Exelon SM
Nuclear

CLINTON POWER STATION

Job Performance Measure

Transfer RR Pumps from Fast to Slow speed

JPM Number: JPM448

Revision Number: 00

Date: 02/23/2011

Developed By:	**T. Pickley**	**02/23/2011**
	Instructor	**Date**
Validated By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

Clinton Power Station
Job Performance Measure (JPM)

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 through 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:

Current Procedure Rev. _____ Date: _____

Procedure Rev. Referenced _____ Date: _____

- If the Current Procedure Rev. and the Procedure Rev. Referenced are different then revise the JPM.

_____ 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.

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	02/23/2011	Modified from JPM 215. Removed alternate path.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Reset the simulator to any IC for plant shutdown with the following conditions:

   - Approximately 33% Power.
   - One TDRFP running in Automatic on Startup Level Controller.

NOTE:	It is permissible to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Open and execute Simulator Lesson Plan JPM448 containing the following:

   - Remote RR107 and RR108 LO TO FAST INT BYPASS; TRUE AS REMOTE 1.

3. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

4. This completes the setup for this JPM.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

> I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- Steps completed for transferring Reactor Recirculation Pumps to Slow Speed.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None.

PROCEDURAL/REFERENCES:

- CPS 3302.01, Rev 31b REACTOR RECIRCULATION (RR)

EVALUATOR INSTRUCTIONS:

- Ensure that the simulator is stable and all Set-up conditions are completed.
- Amplifying cues are provided within the JPM steps.
- Provide copies of CPS 3302.01, REACTOR RECIRCULATION (RR) and applicable REMA to candidate with cue sheet.

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

A plant shutdown is in progress with power at approximately 33% of rated thermal power. One TDRFP is in operation with level control on the Startup Level Controller.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

As the Reactor Operator you are directed to transfer the Reactor Recirculation Pumps to Slow Speed per CPS 3302.01 REACTOR RECIRCULATION (RR) and the REMA.

Annunciators associated with Reactor Recirculation Pump transfer are to be considered "Expected Annunciators" and treated as such.

The Field Operator is available via PCS phone. RP has been notified.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

CPS 3302.01, REACTOR RECIRCULATION

***8.1.3.1** **1. Start both LFMG's:**
- **Close LFMG A Bkr 1A for RR pump 1A.**
- **Close LFMG B Bkr 1B for RR pump 1B**

Standard:	Close LFMG A & B Motor Breakers 1A & 1B.
Cue:	As CRS respond to 'A' RO report of start of LFMGs. If candidate requests condition of LFMG's from the field, report "both LFMG's operating normally".
Comments	The field cue will be performed by the Simulator Booth Operator (Field Operator) if candidate uses PCS phone to contact the Field Operator.
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.1.3.2	(Local)	At 1B33-P001A and B, LFMG Aux Relay Panel, place following keylock switches to BYPASS: A pump: ° S126A, Power Interlock (Both on FB 781' East) ° S127A, Total Feedwater Low Flow Interlock B pump: ° S126B, Power Interlock (Both on FB 781' West) ° S127B, Total Feedwater Low Flow Interlock

Standard:	Request area operator to bypass the FW Flow FCV cavitation/RR pump downshift interlocks at 1B33-P001A and B, LFMG Aux Relay Panel by placing S126A&B and S127A&B in BYPASS.
Cue:	• Insert **REMOTE 1** and inform the examinee the switches you identified are in the position you described.
Comments	The cue will be performed by the Simulator Booth Operator (Field Operator) if candidate uses PCS phone to contact the Field Operator. SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.1.3.3	Make the following RR pump transfer notifications: 1) Notify RP of potential change in Rad levels. 2) Make a plant wide Gaitronics announcement that the RR pumps will be transferred to slow.
Standard:	Simulates calling RP to notify them of potential Rad level changes Simulates making Gaitronics announcement, Transferring RR Pumps to Slow Speed.
Cue:	Respond as RP acknowledging notification of changing Rad levels.
Comments	Part of initiating cue. Candidate should recognize condition met. Only respond if needed.
	SAT ☐ UNSAT ☐ Comment Number _____

***8.1.3.4**	**Place both 1B33-F060A & B, Recirc FCVs at ~ 10%, but <u>not</u> > 10% position.**
Standard:	Place both 1B33-F060A & B, Recirc FCVs at ~ 10%, but <u>not</u> > 10% position.
Cue:	
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

***8.1.3.5**	**Transfer the RR pumps to the LFMG by depressing both TRANSFER TO LFMG A and B push-buttons simultaneously.**
Standard:	Transfer the RR pumps to the LFMG by depressing both TRANSFER TO LFMG A and B push-buttons simultaneously.
Cue:	As CRS respond to 'A' RO report of transfer to slow speed.
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

8.1.3.6	Observe that the 5A and 5B breakers open and when pump speed decreases, the 2A and 2B breakers close.
Standard:	Observes that: • The 5A and 5B breakers open and when pump speed decreases the 2A and 2B breakers close.
Cue:	
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

TERMINATING CUES:
- RR pumps shifted to slow speed.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: Transfer RR Fast to Slow

JPM Number: JPM448 Revision Number: 00

Task Number and Title: 330201.24 RR Pump Transfer To Slow Speed

K/A System	K/A Number	Importance (RO/SRO)	
202001	A4.01	3.7	3.7

Suggested Testing Environment: Simulator

Actual Testing Environment: ■ Simulator ☐ Plant ☐ Control Room

Testing Method: ☐ Simulate ■ Perform **Faulted:** ☐ Yes ■ No **Alternate Path:** ☐ Yes ■ No

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 20 minutes Actual Time Used: _____ minutes

References: CPS 3302.01, Rev 31b REACTOR RECIRCULATION (RR)

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: _____

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

A plant shutdown is in progress with power at approximately 33% of rated thermal power. One TDRFP is in operation with level control on the Startup Level Controller.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

As the Reactor Operator you are directed to transfer the Reactor Recirculation Pumps to Slow Speed per CPS 3302.01 REACTOR RECIRCULATION (RR) and the REMA.

Annunciators associated with Reactor Recirculation Pump transfer are to be considered "Expected Annunciators" and treated as such.

The Field Operator is available via PCS phone. RP has been notified.

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CLINTON POWER STATION

Job Performance Measure

Manually Startup RCIC System (Alternate Path)

JPM Number: JPM204

Revision Number: 01

Date: 02/18/2011

Developed By:	**T Pickley**	**02/18/2011**
	Instructor	**Date**
Validated By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

Clinton Power Station
Job Performance Measure (JPM)

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 through 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:

Current Procedure Rev. _____ Date: _____

Procedure Rev. Referenced _____ Date: _____

- If the Current Procedure Rev. and the Procedure Rev. Referenced are different then revise the JPM.

_____ 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.

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	07/06/2007	Updated numbering convention. Old JPM number: 33100104LSA02.
01	02/18/11	Updated for procedure revision.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Initialize to any suitable IC with RCIC in Standby.

2. Place clearance tags on MDRFP and auxiliary oil pump. Ensure clearance covers are removed at the completion of the JPM.

3. Open and execute Simulator Lesson Plan JPM204 which will perform the following:

   - Loss of Main Condenser Vacuum with Group 1 isolation.
   - Insert malfunction to disable RCIC Automatic Initiation
   - Insert an Instructor Override (I/O) to maintain the RCIC Manual Initiation Pushbutton NOT DEPRESSED

   NOTE: It is permissible to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

4. Restore Reactor level to approximately -10 inches using High Pressure Core Spray (HPCS) and then shutdown the HPCS system (as necessary).

5. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

6. This completes the setup for this JPM.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- The Reactor Core Isolation Cooling (RI) System is manually initiated and is injecting into the reactor vessel per CPS No. 3310.01, REACTOR CORE ISOLATION COOLING (RI)

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None

PROCEDURAL/REFERENCES:

- CPS No. 3310.01, Rev 27d REACTOR CORE ISOLATION COOLING (RI)

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- All pre-job briefings are completed.

