Job Performance Measure

Control Rod Scram Time Testing Restoration - Alternate Path

JPM Number: JPM561

Revision Number: 00

Date: 9/27/18

Developed By:	Tony Jennings Instructor	9/27/18 Date
Validated By:	Aaron Marr SME or Instructor	4/29/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 9813.01 Rev: 41e
Procedure 3304.02 Rev: 22e
Procedure 5006.03 Rev: 33b
Procedure 5005.02 Rev: 29e

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	9/27/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM561 per step 2)
   a. Initialize to any suitable IC with power above the High Power Setpoint and with rod 32-37 at position 48.
   b. Obtain a screen print of OD-7 Control Rod Notch Positions for use in the body of the JPM.
   c. Make sure Individual Drive Mode is selected on P680.
   d. Select and provide a continuous withdraw signal to rod 32-37. **Leave 32-37 selected** (note – if 32-37 is de-selected, it will not continuously withdraw in step 1 of the JPM).
   e. From the PID page for RC&IS, insert Rod3237TFIA9 Rod 32-37 Single Rod Scram – Rod. Verify Rod 32-37 inserts to position 00.
   f. From PID page for RC&IS, insert Rod3237TFIA9 Rod 32-37 Single Rod Scram – Normal.
   g. Verify annunciator 5006-1H Accumulator Fault resets.
   h. On 1H13-P680-5004A, depress the Reset Drift pushbutton.
   i. Verify annunciator 5006-4G Rod Drift resets.
   j. Make sure the Rod Select Clear Pushbutton is NOT depressed.
   k. Freeze the simulator.
   l. Save to a different IC if JPM is being used more than once. IC-203 is saved for the ILT 18-1 NRC exam (PW 59567).
   m. This completes the setup for this JPM.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-203 is saved for the ILT 18-1 NRC exam (PW 59567).
   b. Open and execute Simulator Lesson Plan ILT 18-1 NRC Exam JPMs LP.
   c. Place a flag on annunciator 5005-2K SRM Period.
   d. Release JPM561 which will insert malfunction LS10_MALF (RC&IS Lockup) after control rod 32-37 has been withdrawn for 30 seconds.
   e. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.

SRRS: 3D.100; There are no retention requirements for this section

f. Save to a different IC if required.

g. Freeze the simulator.

INITIAL CONDITIONS

You are the 'A' RO.

The plant is operating at 94% power.

CPS 9813.01 Control Rod Scram Time Testing on 10% of the control rods is in progress.

- Rod 32-37 has been scrammed and is at position 00.
- Rod 32-37 is selected.
- CPS 9813.01 Control Rod Scram Time Testing is complete up through and including step 8.2.15.

INITIATING CUE

The CRS has directed you to continuously withdraw control rod 32-37 to its pre-test position (position 48) per step 8.2.16 of CPS 9813.01 Control Rod Scram Time Testing.

SRM period alarms are to be treated as expected.

Report to the CRS after completing the task.

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

Information For Evaluator's Use:

