate ☐ Perform  
**Alternate Path:** ☐ Yes ☒ No  
**SRO Only:** ☐ Yes ☒ No

**Time Critical:** ☐ Yes ☒ No

**Estimated Time to Complete:** 15 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:**

LGA-HP-01, Alternate Vessel Injection by Defeating HPCS High Level Isolation, Revision 6.

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

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

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



## **INITIAL CONDITIONS**

You are an Extra NSO:

- Unit-1 RPV level cannot be determined and LGA-005, RPV Flooding, has been entered.
- HPCS is available for flooding, but the injection valve is closed due to RPV level instrumentation reference leg flashing.
- Radiation conditions are normal.
- You have a plant Radio.

## **INITIATING CUE**

The Unit-1 Unit Supervisor has directed you to perform Attachment 1A of LGA-HP-01 to defeat the high level isolation. Inform the control room when LGA-HP-01 Attachment 1A has been completed.

# **Exelon Nuclear**

## **Job Performance Measure**

Hydraulically Isolate a CRD HCU

JPM Number: NRC InPlant-02

Revision Number: 00

Date: 11/05/2004

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

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

**Review By:** \_\_\_\_\_  
**Operations Representative** **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 8 and 11 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, or simulator)
- \_\_\_\_\_ 4. Initial setup conditions are identified.
- \_\_\_\_\_ 5. Initiating and terminating cues 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. Verify the procedure referenced by this JPM matches the most current revision of that procedure:  
Procedure Rev. \_\_\_\_\_ Date \_\_\_\_\_
- \_\_\_\_\_ 9. Pilot test the JPM:
  - a. verify cues both verbal and visual are free of conflict, and
  - b. ensure performance time is accurate.
- \_\_\_\_\_ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- \_\_\_\_\_ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

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SME/Instructor

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Date

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SME/Instructor

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Date

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SME/Instructor

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Date

## **Revision Record (Summary)**

1. **Revision 00:** This JPM was written by J.E. Ross for the 2003-01 ILT NRC Exam given on the week of 03/07/2005. It is modeled after LaSalle County Station JPM P-RD-02.

## **MATERIALS**

1. The following material is required to be provided to the student:
  - a. Copy of LOP-RD-08 (after demonstrating ability to locate controlled copy)
  - b. Laser Pointer
2. No additional material is required.

## INITIAL CONDITIONS

You are an Extra NSO assigned to Unit-1:

- Unit-1 is operating in Mode 1 near Rated Power conditions.
- Control rod 42-03 has spuriously scrammed full-in.
- Investigation shows that both Scram Solenoids have failed.
- The NSO has the Clearance Order, it will be hung by another operator. Attachment B of LOP-RD-08 will be attached to this clearance order following the completion of your assigned task.
- You have a plant radio.

## INITIATING CUE

The Unit Supervisor has directed you to hydraulically remove the HCU for control rod 42-03 from service per LOP-RD-08, starting at Step E.3. Electrical isolation is NOT required.

Notify the NSO when the Clearance Order sticker is ready to be placed.

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.
- 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.

The timeclock starts when the candidate acknowledges the initiating cue.