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

A loss of all Feedwater has occurred followed by an Automatic Scram.

All immediate Operator actions have been completed.

You are the "Extra" Reactor Operator.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

Manually initiate RCIC and inject into the RPV.

Report to the CRS when injecting.

Hard Card use is authorized.

START TIME: _____

Note: If the hard card is used the steps will be in a different order.

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

Appendix C: RCIC INITIATION/SHUTDOWN HARD CARD

8.1.3	As needed, Arm, depress and HOLD depressed the RCIC MANUAL INITIATION push-button until 1E51-F045 begins to open (takes ~ 6 secs).
Standard:	Recognizes failure of RCIC to initiate via logic and proceeds to manual startup with logic not available.
Cue:	If reported to CRS, acknowledge report, then state, "Continue with RCIC startup".
Comments	First step may be performed with Hard Card, but manual startup/logic not operable steps found only in procedure.
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

BEGIN ALTERNATE PATH

3310.01 REACTOR CORE ISOLATION COOLING (RI)

8.1.4.1 Start Gland Seal Air Compressor.

Standard: Locates hand switch and rotates to START position, Red light ON for the Gland Seal Air Compressor.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

***8.1.4.2 OPEN 1E51-F046, RCIC Pmp Supp to Turb Lube Oil Clr**.

Standard: Locates hand switch for 1E51-F046 and rotates to OPEN, Red light ON for 1E51-F046.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

8.1.4.4 Trip the main turbine.

Standard: Verifies Green TRIPPED indicating lights ON for the Main Turbine.

Cue:

Comments Procedure step can be considered "Condition Met" (and trip not actually performed) if verifications made.

SAT ☐ UNSAT ☐ Comment Number _____

8.1.4.5	Trip both reactor feed pump turbines.
Standard:	Verifies Green lights ON for RFPT A and B, HP and LP Stop Valves.
Cue:	
Comments	Procedure step can be considered "Condition Met" (and trip not actually performed) if verifications made. SAT ☐ UNSAT ☐ Comment Number _____

***8.1.4.6**	**OPEN 1E51-F045, RCIC Turb Stm Supp Shutoff Valve.**
Standard:	Locates hand switch for 1E51-F045 and rotates switch to the OPEN position and verifies Red light ON for 1E51-F045.
Cue:	
Comments	During RCIC operation 1E51-F019, RCIC Pump Min Flow Recirc to Suppr Pool will open be when RCIC flow < 120 gpm. SAT ☐ UNSAT ☐ Comment Number _____

***8.1.4.7**	**OPEN 1E51-F013, RCIC Pump Disch to Rx Outbd Isol Valve.**
Standard:	Locates hand switch for 1E51-F013 and rotates switch to the OPEN position and verifies red light ON for 1E51-F013.
Cue:	
Comments	During RCIC operation 1E51-F019, RCIC Pump Min Flow Recirc to Suppr Pool will be shut when RCIC flow is > 240 gpm. SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.1.4.8.1 Verify 1E51-F025 RHR & RCIC Stm Supp First Drn Isol Vlv shut.

Standard: Verifies Green light ON for 1E51-F025.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

8.1.4.8.2 Verify F026, RHR & RCIC Stm Supp Second Drn Isol Vlv shut.

Standard: Verifies Green light ON for 1E51-F026.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

8.1.4.8.3 Verify 1E51-F004 RCIC Turb Exh Drn To RF First Isol Valve shut.

Standard: Verifies Green lights ON for 1E51-F004.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

8.1.4.8.4	Verify F005, RCIC Turb Exh Drn To RF Second Isol Valve shut.
Standard:	Verifies Green lights ON for 1E51-F005.
Cue:	
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

8.1.4.9	Verify RCIC Pmp Rm Sply Fan, 1VY04C running.
Standard:	Verifies Red light ON for 1VY04C. (located on P801)
Cue:	
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

	Monitor RPV level. Adjust RCIC Pump Flow Cont, 1E51-R600 as necessary to maintain desired RPV level.
Standard:	IF RCIC Flow Controller is shifted to Manual THEN Maintains RCIC Turbine speed ≥ 1500 rpm.
Cue:	If asked, as CRS state, "Maintain the RCIC Flow Controller in AUTO. Your level band is Level 3 to Level 8."
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

TERMINATING CUES:

The RCIC system is injecting water into the reactor vessel IAW CPS No. 3310.01.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: Manually Startup RCIC System (Alternate Path)

JPM Number: JPM204 Revision Number: 01

Task Number and Title: 331001.04 Manually RCIC Initiation with Logic Not Operable

K/A System	K/A Number	Importance (RO/SRO)	
217000	A4.04	3.6	3.6

Suggested Testing Environment: Simulator

Actual Testing Environment: ■ Simulator ☐ Plant ☐ Control Room

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

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 10 minutes Actual Time Used: _____ minutes

References: CPS No. 3310.01, Rev 27d REACTOR CORE ISOLATION COOLING (RI)

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

A loss of all Feedwater has occurred followed by an Automatic Scram.

All immediate Operator actions have been completed.

You are the "Extra" Reactor Operator.

Initiating Cue

CAUTION

- All pre-job briefings are completed.

Manually initiate RCIC and inject into the RPV.

Report to the CRS when injecting.

Hard Card use is authorized.

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CLINTON POWER STATION

Job Performance Measure

Perform RPS MSIV Channel Functional

JPM Number: JPM447

Revision Number: 00

Date: 02/18/2011

Developed By:	**Tom Pickley**	**02/18/11**
	Instructor	**Date**
Reviewed By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

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

Clinton Power Station
Job Performance Measure (JPM)

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 through 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:

Current Procedure Rev. _____ Date: _____

Procedure Rev. Referenced _____ Date: _____

- If the Current Procedure Rev. and the Procedure Rev. Referenced are different then revise the JPM.

_____ 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.

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	08/15/07	New JPM number (old 903101).

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

NOTE:	It is permissible to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

1. Reset the simulator to any IC with power <92% and the MSIVs open.
2. This completes the setup for this JPM.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- The evolution completed IAW CPS No. CPS 9031.10, RPS MAIN STEAM LINE ISOLATION VALVE CHANNEL FUNCTIONAL.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None

PROCEDURAL/REFERENCES:

- CPS 9031.10, RPS MAIN STEAM LINE ISOLATION VALVE CHANNEL FUNCTIONAL Rev 25c.

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- All pre-job briefings are completed.

Clinton Power Station
Job Performance Measure (JPM)

Initial Conditions

You are the B RO.

Initiating Cue

CAUTION

- All pre-job briefings are completed.

Perform CPS 9031.10, RPS MAIN STEAM LINE ISOLATION VALVE CHANNEL FUNCTIONAL for MSIVs 1B21-F022A and 1B21-F022B. All prerequisites are complete. You have permission to perform critical steps.