Task Standard: The examinee will attempt to restore rod 32-37 to position 48 following scram time testing. While withdrawing 32-37, the Rod Control & Information System will lockup, requiring the examinee to lower rod drive differential pressure < 75 psid.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Cue	Provide the examinee with the following: • Marked up copy of CPS 9813.01 Control Rod Scram Time Testing • Marked up copy of CPS 9813.01D004 Scram Time Testing – MCR Data Sheet • CPS 3304.02 Rod Control and Information System (RC&IS) • CPS 5005-2K SRM Period ARP • Attachment 1 – OD-7 • Attachment 2 – NF-CL-721-F-5 Special Maneuver Rod Move Sheet				
***1**	Returns control rod 32-37 to its pre-test position.	3304.02 8.1.3.1.1 Examinee verifies the INDIVID DRIVE light is energized on the OCM.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
		***3304.02 8.1.4.2.2** **Examinee depresses the CONT WITHDRAW and WITHDRAW pushbuttons on 1H13-P680-5004A panel, and then verifies:** • **the IN light cycles on then off** • **the OUT and CONT OUT lights energize** • **32-37 begins to withdraw to position 48.** *Examiner Note: 32-37 will withdraw for 30 seconds before the RCIS malfunction inserts.* *Examiner Cue - If the examinee reports receiving annunciator 5005-2K SRM Period, acknowledge the report.* *Examiner Cue - if the examinee reports receipt of annunciator 5006-3G RC&IS Inop and/or 5006-2H Rod Out Block, acknowledge the report.*	___	___	___
Alternate Path Begins					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2**	Takes mitigating actions for an RC&IS lock-up.	5006-3G RC&IS INOP and 5006-2H ROD OUT BLOCK Operator observes receipt of annunciators 5006-3G RC&IS INOP and 5006-2H ROD OUT BLOCK *Examiner Cue – if the examinee reports receipt of annunciator 5006-3G RC&IS Inop and/or 5006-2H Rod Out Block, acknowledge the report.* *Evaluator Note – actions for 5006-3G and 5006-2H can be performed in any order. The only critical task is that rod drive differential pressure is adjusted to < 75 psid IAW 5006-3G.*	___	___	___
		5006-3G RC&IS INOP – Operator Action #1 Examinee maintains a constant power level and refers to CPS 3304.02 Rod Control and Information System (RC&IS) to determine plant impact due to the malfunctioned systems. *Examiner Cue – acknowledge report from the examinee and cue him/her that another operator will perform troubleshooting actions in CPS 3304.02.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2** (cont'd)	Takes mitigating actions for an RC&IS lock-up (cont'd).	**5006-3G RC&IS INOP – Operator Action #2** **At 1H13-P601, examinee observes that C11-R602 DRIVE WATER DIFF PRESS indicator is indicating off-scale high, and then lowers RD Drive dP to < 75 psid by taking the control switch for 1C11-F003 CRD Press Control Valve clockwise to the open position until C11-R602 reads < 75 psid.** *Examiner Cue – acknowledge reports from the examinee.*	___	___	___
CUE	When RD Drive dP has been lowered to < 75 psid, cue the examinee that the JPM is complete.				

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Control Rod Scram Time Testing Restoration - Alternate Path

JPM Number: JPM561 Revision Number: 00

Task Number and Title: 330402.24 Respond to Automatic RCIS System Shutdown/RCIS Reset.

K/A Number and Importance:

K/A System	K/A Number	Importance (RO/SRO)	
201005	A3.04	3.3	3.3

Suggested Testing Environment: Simulator

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

Reference(s):

- CPS 9813.01 Control Rod Scram Time Testing Rev. 41e
- CPS 3304.02 Rod Control and Information System (RC&IS) Rev. 22e
- CPS 5006.03 Alarm Panel 5006 Annunciators – Row 3 Rev. 33b
- CPS 5005.02 Alarm Panel 5005 Annunciators – Row 2 Rev. 29e

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:

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

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

Comments: _____

_____

_____

_____

_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

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

Attachment 1 – OD-7

SIM A: ACT B: STBY | MODE: RUN | OD-7 Control Rod Notch Positions | X/XX/XX XX:XX:XX | ALM

RLC App Status: RUNNING **RLC Link ACTIVE**

RMP Report

48 / ++

OD-14 Display

	04	08	12	16	20	24	28	32	36	40	44	48	52
53				48	48	48	48	48	48	48			
49			48	48	48	48	48	48	48	48	48		
45		48	22	48	48	48	12	48	48	48	22	48	
41	48	48	48	48	48	48	48	48	48	48	48	48	48
37	48	48	48	48	12	48	48	48	12	48	48	48	48
33	48	48	48	48	48	48	48	48	48	48	48	48	48
29	48	48	12	48	48	48	48	48	48	48	12	48	48
25	48	48	48	48	48	48	48	48	48	48	48	48	48
21	48	48	48	48	12	48	48	48	12	48	48	48	48
17	48	48	48	48	48	48	48	48	48	48	48	48	48
13		48	22	48	48	48	12	48	48	48	22	48	
09			48	48	48	48	48	48	48	48	48		
05				48	48	48	48	48	48	48			