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

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
<b>NOTE</b>	Students should NOT be penalized for time spent at the Radiation Protection Desk. Subtract time spent at the RP Desk and time reviewing area dose rate maps from time student requires to complete this JPM.				
<b>CUE</b>	If asked during the performance of this JPM, respond that cooling water needs to be isolated and therefore LOP-RD-08 is the correct procedure.				
<b>N/A</b>	Obtain a copy of LOP-RD-08.	Student demonstrates ability to obtain a copy of LOP-RD-08.	—	—	—
<b>CUE</b>	After student demonstrates where to obtain a copy of the procedure, then provide a current copy to the student.				
<b>E.3</b>	CLOSE the following valves in order:				
<b>NOTE</b>	The examinee should indicate use of the following Personal Protective Equipment (PPE): 1) gloves; 2) hardhat; 3) safety glasses; and 4) servicable shoes (gloves are required while manipulating the valves).				
<b>CUE</b>	For each of the following manipulations, tell the examinee that the component is in the condition that the examinee has indicated.				
<b>*E.3.1</b>	1C11-D4203-101, CRD HCU Insert Water Valve.	• Closes 1C11-D4203-101.	—	—	—
<b>*E.3.2</b>	1C11-D4203-102, CRD HCU Withdraw Water Valve.	• Closes 1C11-D4203-102.	—	—	—
<b>*E.3.3</b>	1C11-D4203-113, CRD HCU Charging Water Valve.	• Closes 1C11-D4203-113.	—	—	—
<b>*E.3.4</b>	1C11-D4203-103, CRD HCU Drive Water Valve.	• Closes 1C11-D4203-103.	—	—	—
<b>*E.3.5</b>	1C11-D4203-104, CRD HCU Cooling Water Valve.	• Closes 1C11-D4203-104.	—	—	—
<b>*E.3.6</b>	1C11-D4203-105, CRD HCU Exhaust Water Valve.	• Closes 1C11-D4203-105.	—	—	—

<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>
*E.3.7	1C11-D4203-112, CRD HCU Scram Discharge Valve.	<ul style="list-style-type: none"> <li>Closes 1C11-D4203-112.</li> </ul>	—	—	—
E.4	DRAIN Accumulator Water Side as follows:				
*E.4.1	ATTACH a hose from collection system to 1C11-D4203-107, CRD HCU Accumulator Water Side Drain Valve.	<ul style="list-style-type: none"> <li>Attaches drain hose from nipple on 1C11-D4203-107 to collection system.</li> </ul>	—	—	—
*E.4.2	Slowly OPEN 1C11-D4203-107, CRD HCU Accumulator Water Side Drain Valve.	<ul style="list-style-type: none"> <li>Slowly opens 1C11-D4203-107.</li> </ul>	—	—	—
CUE	If asked, tell the examinee that initially there was flow but now it has stopped.				
CUE	If asked, Attachment B will be attached to the Clearance Order following completion of your task.				
E.4.3	SIGN-OFF Draining on Attachment B (Attached to C/O).	Initials and dates Attachment B.	—	—	—
E.5	Discharge Nitrogen side of Accumulator as follows:				
*E.5.1	CLOSE 1C11-D4203-111, CRD HCU Accumulator Instrument Block Valve.	<ul style="list-style-type: none"> <li>Closes 1C11-D4203-111.</li> </ul>	—	—	—
E.5.2	Using the Nitrogen Charging Connection Cap, VENT gas pressure to zero psig.				
*E.5.3	REMOVE Nitrogen Charging Connection cap.	<ul style="list-style-type: none"> <li>Removes the Charging Connection Cap.</li> </ul>	—	—	—
*E.5.4	CRACK OPEN 1C11-D4203-111, CRD HCU Accumulator Instrument Block Valve.	<ul style="list-style-type: none"> <li>Cracks open 1C11-D4203-111.</li> </ul>	—	—	—
CUE	If asked, tell the examinee that initially there was flow through the charging connection, but now it is stopped.				