Computer points will be monitored and retained by another operator. You may request the computer point status at any time during or after the performance of the applicable step.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

8.1 INBOARD MSIV TESTING
8.1.1 1B21-F022A, Main Steam Line A Inbd MSIV Test

***1 1. Place 1B21-F022A, Main Steam Line A Inbd MSIV control switch to the CLOSE TEST position.**

Standard: Locates control switch for 1B21-F022A and rotates clockwise.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

	*2	**2. Depress and hold the test push-button, MAIN STEAM LINE A INBD MSIV Test.** Verify the following: 1) Both red and green lights are ON. 2) Alarm 5004-3C, DIV 1 or 4 MSIV CL TRIP annunciates. 3) Computer point B21NC047, Main Steam Line Isolation Valve CH. A indicates 'tripped' or in a Logic 1 State.
Standard:		Locates and depresses the test push button.
Cue:		Computer point B21NC047 indicates 'tripped'
Comments		Status of computer points can be provided at any time after the event has happened (provide when requested by candidate). SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

	*3	**3. After alarm is received, release the test push-button.** Verify the following: 1) Red ON green light OFF. 2) Alarm 5004-3C, DIV 1 or 4 MSIV CL TRIP clears. 3) Computer point B21NC047, Main Steam Line Isolation Valve CH. A indicates 'reset' or in Logic 0 State.
Standard:		Releases test push button prior to the RED light going out.
Cue:		Computer point B21NC047 indicates 'Reset"
Comments		Status of computer points can be provided at any time after the event has happened (provide when requested by candidate). SAT ☐ UNSAT ☐ Comment Number _____

	4	4. Place 1B21-F022A, Main Steam Line A Inbd MSIV control switch to AUTO position.
Standard:		Locates control switch for 1B21-F022A and rotates counter clockwise.
Cue:		
Comments		SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.2 INBOARD MSIV TESTING
8.1.2 1B21-F022B, Main Steam Line A Inbd MSIV Test

***5 1. Place 1B21-F022B, Main Steam Line B Inbd MSIV control switch to the CLOSE TEST position.**

Standard: Locates control switch for 1B21-F022B and rotates clockwise.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

	*6	**2. Depress and hold the test push-button, MAIN STEAM LINE B INBD MSIV Test.** Verify the following: 1) Both red and green lights are ON. 2) Alarm 5005-3C, DIV 2 or 3 MSIV CL TRIP annunciates. 3) Computer point B21NC048, Main Steam Line Isolation Valve CH. B indicates 'tripped' or in a Logic 1 State.
Standard:		Locates and depresses the test push button.
Cue:		Computer point B21NC048 indicates 'tripped'
Comments		Status of computer points can be provided at any time after the event has happened (provide when requested by candidate). SAT ☐ UNSAT ☐ Comment Number _____

	***3**	**4. After alarm is received, release the test push-button.** Verify the following: 1) Red ON green light OFF. 2) Alarm 5005-3C, DIV 2 or 3 MSIV CL TRIP clears. 3) Computer point B21NC048, Main Steam Line Isolation Valve CH. B indicates 'reset' or in Logic 0 State.
Standard:		Releases test push button prior to the RED light going out.
Cue:		Computer point B21NC048 indicates 'Reset'
Comments		Status of computer points can be provided at any time after the event has happened (provide when requested by candidate). SAT ☐ UNSAT ☐ Comment Number _____

	4	4. Place 1B21-F022B, Main Steam Line B Inbd MSIV control switch to AUTO position.
Standard:		Locates control switch for 1B21-F022B and rotates counter clockwise.
Cue:		
Comments		SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

TERMINATING CUES:

CPS 9031.10, RPS MAIN STEAM LINE ISOLATION VALVE CHANNEL FUNCTIONAL is complete for MSIVs 1B21-F022A and 1B21-F022B.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ RO ☐ SRO

JPM Title: Perform RPS MSIV Channel Functional

JPM Number: JPM447 Revision Number:00

Task Number and Title: 903110.01 RPS MSIV channel functional test

K/A System	K/A Number	Importance (RO/SRO)	
239001	A4.01	4.2	4.0

Suggested Testing Environment: Simulator

Actual Testing Environment: ☐ Simulator ☐ Plant ☐ Control Room

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

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 10 minutes Actual Time Used: _____ minutes

References: CPS 9031.10, RPS MAIN STEAM LINE ISOLATION VALVE CHANNEL FUNCTIONAL Rev 25c.

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

You are the B RO.

Initiating Cue

CAUTION

- All pre-job briefings are completed.

Perform CPS 9031.10, RPS MAIN STEAM LINE ISOLATION VALVE CHANNEL FUNCTIONAL for MSIVs 1B21-F022A and 1B21-F022B. All prerequisites are complete. You have permission to perform critical steps.

Computer points will be monitored and retained by another operator. You may request the computer point status at any time during or after the performance of the applicable step.

Exelon SM
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CLINTON POWER STATION

Job Performance Measure

SX Injection Through RHR B

JPM Number: JPM440

Revision Number: 00

Date: 02/22/2011

Developed By:	**T. Pickley**	**02/22/2011**
	Instructor	**Date**
Validated By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

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

Clinton Power Station
Job Performance Measure (JPM)

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 12 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. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure _____ Rev: _____
Procedure _____ Rev: _____
Procedure _____ Rev: _____

_____ 9. Verify cues both verbal and visual are free of conflict.

_____ 10. Verify performance time is accurate

_____ 11. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 12. 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

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	02/22/2011	New JPM.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Initialize to any suitable IC with the plant depressurized.

2. Open and execute Simulator Lesson Plan JPM440 which will perform the following:

   - Put in RR leak and removed. Initiated ADS. Plant is Shutdown and depressurized with a Hi Drywell Pressure Signal locked in.

   - SX Pumps A and B are off. SX Pump B will trip if started. SX pump A will run if started

   - HPCS, LPCS, RHR A/B/C Pumps tripped.

   - Tripped all Condensate (CD) pumps which also tripped running Condensate Boost (CB) and Rod Drive (RD) pump.

3. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

4. CAUTION: IC should "fall through" with SX pump A in STOP. IC will "fall through" with SX pump A in START, however, it will start when simulator is taken out of freeze. Verify SX pump A is NOT running prior to performance of JPM.

5. This completes the setup for this JPM.

6. Save to a different IC if JPM is being used more than once.

7. Freeze Simulator.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- SX is injecting through RHR B

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None

PROCEDURAL/REFERENCES:

- CPS No. 4411.03, Rev 07 Injection/Flooding Sources

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- All pre-job briefings are completed.
- Verify Key is removed from 1E12-F096, Service Water to RHR Blocked Supp Vlv at the conclusion of this JPM.

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

You are the B RO. The plant is Shutdown and depressurized.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

Inject to the RPV using CPS 4411.03 Injection Flooding Sources, App. A: RHR Injection/Flooding Flow Paths, Method 2.0 SX Through RHR B.

The isolation of non-essential SX loads will be performed by the extra RO.

Report to the CRS after completing the task.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

CPS 4411.03 Injection/Flooding Sources

***2.1 Shut 1E12-F003B, RHR B Hx Outlet Valve.**

Standard: 1E12-F003B Green light on Red light off.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

***2.2 Shut 1E12-F048B, RHR B Hx Bypass Valve.**

Standard: 1E12-F048B Green light on Red light off.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

BEGIN ALTERNATE PATH

2.3.1 Verify SX running per
CPS 3211.01, Shutdown Service Water (SX).

Standard:	Determines B SX is unavailable and verifies A SX is running per CPS 3211.01.
Cue:	
Comments	Examiners Note: An auto start signal currently exists for both SX pumps, but neither pump is running. The candidate will attempt to start the preferred pump (B) and then the backup pump (A) in the next two steps.

SAT ☐ UNSAT ☐ Comment Number _____

CPS 3211.01 Shutdown Service Water (SX)

8.1.2 1) Start SX Pump, 1SX01PB.

Standard:	Determines B SX pump trips.
Cue:	If asked what to due "Follow the procedure".
Comments	The procedure will direct the usage of the A SX pump.

SAT ☐ UNSAT ☐ Comment Number _____

***8.1.2**	**1) Start SX Pump, 1SX01PA.** 2) Verify SX strainer outlet pressure ~ 150 - 175 psig. 3) Verify shut/shut 1SX014A, WS to SX Header Isolation Valve. 4) Verify running or start 1VH01CA, SX Pump Room Supply Fan.
Standard:	Starts A SX per CPS 3211.01.
Cue:	
Comments	Starting the A SX pump is the only critical part of this step.
	SAT ☐ UNSAT ☐ Comment Number _____

CPS 4411.03 Injection/Flooding Sources

***2.3.2**	**As necessary to support core cooling, Div 1 SX may be cross-connected with Div 2 SX by opening 1SX011A & B, Div 1(2) Cross Tie Valves.**
Standard:	Opens 1SX011A & B, Div 1(2) Cross Tie Valves.
Cue:	If permission to open 1SX011A & B is requested, grant permission as CRS.
	SAT ☐ UNSAT ☐ Comment Number _____

2.4 Shut:

1. 1E12-F024B, RHR B Test Valve To Suppr Pool.
2. 1E12-F014B, SSW Inlet RHR B Hx Valve.
3. 1E12-F053B, RHR B To Feedwater S/D Cooling Rtrn Vlv.
4. 1E12-F023, RHR B Supp To Rx Head Spray Valve.
5. 1E12-F028B, RHR B To CNMT Spray B Shutoff Vlv.