KEY

- GOOD DATA
- SELECTED
- SUBSTITUTE VALUE
- UNUSED SUBSTITUTE VALUE
- BAD DATA

SRRS: 3D.100; There are no retention requirements for this section

Attachment 2 – NF-CL-721-F-5 Special Maneuver Rod Move Sheet

SPECIAL MANEUVER ROD MOVE SHEET

CLINTON	
Sequence ID:	Simulator

NOTES

Sequence Step Number	Concurrence to Proceed		Control Rod ID	Gang	Control Rod Move				Comments/Problems
	QNE Initials	SRO Initials			Rod Move (From - To)	RO Initials	2nd Verifier Initials	Coupling Check Initials	
1	ZNE	SRO	32-37	2B	48 - 0	DWW	EHW	NA	
2	ZNE	SRO	32-37	2B	0 - 48				

--- END of Special Maneuver Rod Move Sheet ---

INITIAL CONDITIONS

You are the 'A' RO.

The plant is operating at 94% power.

CPS 9813.01 Control Rod Scram Time Testing on 10% of the control rods is in progress.

- Rod 32-37 has been scrammed and is at position 00.
- Rod 32-37 is selected.
    - CPS 9813.01 Control Rod Scram Time Testing is complete up through and including step 8.2.15.

INITIATING CUE

The CRS has directed you to continuously withdraw control rod 32-37 to its pre-test position (position 48) per step 8.2.16 of CPS 9813.01 Control Rod Scram Time Testing.

SRM period alarms are to be treated as expected.

Report to the CRS after completing the task.

Job Performance Measure

Initiate Low Pressure ECCS System and Maximize Injection (Alternate Path)

JPM Number: JPM250

Revision Number: 05

Date: 9/28/18

Developed By:	Tony Jennings Instructor	9/28/18 Date
Validated By:	Tim Windingland SME or Instructor	4/30/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3312.01H001 Rev: 0
Procedure 3313.01H001 Rev: 0
Procedure 4411.03 Rev: 10d

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	9/30/08	New JPM.
01	6/30/12	Updated format, revision numbers and made it more of an alternate path.
02	7/28/14	Updated reference procedure revision numbers.
03	6/5/15	Updated reference procedure revision numbers.
04	7/28/17	Updated reference procedure numbers to new hard card numbers.
05	9/28/18	Updated to new JPM template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM250 per step 2)
   a. Initialize to any suitable at power IC.
   b. Place the RMS in shutdown and stabilize the plant.
      1) Perform a Group 1 Isolation.
      2) Shut RPV Inlet Valves 1B21-F065A and 1B12-F065B.
      3) Secure both RD Pumps.
      4) Manually initiate RCIC and trip the RCIC Turbine.
      5) Terminate and prevent HPCS.
      6) Start both Mixing Compressors.
      7) Defeat RT System Isolations (YP_XREMT_737).
      8) Align RT system letdown to the Main Condenser (CPS 3303.01 section 8.1.6).
      9) Lower RPV level to -100".
      10) When RPV level reaches -100", perform the following:
         a) Set YP_XREMT_737 to NORMAL (will cause RT system to isolate).
         b) Freeze the simulator.
   c. This completes the setup for this JPM.
   d. Save to a different IC if JPM is being used more than once. IC-217 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-217 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. Open and execute Simulator Lesson Plan ILT 18-1N JPMs.

c. Release JPM250 which will insert the following malfunctions & overrides:
   1) RAT_B_Sudden_Press (RAT B Sudden Pressure)
   2) YP_HPCON Fuse Out (HPCS Pump Control Power Fuses Removed)
   3) YPXMALSE_70 = 0 (E21F005 Fails to Position)
   4) RH_EP205 (Defeat E12-F008, F023, and F053A Isolation) and RH_EP206 (Defeat E12-F009 and F053B Isolation)
   5) YPXMALSE_432 (LPCI Inj Vlv Fail E12F042A)
   6) YPXMALSE_433 (LPCI Inj Vlv Fail E12F042B)
   7) Initiates ADS when RPV level reaches TAF.
d. Save to a different IC if required.
e. Freeze the simulator.