<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
E.5.5	When pressure has been bled off of Accumulator:				
E.5.5.1	OPEN and lightly BACKSEAT 1C11-D4203-111, CRD HCU Accumulator Instrument Block Valve.	Opens 1C11-D4203-111 and then lightly backseats the valve.	—	—	—
CUE	If asked, tell the examinee that the valve is in the condition that the examinee has indicated.				
E.5.5.2	LOOSELY REPLACE cap on Nitrogen Charging Connection.	Loosely replaces cap on Charging Connection.	—	—	—
E.5.6	SIGN-OFF Venting on Attachment B (Attached to Clearance Order).	Initials and dates Attachment B.	—	—	—
*E.6	PLACE 1C11-04203SRI-A and B NORM-TEST S.R.I. Switch A and B toggle switches to TEST position.	<ul style="list-style-type: none"> <li>Places both SRI Test Switches in TEST position for HCU 42-03.</li> </ul>	—	—	—
CUE	Tell the examinee that the switches are in the position he has indicated.				
*E.7	CLOSE 1C11-D4203-116, CRD HCU Air Supply Valve.	<ul style="list-style-type: none"> <li>Closes 1C11-D4203-116.</li> </ul>	—	—	—
CUE	If asked, tell the examinee that the valve is in the condition that the examinee has indicated.				
N/A	Reports to the NSO.	Tells the NSO that the Clearance Order sticker is ready to be placed on HCU 42-03.	—	—	—
CUE	As the NSO acknowledge the report.				
Termination	Inform the student that this JPM is complete. Enter JPM Stop time in the space below.				

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

**Operator's Name:** \_\_\_\_\_  
**Job Title:** ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

**JPM Title:** Hydraulically Isolate a CRD HCU

**JPM Number:** NRC InPlant-02

**Revision Number:** 00

**Task Number and Title:**

25.013 When required, isolate a Hydraulic Control Unit for the Control Rod Drive Mechanism.

**K/A Number and Importance:**

201001 Control Rod Drive Hydraulic System, K1.10 Knowledge of the physical connections and/or cause-effect relationships between CONTROL ROD DRIVE HYDRAULIC SYSTEM and the following: Control rod drive mechanisms 2.8/2.8

**Suggested Testing Environment:** In-Plant

**Actual Testing Environment:** ☐ Simulator ☐ Control Room ☒ In-Plant

**Testing Method:** ☒ Simulate ☐ Perform  
Alternate Path: ☐ Yes ☒ No  
SRO Only: ☐ Yes ☒ No

**Time Critical:** ☐ Yes ☒ No

**Estimated Time to Complete:** 25 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:**

LOP-RD-08, CRD System HCU Isolation, Revision 17

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

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

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

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

## **INITIAL CONDITIONS**

You are an Extra NSO assigned to Unit-1:

- Unit-1 is operating in Mode 1 near Rated Power conditions.
- Control rod 42-03 has spuriously scrammed full-in.
- Investigation shows that both Scram Solenoids have failed.
- The NSO has the Clearance Order, it will be hung by another operator. Attachment B of LOP-RD-08 will be attached to this clearance order following the completion of your assigned task.
- You have a plant radio.

## **INITIATING CUE**

The Unit Supervisor has directed you to hydraulically remove the HCU for control rod 42-03 from service per LOP-RD-08, starting at Step E.3. Electrical isolation is NOT required.

Notify the NSO when the Clearance Order sticker is ready to be placed.

# **Exelon Nuclear**

## **Job Performance Measure**

Swap VE trains with Charcoal Filter In Service

JPM Number: NRC InPlant-03

Revision Number: 00

Date: 11/05/2004

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

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

Review By: \_\_\_\_\_  
Operations Representative 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 8 and 11 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, or simulator)
- \_\_\_\_\_ 4. Initial setup conditions are identified.
- \_\_\_\_\_ 5. Initiating and terminating cues 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. Verify the procedure referenced by this JPM matches the most current revision of that procedure:  
Procedure Rev. \_\_\_\_\_ Date \_\_\_\_\_
- \_\_\_\_\_ 9. Pilot test the JPM:
  - a. verify cues both verbal and visual are free of conflict, and
  - b. ensure performance time is accurate.
- \_\_\_\_\_ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- \_\_\_\_\_ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

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SME/Instructor

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Date

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SME/Instructor

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Date

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SME/Instructor

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Date

## **Revision Record (Summary)**

1. **Revision 00:** This JPM was written by J.E. Ross for the 2003-01 ILT NRC Exam given on the week of 03/07/2005.