Standard:	Verifies the valves are shut i.e. green light on red light off.
Cue:	
Comments	These valves are initially shut.
	SAT ☐ UNSAT ☐ Comment Number _____

2.5 Open 1E12-F027B, RHR B To CNMT Outbd Isol Valve.

Standard:	Verifies 1E12-F027B is open green light off red light on.
Cue:	
Comments	1E12-F027B is initially open.
	SAT ☐ UNSAT ☐ Comment Number _____

***2.6 Open 1E12-F096, (Key operated switch)**
Service Water To RHR Blocked Supp Vlv.

Standard: 1E12-F096 Green light off red light on.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

***2.7 Open 1E12-F094, Service Water To RHR B Supp Vlv.**

Standard: 1E12-F094 Green light off red light on.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

2.8 Open 1E12-F042B, LPCI Fm RHR B Shutoff Valve.

Standard: 1E12-F042B Green light off red light on.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

2.9 Monitor SX flow on flow indicator 1E12-R603B, RHR Pump B Flow.

☞ Expected flow rate is 100 gpm and will be difficult to see on the installed indication.

Standard:	Monitors SX flow
Cue:	
Comments	Flow will be difficult to see (first tic mark is 1000 gpm). Once standard is met, recommend terminating JPM.

SAT ☐ UNSAT ☐ Comment Number _____

TERMINATING CUES:

SX is injecting through RHR B IAW CPS No. 4411.03.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: SX Injection through RHR B

JPM Number: JPM440 Revision Number: 00

Task Number and Title: 441103.15 SX through RHR B system injection and containment flooding operations when in EOPs/SAGs.

K/A System	K/A Number	Importance (RO/SRO)	
203000	A4.02	4.1	4.1

Suggested Testing Environment: Simulator

Actual Testing Environment: ■ Simulator ☐ Plant ☐ Control Room

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: CPS No. 4411.03, Rev 7 Injection/Flooding Sources

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:

You are the B RO. The plant is Shutdown and depressurized.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

Inject to the RPV using CPS 4411.03 Injection Flooding Sources, App. A: RHR Injection/Flooding Flow Paths, Method 2.0 SX Through RHR B.

The isolation of non-essential SX loads will be performed by the extra RO.

Report to the CRS after completing the task.

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CLINTON POWER STATION

Job Performance Measure

Verify a Group 3 Isolation

JPM Number: JPM452

Revision Number: 00

Date: 04/28/2011

Developed By:	**T. Pickley**	**04/28/2011**
	Instructor	**Date**
Validated By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

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

Clinton Power Station
Job Performance Measure (JPM)

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 12 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) is 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(s) referenced by this JPM reflects the current revision:
Procedure _____ Rev: _____
Procedure _____ Rev: _____
Procedure _____ Rev: _____

_____ 9. Verify cues both verbal and visual are free of conflict.

_____ 10. Verify performance time is accurate

_____ 11. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 12. 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

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	04/28/11	New JPM.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Initialize to any suitable IC with RHR B in Shutdown Cooling.

2. Turn on the Shutdown Cooling Recorder (E12-R601).

3. Apply Info Tags to 1E12-F042B & 1E12-F064B IAW CPS 3312.03.

   - "RHR B SDC is in service. Operation of this valve will result in LPCI injection into the core shroud. Do not operate this valve unless required by an emergency or an approved procedure."

   - "1E12-F064B is in the shut/deenergized position to ensure that an inadvertent loss of RPV level does not occur. Pump minimum flow protection previously provided by the F064B valve is now maintained by securing the RHR B pump when SDC flow is < 1100 gpm."

4. Open and execute Simulator Lesson Plan JPM450 which will perform the following:

   - Insert Remote Functions RH_EP206 and RH_EP205 Defeat Shutdown Cooling Isolations.

   - Override the lights for 1E12-F009 to off and valve to OPEN.

   - Close/check closed 1E12-F023.

   - Verify 1E12-F008 & 1E12-F053B are open and their cups are removed.

5. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

6. This completes the setup for this JPM.

7. Save to a different IC if JPM is being used more than once.

8. Freeze Simulator.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- The Group 3 isolation is complete (with the exception of 1E12-F009, Shutdown Cooling Inbd Suct Isol Vlv).

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None

PROCEDURAL/REFERENCES:

- CPS No. 4001.01, Rev 17 Automatic Isolation
- CPS 4001.02C001, Rev 15b Automatic Isolation Checklist
- CPS 9000.10, Accident Monitoring and Remote Shutdown Instrumentation Log

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- All pre-job briefings are completed.
- Provide the following procedures to the candidate:
  - CPS No. 4001.01, Rev 17 Automatic Isolation
  - CPS 4001.02C001, Rev 15b Automatic Isolation Checklist
- Provide a copy of CPS 9000.10 Accident Monitoring and Remote Shutdown Instrumentation Log, if requested. Candidate may use this document to identify the computer point for 1E12-F009 (RH-BC831).

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

RHR B was in Shutdown Cooling when reactor water level dropped below Level 3.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

Verify the Group 3 isolation is complete.

Report to the CRS after completing the task.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

CPS 4001.02 AUTOMATIC ISOLATION

4.7 Complete CPS 4001.02C001, Automatic Isolation Checklist for affected isolation GROUPs, including the performance of manual isolation of components/systems that have failed to automatically isolate.

Steps may be performed in any order.

CPS 4001.02C001 AUTOMATIC ISOLATION CHECKLIST

1 Verify Shut 1E12-F053A

Standard: Green light on Red light off

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

BEGIN ALTERNATE PATH

	***2**	**Shuts 1E12-F053B**
Standard:	Green light on Red light off	
Cue:		
Comments		
	SAT ☐	UNSAT ☐ Comment Number _____

	***3**	**Shuts 1E12-F008**
Standard:	Green light on Red light off	
Cue:		
Comments		
	SAT ☐	UNSAT ☐ Comment Number _____

	4	Verifies Shut 1E12-F009
Standard:	Determines both lights are off	
Cue:	If Field Operator is dispatched to investigate, report breaker is in trip free position, acrid odor present, no smoke, and no fire. No other abnormalities noted.	
Comments	Acknowledge report as CRS (if required). If EO is sent to Drywell to manually shut 1E12-F009, acknowledge as EO and instruct candidate to continue.	
	SAT ☐	UNSAT ☐ Comment Number _____

	5	Verifies Shut 1E12-F023
Standard:		Green light on Red light off
Cue:		
Comments		
	SAT ☐	UNSAT ☐ Comment Number _____

TERMINATING CUES:

The Group 3 isolation is complete with the exception of 1E12-F009.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: Verify a Group 3 isolation

JPM Number: JPM452 Revision Number: 00

Task Number and Title: 400102.01 respond to an Automatic Isolation

K/A System	K/A Number	Importance (RO/SRO)	
223002	A4.01	3.6	3.5

Suggested Testing Environment: Simulator

Actual Testing Environment: ■ Simulator ☐ Plant ☐ Control Room

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

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 10 minutes Actual Time Used: _____ minutes

References: CPS No. 4001.02, Rev 15 Automatic Isolation
CPS 4001.02C001, Rev 15b Automatic Isolation Checklist
CPS 9000.10, Accident Monitoring and Remote Shutdown Instrumentation Log

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:

RHR B was in Shutdown Cooling when reactor water level dropped below Level 3.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

Verify the Group 3 isolation is complete.

Report to the CRS after completing the task.