INITIAL CONDITIONS

You are the Extra RO.

A transient has occurred causing RPV level to lower.

- The reactor has been scrammed.
- High pressure injection is not available.
- ADS will be initiated by the “B” Reactor Operator when RPV level reaches TAF.

INITIATING CUE

The CRS has directed you to restore RPV level above Level 3 using available low pressure ECCS systems per CPS 4411.03 INJECTION/FLOODING SOURCES.

- PR038 and PR039 are in service.
- Hard Card use is authorized.

Report to the CRS after completing the task.

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

Information For Evaluator’s Use:

Task Standard: The examinee will restore RPV water level above TAF (-160” Wide Range) using an alternate injection flowpath via 1E12-F053A and/or 53B RHR A(B) To Feedwater S/D Cooling Rtrn Valve.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Evaluator CUE	• Provide the examinee with a copy of CPS 4411.03 Injection/Flooding Sources. • If the examinee asks for the status of defeating the interlocks for 1E12-F053A(B) RHR A(B) To Feedwater S/D Cooling Rtrn Vlvs (CPS 4410.00C009 Defeating Injection/Flooding Interlocks), cue the examinee the checklist has been dispatched.				
Floor Instructor CUE	When ADS automatically initiates, provide an update to the crew that you're initiating ADS.				
Evaluator NOTES	• Div 1 actions are listed in step 1. Div 2 actions are listed in step 2. • JPM steps 1 and 2 may be performed in any order. • Hard Cards 3312.01H001 and 3313.01H001 are provided in Attachments 1 and 2. • RPV Level 1 is -145.5" Wide Range. • TAF is -160" Wide Range.				
***1**	Manually initiates Div 1 Low Pressure ECCS Systems (LPCS / RHR 'A')	3312.01H001 step 1 / 3313.01H001 step 1 Examinee: • **rotates the collar of the LPCS/LPCI FM RHR A MANUAL INITIATION push-button to ARM position, and** • **depresses the LPCS/LPCI FM RHR A MANUAL INITIATION push-button** **OR** • Manually starts LPCS Pump • **Manually starts RHR Pump 'A'**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***1 (cont'd)**	Verifies LPCS system automatic actions.	3313.01H001 steps 2 and 3 Examinee verifies: • LPCS Pump has started (red light on, green light off, motor current meter has risen). • 1E21-F005 LPCS To CNMT Outbd Isol Valve has failed to open automatically and will not open manually when RPV pressure lowers to 472 psig. *Evaluator Note – When RPV level reaches -160", ADS will automatically initiate to simulate the actions of the BOP.* *Evaluator Cue – If the examinee reports the failure of 1E21-F005 to open, acknowledge the report.*	___	___	___
	Verifies RHR 'A' subsystem automatic actions.	3312.01H001 steps 2 - 4 Examinee verifies: • RHR 'A' Pump has started (red light on, green light off, motor current meter has risen). • 1E12-F048A RHR A Hx Bypass Valve is open. • 1E12-F027A, RHR A To CNMT Outbd Isol Valve is open. • 1E12-F042A LPCI Fm RHR A Shutoff Valve has failed to open automatically and will not open manually when RPV pressure lowers to 472 psig. *Evaluator Note – When RPV level reaches -160", ADS will automatically initiate to simulate the actions of the BOP.* *Evaluator Cue – If the examinee reports the failure of 1E12-F042A to open, acknowledge the report.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2**	Manually initiates Div 2 Low Pressure ECCS Systems (RHR 'B' & RHR 'C')	3312.01H001 step 1 Examinee: • **rotates the collar of the LPCI FM RHR B & C MANUAL INITIATION push-button to ARM position, and** • **depresses the LPCI FM RHR B & C MANUAL INITIATION push-button** **OR** • **Manually starts RHR Pump 'B'** • Manually starts RHR Pump 'C'	___	___	___
	Verifies RHR 'B' subsystem automatic actions.	3312.01H001 step 2 - 4 Examinee verifies: • RHR 'B' Pump has started (red light on, green light off, motor current meter has risen). • 1E12-F048B RHR B Hx Bypass Valve is open. • 1E12-F027B, RHR B To CNMT Outbd Isol Valve is open. • 1E12-F042B LPCI Fm RHR B Shutoff Valve has failed to open automatically and will not open manually when RPV pressure lowers to 472 psig. *Evaluator Note – When RPV level reaches -160", ADS will automatically initiate to simulate the actions of the BOP.* *Evaluator Cue – If the examinee reports the failure of 1E12-F042B to open, acknowledge the report.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2 (cont'd)**	Verifies RHR 'C' subsystem automatic actions.	3312.01H001 step 2 - 4 Examinee verifies: • RHR 'C' Pump has tripped (red light off, green and amber lights off). • 1E12-F042C LPCI Fm RHR B Shutoff Valve has opened when RPV pressure lowers to 472 psig. *Evaluator Cue – If the examinee reports the trip of RHR Pump 'C', acknowledge the report.*	___	___	___