## **MATERIALS**

1. The following material is required to be provided to the student:
  - a. Copy of LOP-VE-01 (after demonstrating ability to locate controlled copy)
  - b. Separate copy of ATTACHMENT FILTERS showing the 0A Filter started the day before this JPM is given. (NOTE: Staple this attachment to the last page of this JPM so that it is handed to the examinee with the initial conditions sheet.)
  - c. Laser Pointer
2. No additional material is required.

## INITIAL CONDITIONS

Unit-1 and Unit-2 are operating at full power:

- You are an Extra NSO.
- The 0A VE Train is in operation.
- The 0A VE Recirculation Charcoal Filter is aligned for FILTER operation.
- The 0B VE Train is in STANDBY and Section E.2 of LOP-VE-01 has been completed.

## INITIATING CUE

The Control Room NSO has just swapped VC trains and now you are directed you to swap VE trains per LOP-VE-01, Step E.6:

- Start the 0B VE Train;
- Shutdown the 0A VE train;
- Report to the Control Room when the 0A Recirculation Filter is shutdown (bypassed).

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.

The timeclock starts when the candidate acknowledges the initiating cue.

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

**SAT**  
**UNSAT**  
**Comment**  
**Number**

**STEP**                      **ELEMENT**                      **STANDARD**

**NOTE**      Examinees should NOT be penalized for time spent at the Radiation Protection Desk. Subtract time spent at the RP Desk and time reviewing area dose rate maps from time examinee requires to complete this JPM.

**NOTE**      The examinee should follow the following path through LOP-VE-01:

1. Start at section E.6 Switching to VE Train B (With Train A Running)
2. E.6 will sent them to E.16 Train B Recirculation Filter Startup
3. Return to E.6 to swap trains
4. Then to E.17 Train A Recirculation Filter Shutdown (Bypass)

**\*N/A**      Obtain a copy of LOP-VE-01.                      • Student demonstrates ability to obtain a copy of LOP-VE-01.

**CUE**      After examinee demonstrates where to obtain a copy of the procedure, then provide the following:

- LOP-VE-01, Auxiliary Electric Equipment Room HVAC Operation
- Separate copy of page 61, ATTACHMENT FILTERS marked to show 0A filter started the day before this JPM is given.

**E.6**      Switching to VE Train B (With Train A Running)

**E.6.1**      VERIFY VE Train B is prepared for standby [E.2]                      Train B is in standby per Initial Conditions of this JPM

**E.6.2**      If VE Train A Recirculation Charcoal Filter is aligned for FILTER operation, ALIGN/STARTUP VE Train B Recirculation Charcoal Filter prior to switching Trains. [E.16]                      Goes to Section E.16