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CLINTON POWER STATION

Job Performance Measure

Parallel DG 1B With Offsite Power

JPM Number: JPM414

Revision Number: 01

Date: 02/18/2011

Developed By:	**T. Pickley**	**02/18/2011**
	Instructor	**Date**
Validated By:	**W. Kiser**	**08/03/2011**
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

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

Clinton Power Station
Job Performance Measure (JPM)

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 12 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. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure _____ Rev: _____
Procedure _____ Rev: _____
Procedure _____ Rev: _____

_____ 9. Verify cues both verbal and visual are free of conflict.

_____ 10. Verify performance time is accurate

_____ 11. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 12. 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

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00		This replaces JPM 3506.0105. Revision number reset to 0.
01	02/18/2011	Updated for procedure revision.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Initialize to any suitable IC with the DG in standby, and:

   - Start Diesel Generator 1B.
   - Load Lesson Plan. To indicate the problem in the field the report will be high temperature on the cooling system above the trip setpoint.
   - Synch Switch is off with the key removed.
   - Turn on recorder power to allow the SVC Voltmeter to indicate.

2. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

3. This completes the setup for this JPM.

4. Save to a different IC if JPM is being used more than once.

5. Freeze Simulator.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- The Diesel Generator 1B and its associated output breaker are tripped.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- CPS 9080.02, Diesel Generator 1B Operability – Manual and Quick Start Operability marked up through Step 8.2.12.
- CPS 9080.02D001, Diesel Generator 1B Operability – Manual and Quick Start Data Sheet marked up through Step 8.2.12.
- CPS 3506.01C002, Diesel Generator 1B Pre-Start Checklist filled out.
- CPS 3506.01C005, Diesel Generator Start Log filled out.
- CPS 3506.01 D002, Diesel Generator 1B Operating Logs filled out.

PROCEDURAL/REFERENCES:

- CPS 9080.02, Diesel Generator 1B Operability – Manual and Quick Start Operability, Rev. 49e
- CPS 9080.02D001, Diesel Generator 1B Operability – Manual and Quick Start Data Sheet, Rev. 42c
- CPS 3506.01C002, Diesel Generator 1B Pre-Start Checklist, Rev. 10
- CPS 3506.01C005, Diesel Generator Start Log, Rev. 1
- CPS 3506.01 D002, Diesel Generator 1B Operating Logs, Rev. 2a

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- All pre-job briefings are completed.

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

You are the B Operator.
The plant is in a normal electrical power lineup.
DG 1B was started per CPS 9080.02, Diesel Generator 1B Operability – Manual and Quick Start Operability, and is complete through step 8.2.11.

An Area Operator is standing by if needed.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

You are directed to parallel Diesel Generator 1B with Offsite Power and load to ~ 3700 KW, for a 1 hour run, per CPS 9080.02, beginning at step 8.2.12.

NOTE TO EVALUATOR

When the Initiating Cue has been read by the student and acknowledged, provide a MARKED UP copy of the following procedures to the student.

- CPS 9080.02, Diesel Generator 1B Operability – Manual and Quick Start Operability marked up through Step 8.2.11.
- CPS 9080.02 D001, Diesel Generator 1B Operability – Manual and Quick Start Data Sheet
- CPS 3506.01C002, Diesel Generator 1B Pre-Start Checklist filled out.
- CPS 3506.01C005, Diesel Generator Start Log filled out.
- CPS 3506.01 D002, Diesel Generator 1B Operating Logs filled out.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

8.2 **Diesel Generator 1B Operability**

CAUTIONS

1. *Only one Diesel Generator is to be paralleled with off-site power at any one time, and then only for testing or to return a bus to off-site power following recovery from the loss of both the Reserve and Main Supplies.*
2. *The time a Diesel Generator is paralleled with off-site power should be minimized to ensure the Diesel Generator is available for emergencies.*
3. *Due to the very small speed differential between the DG and the Off-site power source , a small reduction in DG speed (for whatever reason) may cause the DG to trip on reverse power – setpoint ≈ 1% reverse power with a 15 second time delay – unless the DG is promptly loaded following DG output breaker closure.*
4. *Placing DG 1B Output Bkr Sync switch to OFF, while the DG is in parallel, will trip the DG output breaker.*
5. *Due to the tight tolerances on the Synchro-Verifier relays, the amber trip light for the DG Output Breaker may energize if the control switch is positioned to CLOSE before the Synchro-Verifier relay permissive is satisfied. The contol switch should be held in the CLOSE position until the breaker closes or until the synchroscope indicates > 5 minutes after noon.*

Clinton Power Station
Job Performance Measure (JPM)

8.2.12 Load the DG per the following:

***1. 8.2.12.1**
Place DG 1B Output Bkr Sync switch to the ON position.

Standard: Inserts a key and turns the Output Bkr Sync switch to the ON position.

Cue: None, self revealing

Comments

SAT ☐ UNSAT ☐ Comment Number _____

***2. 8.2.12.2**

Adjust DG 1B voltage so that INCOMING voltage is matched with RUNNING voltage.

Standard: Examinee adjusts DG 1B voltage regulator so that INCOMING voltage is matched with RUNNING voltage.

Cue: None, self revealing

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

	3. 8.2.12.3 Adjust DG 1B speed such that DG frequency is slightly greater than bus frequency as indicated by the following: 1) CLOCKWISE rotation of the synchroscope at a speed of approximately one revolution every 60-120 sec. (i.e., ½ - 1 RPM) or slower. 2) Both synchroscope lights are extinguished at the 12 o'clock position. 3) Both synchroscope lights are brightly lit at the 6 o'clock position.
Standard:	Examinee adjusts DG 1B governor control switch so DG frequency is slightly greater than bus frequency by observing: • Slow rotation in the clockwise direction • Both synchroscope lights are extinguished at the 12 o'clock • Both synchroscope lights are brightly lit at the 6 o'clock
Cue:	None, self revealing
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

4. 8.2.12.4

   IF During the time that the DG is paralleled with the grid, any of the following occur:

   - Rapid change in DG output voltage,
   - Rapid change in DG frequency,
   - Rapid change in DG KW,
   - Rapid change in DG KVAR,

   THEN Trigger TT for future NSED analysis.

   ☞ TT may be reset per SMngt after initial data is captured.

Standard: No action required at this time.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

***5. 8.2.12.5**

WHEN The synchroscope's pointer nears the vertical (12 o'clock) position, **and** the synchronizing lamps go dark,

1) **Close DG 1B Output Bkr, 1AP09EH.**

Standard: When the synchroscope pointer nears 12 o'clock, operator takes handswitch for DG 1B output breaker to CLOSE and observes RED light ON

Cue: None, self revealing

Comments

SAT ☐ UNSAT ☐ Comment Number _____

***6. 8.2.12.5**

2) Promptly load DG 1B to at least 100-200 KW.

Standard: Operator immediately loads DG to > 100 KW by taking governor control switch to RAISE.

Cue: None, self revealing

Comments

SAT ☐ UNSAT ☐ Comment Number

Clinton Power Station
Job Performance Measure (JPM)

7. 8.2.12.5
   3) Preferable VARs loading is between 100 to 0 KVAR (0.8 lagging and 1.0 power factor); adjust as necessary.

Standard: Operator adjusts VARs as necessary with the voltage regulator.

Cue: None, self revealing

Comments

SAT ☐ UNSAT ☐ Comment Number

CAUTION

1. *To ensure operability and to prevent overloading of the Emergency Diesel Generators, the Continuous Load Rating of **3875 KW** should not be exceeded, except as directed by approved surveillance tests. «6.2.11»*
2. *The DG shall also be operated within the limits of Appendix A, DG 1A(1B) REACTIVE LOAD CAPABILITY CURVE . «CM-6»*
3. *The DG should be operated at a power factor between 0.8 lagging and 1.0 to observe machine design ratings and minimize circulating currents.*

NOTES

1. *Momentary transients outside the specified load ranges, due to changing bus conditions, **do not** invalidate the 60 minute load test of SR 3.8.1.3.*
2. *The following two sub-steps may be done concurrently and may require adjustments periodically to maintain required test parameters.*

***8. 8.2.12.6**

Gradually load DG 1B, at a rate of ≈1000 KW per minute, to 3600 to 3800 KW as indicated on computer point DG-BA505.