Alternate Path Begins					
Evaluator Note – Actions in step 3 are performed IAW CPS 4411.03 Appendix A: RHR Injection/Flooding Flow Paths Method 1.0 RHR Through Shutdown Cooling. Evaluator Note – Step 3 actions are listed in Attachment 3: CPS 4411.03 INJECTION/FLOODING SOURCES (Appendix A: RHR Through Shutdown Cooling)					
***3**	Aligns RHR Through Shutdown Cooling Flowpath	4411.03 step 1.2 Examinee verifies RHR Pumps A and B are still running (red light on, green light off).	___	___	___
	Aligns RHR Through Shutdown Cooling Flowpath Cue the examinee that the JPM is complete.	4411.03 step 1.3 **Examinee throttles open 1E12-F053A and B, RHR A(B) To Feedwater S/D Cooling Rtrn Valve, as needed to restore RPV level above Level 3.** *Evaluator Cue – If the examinee request status of defeating the 1E12-F053A/B interlocks, cue the examinee that 1E12-F053A/B interlocks have been defeated.*	___	___	___
CUE	When RPV level is above TAF and rising, cue the examinee that the JPM is complete.				

JPM Stop Time: _____

Attachment 1: CPS 3312.01H001 LPCI INITIATION and SHUTDOWN HARD CARD

1. As needed, Arm and Depress:

☐■■ For RHR A: LPCS/LPCI FM RHR A MANUAL INITIATION push-button.

■☐■ For RHR B/C: LPCI FM RHR B & C MANUAL INITIATION push-button.

☐☐☐ 2. Verify desired RHR Pump A(B)[C], 1E12-C002A(B)[C] started.

3. Verify open:

☐☐■ 1) 1E12-F048A(B), RHR A(B) Hx Bypass Valve.

☐☐■ 2) 1E12-F027A(B), RHR A(B) To CNMT Outbd Isol Valve.

4. When RPV pressure < 472 psig:

☐☐☐ Open/verify open
1E12-F042A(B)[C], LPCI Fm RHR A(B)[C] Shutoff Valve.

☐☐■ 5. Place/verify SX A(B) PRM 1RIX-PR038(039), Shutdown Service Water A(B) Effluent (SX) in service.

6. When directed by the EOPs to place a RHR Hx in service:

1) Verify/reposition following valves as follows:

☐☐■	1SX082A(B), RHR A(B) Hx 1A(B) MU Cond Inlet Vlv	Shut
☐☐■	1E12-F014A(B), SSW Inlet RHR A(B) Hx Valve	**OPEN**
☐☐■	1E12-F068A(B), RHR A(B) Hx SSW Outlet Valve	**OPEN**

☐☐■ 2) Verify cooling water flow through RHR A(B) Hx on SSW To RHR A(B) Hx Flow meter, 1E12-R602A(B).

7. Maintain cooldown rate and flow using:

☐☐■ Preferred: 1E12-F048A(B), RHR A(B) Hx Bypass Valve

☐☐■ Alternate: 1E12-F003A(B), RHR A(B) Hx Outlet Valve

☐☐☐ 8. Restore and maintain level using 1E12-F042A(B)[C], LPCI Fm RHR A(B)[C] Shutoff Valve.