<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>
<b>E.16</b>	Train B Recirculation Charcoal Filter Startup				
<b>E.16.1</b>	RECORD Date/Time for 0B VE Recirculation startup on Attachment FILTERS.	Records startup time and date for 0B VE Recirculation Filter on Attachment FILTERS (page 61 of LOP-VE-01)	—	—	—
<b>E.16.2</b>	LOCALLY at 0PA10J: (AB 731 N-16)	Locates 0PA10J	—	—	—
<b>*E.16.2.1</b>	PLACE 0HS-VE047, for Charcoal Filter dampers 0VE07YB, 0VE09YB and 0VE08YB to FILTER position.	<ul style="list-style-type: none"> <li>PLACES handswitch for 0B VE Recirculation Filter to FILTER position.</li> </ul>	—	—	—
<b>E.16.2.2</b>	VERIFY damper positions:	Inlet 0VE07YB is OPEN	—	—	—
		Outlet 0VE09YB is OPEN	—	—	—
		Bypass 0VE08YB is CLOSED	—	—	—
<b>CUE</b>	Point to the appropriate light for each of the three dampers, tell the examinee the light is lit.				
<b>E.16.3</b>	Performs one of the following:	Either RETAINS or FORWARDS Attachment Filters.	—	—	—
<b>N/A</b>	Returns to Section E.6.3				
<b>*E.6.3</b>	LOCALLY at 0PA10J, MOMENTARILY PLACE 0HS-VE041 B AEER HVAC Supply Fan 0VE01CB control switch to START and RELEASE.	<ul style="list-style-type: none"> <li>At 0PA10J, Starts 0B VE Supply Fan by placing the handswitch to START and then RELEASING the handswitch.</li> </ul>	—	—	—
<b>CUE</b>	Handswitch is as you indicated.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
E.6.4	After an approximate 60 second time delay for Zone Isolation Dampers to open, VERIFY B AEER HVAC Supply Fan ON indication is lit.	VERIFIES 0B VE Supply Fan starts after a 60 second time delay.	—	—	—
CUE	After 60 seconds point to the 0B VE Supply Fan ON light and state that the light is lit.				
*E.6.5	LOCALLY at 0PA09J (AB 731 R-15), IMMEDIATELY STOP 0HS-VE001 A AEER HVAC Supply Fan 0VE01CA and VERIFY A AEER HVAC Supply Fan OFF light is lit.	<ul style="list-style-type: none"> <li>At 0PA09J, IMMEDIATELY Stops the 0A VE Supply Fan.</li> </ul>	—	—	—
CUE	While pointing at the 0A VE Supply Fan OFF light state that it is lit.				
E.6.6	LOCALLY PERFORM the following at 0PA10J:				
E.6.6.1	VERIFY B AEER HVAC Air Cooled Condenser Fan 0VE03CB is running.	VERIFIES 0B VE Air Cooled Condenser Fan is running.	—	—	—
CUE	While pointing at the 0BVE Air Cooled Condenser Fan ON light state that it is lit.				
E.6.6.2	VERIFY B AEER Filter Differential Pressure on 0PDI-VE064A is less than 0.92 inches of water.	VERIFIES 0B VE Filter Differential Pressure is <0.92 inches of water.	—	—	—
CUE	Use a pen or other suitable pointer to indicate that the meter is reading somewhat less than 0.92 inches of water.				

<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>
<b>E.6.6.3</b>	After approximately 30 seconds for Fan Suction damper to open, VERIFY B AEER HVAC Return Fan 0VE02CB is running.	VERIFIES 0B VE Return Fan is running after 30 second time delay.	—	—	—
<b>CUE</b>	After 30 seconds point at the 0B VE Return Fan ON light and state that it is lit.				
<b>E.6.6.4</b>	CHECK B AEER HVAC Refrigeration Unit 0VE04CB is running.	CHECKS 0B VE Refrigeration Unit is running.	—	—	—
<b>CUE</b>	Point to the 0B VE Refrigeration Unit ON light and state that it is lit.				
<b>NOTE</b>	Examinee may check refrigeration unit status locally OR by using the indicating light. Either method is acceptable.				
<b>E.6.7</b>	LOCALLY PERFORM the following at 0PA09J				
<b>E.6.7.1</b>	VERIFY A AEER HVAC Supply Fan 0VE01CA is stopped.	VERIFIES 0A VE Supply Fan is stopped.	—	—	—
<b>CUE</b>	Point to the 0A VE Supply Fan OFF light and state that it is lit.				
<b>E.6.7.2</b>	VERIFY A AEER HVAC Return Fan 0VE02CA is stopped.	VERIFIES 0A VE Return Fan is stopped.	—	—	—
<b>CUE</b>	Point to the 0A VE Return Fan OFF light and state that it is lit.				
<b>E.6.7.3</b>	VERIFY A AEER HVAC Air Cooled Condenser Fan 0VE03CA is stopped.	VERIFIES 0A VE Air Cooled Condenser Fan is stopped.	—	—	—
<b>CUE</b>	Point to the 0A VE Air Cooled Condenser Fan OFF light and state that it is lit.				
<b>E.6.7.4</b>	After an approximate 60 second time delay for A/C Unit pump down, VERIFY A AEER HVAC Refrigeration Unit 0VE04CA is stopped.	VERIFIES 0A VE Refrigeration Unit is stopped after 60 second time delay.	—	—	—
<b>CUE</b>	Point to the 0A VE Refrigeration Unit OFF light and state that it is lit.				