Standard: Examinee begins loading the DG by taking governor control switch to RAISE.

Cue: See step 9 for cue.

Comments: When the DG reaches 1100KW the diesel generator trouble alarm comes in.

SAT ☐ UNSAT ☐ Comment Number

Begins Alternate Path

NOTE: At any time Examinee may go directly to Step 13 and Open DG 1B Output Breaker and secure or Emergency Stop the DG. If so, N/A steps 10, 11 and 12, and continue at step 13.

9. Annunciator for DG trouble comes in at approximately 1100KW.

Standard: Operator notifies SRO of problem.

Cue: After the RO calls the equipment operator inform the RO that the "Diesel Generator coolant temperature is 196ºF and rising."

If operator looks for direction from the SRO ask him for suggested action.

Comments: Examinee may go directly to Step 13 and take action to Open DG 1B Output Breaker and secure or Emergency Stop the DG. If so, N/A steps 10, 11 and 12, and continue at step 13.

SAT ☐ UNSAT ☐ Comment Number

Clinton Power Station
Job Performance Measure (JPM)

10.	8.2.13.2 Lower DG 1B load to 100 – 200 KW..
Standard:	Operator takes handswitch for DG 1B governor control switch to LOWER.
Cue:	None, self revealing
Comments	Examinee may go directly to Step 13 and take action to Open DG 1B Output Breaker and secure or Emergency Stop the DG. If so, N/A steps 10, 11 and 12, and continue at step 13. SAT ☐ UNSAT ☐ Comment Number

11.	8.2.13.3 Adjust DG 1B VARs to ≈0 KVAR
Standard:	Operator takes the handswitch for DG 1B voltage regulator to LOWER
Cue:	None, self revealing
Comments	Examinee may go directly to Step 13 and take action to Open DG 1B Output Breaker and secure or Emergency Stop the DG. If so, N/A steps 10, 11 and 12, and continue at step 13. SAT ☐ UNSAT ☐ Comment Number

	12.	Annunciator for DG tripped comes in two minutes after the trouble alarm. (DG 1B does not actually trip)
Standard:		Operator notifies SRO of problem.
Cue:		If the equipment operator is called inform the RO "Diesel Generator coolant temperature is 206ºF and rising." If operator looks for direction from the SRO ask him for suggested action.
Comments		Examinee should go directly to Step 13 and take action to Open DG 1B Output Breaker and secure or Emergency Stop the DG. SAT ☐ UNSAT ☐ Comment Number

	***13.**	**8.2.13.4** **Open DG 1B Output Bkr, 1AP09EH and Shut down the Emergency Diesel Generator**
Standard:		Operator takes the handswitch for DG 1B output breaker to TRIP and observes GREEN light ON and takes the DG 1B Control switch to STOP. Or Takes the DG 1B Control switch to STOP and observes that the DG 1B Output Bkr tripped. Or Pushes the DG Emergency Stop Pushbutton and observes that the DG 1B stopped and the DG 1B Output Bkr tripped.
Cue:		None, self revealing
Comments		This step may be accomplished by any one of the methods listed above. SAT ☐ UNSAT ☐ Comment Number

Clinton Power Station
Job Performance Measure (JPM)

TERMINATING CUES:

The Diesel Generator 1B and its associated output breaker are tripped.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: TITLE

JPM Number: JPM414 Revision Number: 01

Task Number and Title: 3506.0105 Complete Control Room Actions to Perform Diesel Generator – Offsite Power Parallel Operation

K/A System	K/A Number	Importance (RO/SRO)	
264000	A4.04	3.7	3.7

Suggested Testing Environment: Simulator

Actual Testing Environment: ■ Simulator ☐ Plant ☐ Control Room

Testing Method: ☐ Simulate ■ Perform **Alternate Path:** ■ Yes ☐ No

SRO Only: ☐ Yes ■ No

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 20 minutes Actual Time Used: _____ minutes

References: CPS 9080.02, Diesel Generator 1B Operability – Manual and Quick Start Operability, Rev. 49e

CPS 9080.02D001, Diesel Generator 1B Operability – Manual and Quick Start Data Sheet, Rev. 42c

CPS 3506.01C002, Diesel Generator 1B Pre-Start Checklist, Rev. 10

CPS 3506.01C005, Diesel Generator Start Log, Rev. 1

CPS 3506.01 D002, Diesel Generator 1B Operating Logs, Rev. 2a

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:

You are the B Operator.
The plant is in a normal electrical power lineup.
DG 1B was started per CPS 9080.02, Diesel Generator 1B Operability – Manual and Quick Start Operability, and is complete through step 8.2.11.

An Area Operator is standing by if needed.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

You are directed to parallel Diesel Generator 1B with Offsite Power and load to ~ 3700 KW, for a 1 hour run, per CPS 9080.02, beginning at step 8.2.12.

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CLINTON POWER STATION

Job Performance Measure

Reset a Reactor Scram per CPS No. 4100.01

JPM Number: JPM449

Revision Number: 00

Date: 02/24/2011

Developed By:	**T. Pickley**	**02/24/2011**
	Instructor	**Date**
Validated By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

Clinton Power Station
Job Performance Measure (JPM)

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 through 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:

Current Procedure Rev. _____ Date: _____

Procedure Rev. Referenced _____ Date: _____

- If the Current Procedure Rev. and the Procedure Rev. Referenced are different then revise the JPM.

_____ 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.

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	02/24/2011	Updated procedure revision and JPM number. Old JPM number: 41000101LSN01.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Reset the simulator to any IC.

> **NOTE:** It is permissible to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

2. Scram and then stabilize the plant, ensure level and pressure are stable.

3. Verify the "Raw Data" pushbutton **IS NOT** depressed.

4. Insert SRMs and IRMs

5. Downscale all IRMs

6. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

7. This completes the setup for this JPM.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- Scram has been reset IAW CPS No. 4100.01, REACTOR SCRAM

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None.

PROCEDURAL/REFERENCES:

- CPS No. 4100.01 rev.20a, REACTOR SCRAM

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- Provide candidate a copy of CPS No. 4100.01, REACTOR SCRAM.

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

You are the "A" RO. A manual Reactor Scram was inserted due to a loss of "A" Turbine Driven Reactor Feed Pump.

INITIATING CUE:

CAUTION

- All pre-job briefings are completed.

Reset the Reactor Scram per CPS 4100.01, REACTOR SCRAM. Inform the CRS when the task is complete.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

CPS No. 4100.01 REACTOR SCRAM

Appendix A: RESETTING SCRAM

A.1 IF Fuel failure occurred or is suspected,

THEN 1) Shut:

A) 1RE021, EQ Drain Sump Disch CNMT Inbd Vlv.
B) 1RE022, EQ Drain Sump Disch CNMT Outbd Vlv.

C) 1RF021, Flr Drain Sump Disch CNMT Inbd Vlv.
D) 1RF022, Flr Drain Sump Disch CNMT Outbd Vlv.

2) Refer to CPS 4010.01, Reactor Coolant High Activity.

Standard:	Determine that NO fuel failure is suspected or has occurred.
Cue:	When CRS is asked, respond that no fuel failure has occurred or is suspected.
Comments	

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

A.2 Request, then if possible, establish reactor level band of 30" to 39" Narrow Range to avoid subsequent low reactor level scrams.

Standard: Level band is requested

Cue: Establish a level band of 30" to 39"

Comments

SAT ☐ **UNSAT** ☐ **Comment Number**

***A.3 Place following bypass switches to BYPASS:**

- ❑ BYP DISCH VOL HI LVL DIV 1.
- ❑ BYP DISCH VOL HI LVL DIV 2.
- ❑ BYP DISCH VOL HI LVL DIV 3.
- ❑ BYP DISCH VOL HI LVL DIV 4.