Attachment 2: CPS 3313.01H001 LPCS MANUAL INITIATION - SHUTDOWN HARD CARD

☐ 1. As needed, Arm and Depress
LPCS/LPCI FM RHR A MANUAL INITIATION push-button.

☐ 2. Verify LPCS Pump, 1E21-C001 started.

3. **WHEN** RPV pressure < 472 psig:

☐ Open/verify open
1E21-F005, LPCS To CNMT Outbd Isol Valve.

Attachment 3: CPS 4411.03 INJECTION/FLOODING SOURCES (Appendix A: RHR Through Shutdown Cooling)

Method 1.0 **RHR THROUGH SHUTDOWN COOLING** Initial

1.1 IF RPV level < Level 3 or pressure > 104 psig,

THEN Perform section 3.1 of CPS 4410.00C009, Defeating Injection/Flooding Interlocks to defeat 1E12-F053A(B) isolation logic. _____

1.2 Start RHR Pump A(B), 1E12-C002A(B). _____

1.3 Throttle open 1E12-F053A(B), RHR A(B) To Feedwater S/D Cooling Rtrn Valve, as needed to maintain RPV level. _____

1.4 Shut 1E12-F042A(B), LPCI Fm RHR A(B)Shutoff Valve. _____

1.5 When RHR Through Shutdown Cooling injection is no longer required:

Shut 1E12-F053A(B), RHR A(B) To Feedwater S/D Cooling Rtrn Valve. _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Initiate Low Pressure ECCS System and Maximize Injection (Alternate Path)
JPM Number: JPM250 Revision Number: 05
Task Number and Title: 441103.01 – Injection/Flooding Operation
K/A Number and Importance: 295031 EA1.01 / RO (4.4), SRO (4.4)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3312.01 H001 LPCI INITIATION and SHUTDOWN HARD CARD, Rev. 0
- CPS 3313.01 H001 LPCS MANUAL INITIATION - SHUTDOWN HARD CARD, Rev. 0
- CPS 4411.03 INJECTION/FLOODING SOURCES, Rev. 10d

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 24 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

INITIAL CONDITIONS

You are the Extra RO.

A transient has occurred causing RPV level to lower.

- The reactor has been scrammed.
- High pressure injection is not available.
- ADS will be initiated by the “B” Reactor Operator when RPV level reaches TAF.

INITIATING CUE

The CRS has directed you to restore RPV level above Level 3 using available low pressure ECCS systems per CPS 4411.03 INJECTION/FLOODING SOURCES.

- PR038 and PR039 are in service.
- Hard Card use is authorized.

Report to the CRS after completing the task.

Job Performance Measure

Turbine On Line Tests – Alternate Path

JPM Number: JPM517

Revision Number: 02

Date: 10/1/18

Developed By:	Tony Jennings Instructor	10/1/18 Date
Validated By:	Tim Windingland SME or Instructor	4/29/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3812.01 Rev: 18c
Procedure 3105.01 Rev: 43a
Procedure _____ Rev: _____

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	06/14/13	New JPM. This JPM modifies JPM 415 to create an Alternate Path JPM.
01	6/25/15	Updated procedure references.
02	10/1/18	Updated to new JPM template. Updated procedure references.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM517 per step 2)
   a. Initialize to any suitable at power IC with the Main Turbine on line.
   b. Freeze the simulator.
   c. This completes the setup for this JPM.
   d. Save to a different IC if JPM is being used more than once. IC-203 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-203 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. Open and execute Simulator Lesson Plan ILT 18-1N JPMs.
   c. Release JPM517 which will prevent the Main Turbine Electrical Trip Test circuitry from resetting when tested and overrides annunciator 5007-1C Trouble EHC Sys.
   d. Prepare two working copies of CPS 3812.01 Turbine On Line Tests with:
      1) Prerequisite steps 5.1 through 5.4 signed off as complete.
      2) Prerequisite steps 5.8, 5.9, 5.9.1, and 5.9.2 signed off as complete.
   e. This completes the setup for this JPM.
   f. Save to a different IC if required.
   g. Freeze the simulator.