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
E.6.7.5	ACKNOWLEDGE and RESET A AEER Fan DP LO alarm(s) as necessary.	RESETS 0PA09J annunciators.	—	—	—
E.6.7.6	IF VE Train A Recirculation Charcoal Filter is aligned for FILTER operation, SHUTDOWN (BYPASS) VE Train A Recirculation Charcoal Filter. [E.17]	Goes to Section E.17.	—	—	—
E.17	Train A Recirculation Charcoal Filter Shutdown (Bypass)				
E.17.1	VERIFY 0A Recirculation Charcoal Filter operation is no longer required.	N/A, determined in initiating cue.			
E.17.2	LOCALLY at 0PA09J:				
*E.17.2.1	PLACE 0HS-VE007, for Charcoal Filter Dampers 0VE07YA, 0VE09YA and 0VE08YA to BYPASS position.	<ul style="list-style-type: none"> <li>PLACES handswitch for 0A Recirculation Filter to BYPASS.</li> </ul>	—	—	—
E.17.2.2	VERIFY damper positions:	Inlet 0VE07YA is CLOSED	—	—	—
		Outlet 0VE09YA is CLOSED	—	—	—
		Bypass 0VE08YA is OPEN	—	—	—
CUE	Point to the appropriate light for each of the three dampers, tell the examinee the light is lit.				

<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>
E.17.3	RECORD Date/Time of 0A Recirculation Charcoal Filter shutdown on Attachment FILTERS.	Records Shutdown time and date for 0A VE Recirculation Filter on Attachment FILTERS (page 61 of LOP-VE-01)	—	—	—
N/A	REPORTS to the Control Room.	Tells the either the Unit NSO or Unit Supervisor that the VE trains are swapped and the 0A Recirculation Filter is in Bypass.	—	—	—
<b>CUE</b>	As the Unit Supervisor acknowledge the report.				
<b>Termination</b>	Inform the student that this JPM is complete. Enter JPM Stop time in the space below.				

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

**Operator's Name:** \_\_\_\_\_  
**Job Title:** ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

**JPM Title:** Swap VE trains with Charcoal Filter In Service

**JPM Number:** NRC InPlant-03

**Revision Number:** 00

**Task Number and Title:**

117.001 Given Unit Supervisor authorization, swap VC/VE trains, per station procedures.

**K/A Number and Importance:**

290003 2.1.20 Ability to execute procedure steps 4.3/4.2

**Suggested Testing Environment:** In-Plant

**Actual Testing Environment:** ☐ Simulator ☐ Control Room ☒ In-Plant

**Testing Method:** ☒ Simulate ☐ Perform  
**Alternate Path:** ☐ Yes ☒ No  
**SRO Only:** ☐ Yes ☒ No

**Time Critical:** ☐ Yes ☒ No

**Estimated Time to Complete:** 30 minutes **Actual Time Used:** \_\_\_\_\_ minutes

**References:**

LOP-VE-01, Auxiliary Electric Equipment Room HVAC Operation, Revision 26

**EVALUATION SUMMARY:**

Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

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

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

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

## **INITIAL CONDITIONS**

Unit-1 and Unit-2 are operating at full power:

- You are an Extra NSO.
- The 0A VE Train is in operation.
- The 0A VE Recirculation Charcoal Filter is aligned for FILTER operation.
- The 0B VE Train is in STANDBY and Section E.2 of LOP-VE-01 has been completed.

## **INITIATING CUE**

The Control Room NSO has just swapped VC trains and now you are directed you to swap VE trains per LOP-VE-01, Step E.6:

- Start the 0B VE Train;
- Shutdown the 0A VE train;
- Report to the Control Room when the 0A Recirculation Filter is shutdown (bypassed).