Standard: DIV 1, 2, 3, and 4 DIS VOL HI WTR TRIP BYP annunciators are ON.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

***A.4 When scram & ARI/RPT signals are clear, reset reactor scram and ARI/RPT trips.**

1. SCRAM

   Reset SCRAM logic by depressing RESET push-buttons:

   - ❑ [Div 1] NORMAL RESET SCRAM RESET.
   - ❑ [Div 2] NORMAL RESET SCRAM RESET.
   - ❑ [Div 3] NORMAL RESET SCRAM RESET.
   - ❑ [Div 4] NORMAL RESET SCRAM RESET.

2. ARI/RPT [2 minute seal-in]

   Reset ARI/RPT logic by depressing RESET push-buttons:

   - ❑ Scram Disch Vol Vent & Drn Vlv A.
   - ❑ Scram Disch Vol Vent & Drn Vlv B.

Standard:
1. Blue lights above the Manual Scram pushbuttons are ON.
2. ARI/RPT System 1 and 2 Initiated and Seal-In Active lights are OFF.

Cue:

Comments: ARI/RPT logic is not tripped. Examinee may reset ARI/RPT logic or verify that the ARI/RPT logic is not tripped. Resetting ARI/RPT logic is not part of this critical step.

SAT ☐ UNSAT ☐ Comment Number _____

A.5 Verify following Scram Vent/Drain valves open.

- ❑ 1C11-F010, Scram Disch Vol Vent V.
- ❑ 1C11-F180, Scram Disch Vol Vent V.
- ❑ 1C11-F011, Scram Disch Vol Dr V.
- ❑ 1C11-F181, Scram Disch Vol Dr V.

Standard: Red lights for 1C11-F010/F011 & F180/F181 are ON.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

A.6 Verify all control rods are still fully inserted, and settled to '00' (full core display – raw data).

Standard: Selects "Raw Data" to verify all rods are fully inserted.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

A.7 Clear the RESET DRIFT on the P680 System Mode panel.

1. Depress the RESET DRIFT system mode push-button.
2. Verify:
   1) Display selection ROD DRIFT light clears.
   2) Annunciator 5006-4G: ROD DRIFT clears.

Standard: ROD DRIFT status light is OFF and ROD DRIFT annunciator is OFF.

Cue:

Comments

SAT ☐ UNSAT ☐ Comment Number _____

A.8 **WHEN** SCRAM discharge volume has drained below the high level alarm set point,
THEN Place following bypass switches to NORMAL:

- ❑ BYP DISCH VOL HI LVL DIV 1.
- ❑ BYP DISCH VOL HI LVL DIV 2.
- ❑ BYP DISCH VOL HI LVL DIV 3.
- ❑ BYP DISCH VOL HI LVL DIV 4.

Standard: Key lock switches returned to NORMAL and DIV 1 (2,3, and 4) DIS VOL HI WTR TRIP BYP annunciators are OFF.

Cue:

Comments From the time the operator depressed the reset pushbuttons, it may take up to 5 minutes for the Discharge Volume High Level Annunciators to clear.

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

TERMINATING CUES:

- Informs the CRS that the Scram has been reset.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: Reset a Reactor Scram per CPS No. 4100.01

JPM Number: JPM227 Revision Number: 00

Task Number and Title: 410001.01 – Complete Control Room Actions To Respond To A Reactor Scram.

K/A System	K/A Number	Importance (RO/SRO)	
212000	A4.14	3.8	3.8

Suggested Testing Environment: Simulator

Actual Testing Environment: ■ Simulator ☐ Plant ☐ Control Room

Testing Method: ☐ Simulate ■ Perform **Faulted:** ☐ Yes ■ No **Alternate Path:** ☐ Yes ■ No

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 15 minutes Actual Time Used: _____ minutes

References: CPS No. 4100.01 rev.20a, REACTOR SCRAM

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

You are the "A" RO. A manual Reactor Scram was inserted due to a loss of "A" Turbine Driven Reactor Feed Pump.

Initiating Cue

CAUTION

- All pre-job briefings are completed.

Reset the Reactor Scram per CPS 4100.01, REACTOR SCRAM. Inform the CRS when the task is complete.

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CLINTON POWER STATION

Job Performance Measure

Shifting Off-Gas Post Treatment Process Radiation Monitors

JPM Number: JPM453

Revision Number: 00

Date: 04/29/11

Developed By:	**T. Pickley**	**04/29/11**
	Instructor	**Date**
Validated By:		
	SME or Instructor	**Date**
Reviewed By:		
	Operations Representative	**Date**
Approved By:		
	Training Department	**Date**

Clinton Power Station
Job Performance Measure (JPM)

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:_____

- If the Current Procedure Rev. and the Procedure Rev. Referenced are different then revise the JPM.

_____ 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.

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

_____ _____
SME/Instructor Date

Clinton Power Station
Job Performance Measure (JPM)

Revision Record (Summary)

Revision	Date	Description
00	04/29/11	Updated numbering convention and technically corrected. Old JPM number: 33150305.

Clinton Power Station
Job Performance Measure (JPM)

Simulator Setup Instructions

1. Initialize to an IC where Off-Gas In Service.

2. Ensure that 1RIX-PR041 monitor is in service and 1RIX-PR035 monitor is in standby.

> **NOTE:** It is permissible to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.

3. Ensure AR/PR Panel alarm is functioning.

4. Assign CAM1PR035TV_VALUE14, PR035 Ch 14 Input Value Override, to Remote 1 at a value of 20.

5. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.

6. This completes the setup for this JPM.

Clinton Power Station
Job Performance Measure (JPM)

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

TASK STANDARDS:

- Off-Gas Post Treatment Process Radiation Monitor 1RIX-PR041 is back in service and 1RIX-PR035 is in standby per CPS No. 3315.03, RADIATION MONITORING (AR/PR).

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

- None.

PROCEDURAL/REFERENCES:

- CPS 3315.03, Rev. 5, RADIATION MONITORING (AR/PR)
- CPS 5140.46, Rev. 2, ARPR Annunciator Off-Gas Post-Treat PRM 1 1RIX-PR035

EVALUATOR INSTRUCTIONS:

- Amplifying cues are provided within the JPM steps.
- All pre-job briefings are completed.
- Provide candidate with a copy of CPS 3315.03 RADIATION MONITORING (AR/PR).

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

1. You are an extra RO and the plant is at rated power.
2. Radiation Protection has informed the Control Room that maintenance needs to be performed on 1RIX-PR041. This requires placing 1RIX-PR041 in standby and 1RIX-PR035 in service.

INITIATING CUE:

1. Place Off-Gas Post Treatment Radiation Monitor 1RIX-PR041 in standby and place 1RIX-PR035 in service per CPS 3315.03, RADIATION MONITORING step 8.5.2.1 through step 8.5.2.9.
2. All pre-job briefs are completed; the "B" RO has been briefed on Loss of Vacuum Off-Normal and is ready to respond to 1N66-F060 closure, if required.
3. Inform CRS when the task is complete.

START TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in BOLDED letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

CPS No. 3315.03, RADIATION MONITORING (AR/PR)

8.5.2 Shifting Off-Gas Post Treatment PRMs 1RIX-PR035 / 1RIX-PR041

NOTE	During monitor shifting both OG Post Treatment PRMs should be considered INOP. ODCM 3.9.1.
Standard:	Examinee may inform the CRS of the INOP note and the ODCM 3.9.1 reference.
Cue:	
Comments	

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

CAUTION

To prevent closure of 1N66-F060, Offgas System Isolation Valve, the following steps must be performed in sequence.

8.5.2.1	Direct Chemistry to verify or install a new particulate filter and iodine cartridge.
Standard:	Verify new cartridge installed for 1RIX-PR035
Cue:	• CRS has reviewed and applied the ODCM actions. • Respond that the particulate filter and iodine cartridge is new.
Comments	

SAT ☐ UNSAT ☐ Comment Number _____

***8.5.2.2**	**At the Channel Status screen for the monitor being placed in Standby, select STBY under the Standby Command.**
Standard:	The examinee selects 'STBY' for monitor 1RIX-PR041.
Cue:	
Comments	Standby should be indicated. STANDBY will be alarming after selecting STBY.

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

***8.5.2.3**	**At the Channel Status screen for the monitor being placed in Normal, start the sample pump by selecting ON under the Pump Command.**
Standard:	The examinee starts the sample pump for 1RIX-PR035 by selecting 'ON' under the pump command.
Cue:	
Comments	See flow on Channel 15.
	SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.4	At the Channel Status screen for the monitor in STANDBY, verify Channel 14 pressure: 1. Is indicating < 14.9 psia. 2. Is not DELETED.
Standard:	Examinee verifies indicating < 14.9 psia
Cue:	If pressure is **NOT** < 14.9 psia, cue examinee pressure is 14.1 psia and stable.
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.5.2.5	At the Channel Status screen for monitor in STANDBY, observe sample flow (Ch 15) stabilizes (53 to 57 LPM).
Standard	Operator observes sample flow (Ch 15) is ~ 53 to 57 LPM
Cue:	If flow is **NOT** 53 to 57 LPM, cue examinee flow is 56 LPM.
Comments	

SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.6	If flow adjustment is required, coordinate with Chemistry to adjust flow per CPS 9911.03, 1RIX-PR035/41 FILTER CHANGEOUT.
Standard	No action required
Cue:	
Comments	Should be N/A.

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.5.2.7	Verify as left flow is ~ 53 to 57 LPM.
Standard	Examinee observes flow is ~ 53 to 57 LPM
Cue:	If flow is **NOT** 53 to 57 LPM, cue examinee flow is 56 LPM.
Comments	

SAT ☐ UNSAT ☐ Comment Number _____

***8.5.2.8**	**At Channel Status screen for monitor being placed in Normal, select NRML under the Standby Command.**
Standard	The examinee selects 'NRML' on the Channel Status screen for 1RIX-PR035.
Cue:	
Comments	Normal should be indicated.

SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

BEGIN ALTERNATE PATH

	1RIX-PR035 Channel 14 alarms high, enters 5140.46
Standard	Operator observes pressure is 20 psia and responds per ARP.
Cue:	
Comments	Remote 1 to insert a high sample pressure. SAT ☐ UNSAT ☐ Comment Number _____

Channel #14 – Pressure	Per CPS 5140.46 notify Chemistry and swap to the redundant OG PRM.
Standard	Chemistry is notified to assist in swapping the redundant OG PRM and evaluate changing out the filter patch.
Cue:	If requested to evaluate changing out the filter patch, as Chemistry inform the examinee that a technician is standing by to assist and the filter patch change out will occur after the monitor swap. If requested, as CRS give the examinee permission to swap monitors.
Comments	CRS may be notified of CPS 5140.46 actions or permission may be requested to proceed with monitor swap. Radiation Monitor 1RIX-PR041 is the redundant OG PRM. SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.1	Contact Chemistry to verify or install a new particulate filter and iodine cartridge.
Standard:	Verify new cartridge installed for 1RIX-PR041
Cue:	• CRS has reviewed and applied the ODCM actions. • Respond that the cartridge does not need to be replaced.
Comments	ONLY IF REQUESTED: "The "B" RO has been designated to pull 1N66-F060 fuse if required" was provided in the cue. SAT ☐ UNSAT ☐ Comment Number _____

***8.5.2.2**	**At the Channel Status screen for the monitor being placed in Standby, select STBY under the Standby Command.**
Standard:	The operator selects 'STBY' for monitor 1RIX-PR035.
Cue:	
Comments	Standby should be indicated. STANDBY will be alarming after selecting STBY.
	SAT ☐ UNSAT ☐ Comment Number _____

***8.5.2.3**	**At the Channel Status screen for the monitor being placed in Normal, start the sample pump by selecting ON under the Pump Command.**
Standard:	The operator starts the sample pump for 1RIX-PR041 by selecting 'ON' under the pump command.
Cue:	
Comments	Flow as indicated.
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

8.5.2.4	At the Channel Status screen for the monitor in STANDBY, verify Channel 14 pressure: 1. Is indicating < 14.9 psia. 2. Is not DELETED.
Standard:	Operator verifies indicating < 14.9 psia
Cue:	If pressure is **NOT** < 14.9 psia, cue examinee pressure is 14.1 psia and stable.
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.5	At the Channel Status screen for monitor in Standby, observe sample flow (Ch 15) stabilizes (53 to 57 LPM).
Standard	Operator observes sample flow (Ch 15) is ~ 53 to 57 LPM
Cue:	If flow is **NOT** 53 to 57 LPM, cue examinee flow is 56 LPM.
Comments	
	SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.6	If flow adjustment is required, coordinate with RP to adjust flow per CPS 7410.75, Local Operation of AR/PR Monitors.
Standard	No action required
Cue:	
Comments	Should be N/A.
	SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.7	Verify as left flow is ~ 53 to 57 LPM.
Standard	No action required
Cue:	
Comments	Should be N/A.
	SAT ☐ UNSAT ☐ Comment Number _____

***8.5.2.8**	**At the Channel Status screen for the monitor being placed in Normal, select NRML under the Standby Command.**
Standard	The operator selects 'NRML' on the Channel Status screen for 1RIX-PR041.
Cue:	
Comments	Normal should be indicated.
	SAT ☐ UNSAT ☐ Comment Number _____

8.5.2.9	Reset/verify reset all alarms for monitor placed in NRML.
Standard:	Ensure resets/verifies reset all alarms for 1RIX-PR041.
Cue:	
Comments	Examinee informs CRS the task is complete.
	SAT ☐ UNSAT ☐ Comment Number _____

Clinton Power Station
Job Performance Measure (JPM)

TERMINATING CUES:

Off-Gas Post Treatment Process Radiation Monitor 1RIX-PR041 has been returned to service and 1RIX-PR035 is in standby IAW CPS No. 3315.03 rev. 3b, RADIATION MONITORING (AR/PR), steps 8.5.1 through step 8.5.8 are complete.

STOP TIME: _____

Clinton Power Station
Job Performance Measure (JPM)

Operator's Name: _____

Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: Shifting Off-Gas Post Treatment Process Radiation Monitors

JPM Number: JPM453 Revision Number: 01

Task Number and Title: 331503.05, Complete Control Room Actions to Perform Shifting Off-Gas Post Treatment Process Radiation Monitors (1RIX-PR035/1RIX-PR041).

K/A System	K/A Number	Importance (RO/SRO)	
272000	A1.01	3.2	3.2

Suggested Testing Environment: Simulator

Actual Testing Environment: ☐ Simulator ☐ Plant ☐ Control Room

Testing Method: ☐ Simulate ■ Perform **Faulted:** ☐ Yes ■ No **Alternate Path:** ■ Yes ☐ No

Time Critical: ☐ Yes ■ No

Estimated Time to Complete: 15 minutes Actual Time Used: _____ minutes

References:

- CPS No. 3315.03, Rev. 5, RADIATION MONITORING (AR/PR)

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: _____

Clinton Power Station
Job Performance Measure (JPM)

INITIAL CONDITIONS:

1. You are an extra RO and the plant is at rated power.
2. Radiation Protection has informed the Control Room that maintenance needs to be performed on 1RIX-PR041. This requires placing 1RIX-PR041 in standby and 1RIX-PR035 in service.

INITIATING CUE:

1. Place Off-Gas Post Treatment Radiation Monitor 1RIX-PR041 in standby and place 1RIX-PR035 in service per CPS 3315.03, RADIATION MONITORING step 8.5.2.1 through step 8.5.2.9.
2. All pre-job briefs are completed; the "B" RO has been briefed on Loss of Vacuum Off-Normal and is ready to respond to 1N66-F060 closure, if required.
3. Inform CRS when the task is complete.