INITIAL CONDITIONS

You are the B RO.

- The plant is in Mode 1 with the Main Turbine synchronized to the grid.
- CPS 3812.01, Turbine On Line Tests is scheduled to be performed.
- All prerequisites for CPS 3812.01 Turbine On Line Tests Section 8.1 Electrical Trip Test and Section 8.2 BOST Test are complete.
- Turbine Trips are NOT Disabled (NOT BYPASSED) per CPS 3105.01, Disabling Turbine Trips Using Global Bypass.
- Operators are stationed at Main Turbine Front Standard and at the first hit panel 1PA06J to reset annunciators.

INITIATING CUE

The CRS has directed you to perform CPS 3812.01 Turbine On Line Tests sections 8.1 Electrical Trip Test and 8.2 Backup Overspeed Trip Test.

You have CRS permission to perform Critical Steps (CS).

Report to the CRS after completing the task.

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

Information For Evaluator's Use:

Task Standard: The examinee will test the function of the Main Turbine Electrical Trip Test Circuitry IAW CPS 3812.01 Section 8.1. The test circuitry will malfunction, requiring the examinee to reset the Electrical Trip Test system. After the circuitry is reset, the examinee will re-perform section 8.1 as post maintenance testing to verify proper operation.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

SRRS: 3D.100; There are no retention requirements for this section

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Cue	Provide the examinee with a marked up copy (first of two in the package) of CPS 3812.01 Turbine On Line Tests.				
1	Performs pretest verifications.	3812.01 8.1.1 – 8.1.3 Examinee verifies: • Applicable Section 5.0 prerequisites are complete. • Turbine Trips are NOT disabled • On 1H13-P870-5018, Electrical Trip Test NORMAL light is ON, RESET light is ON, and Remaining lights in ELECTRICAL TRIP TEST Group are OFF *Evaluator Note – status of prerequisites and turbine trips were provided in the initiating cue.*	___	___	___
***2**	Initiates Electrical Trip Test	3812.01 8.1.4 Examinee: • **depresses and holds the START TEST push-button** • **observes the NORMAL light goes OFF.** • **observes LOCKED OUT light comes ON.** *Evaluator Cue – if status of lights and annunciators at P680 and 1PA06J is requested, cue the examinee that all expected lights and annunciators were received.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***3**	Performs Electrical Trip Test Restoration.	3812.01 8.1.5 **Examinee releases the START TEST push-button** and observes the following: • RESET light goes OFF, and TRIPPED light comes ON. • Test Malfunction light comes ON. *Evaluator Cue – When the examinee reports the malfunction to the CRS, acknowledge the report, inform the examinee that troubleshooting is complete and direct the examinee to take necessary actions to move on to the next section of the test.* *Evaluator Cue – If an Equipment Operator is sent to check status of the trip mechanism, report that the trip linkage is reset.*	___	___	___
Begin Alternate Path					
***4**	Resets the system to normal	3812.01 6.1 **Examinee depresses the Electrical Trip Test Stop Go Normal pushbutton**, and verifies the following: • Test Malfunction light goes OFF • TRIPPED light goes OFF • RESET light comes on • LOCKED OUT light goes OFF • NORMAL light comes on	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Cue	Cue the examinee that the Electrical Trip Test circuit malfunction has been repaired and direct him/her to re-perform CPS 3812.01 section 8.1 for post-maintenance testing. • All prerequisites for CPS 3812.01 Turbine On Line Tests Section 8.1 Electrical Trip Test and Section 8.2 BOST Test are complete. • Turbine Trips are NOT Disabled (NOT BYPASSED) per CPS 3105.01, Disabling Turbine Trips Using Global Bypass. • Operators are stationed at Main Turbine Front Standard and at the first hit panel 1PA06J to reset annunciators.				
Cue	Provide the examinee with the second marked up copy of CPS 3812.01 Turbine On Line Tests.				
***5**	Re-initiates Electrical Trip Test	3812.01 8.1.4 Examinee: • **depresses and holds the START TEST push-button** • **observes the NORMAL light goes OFF.** • **observes LOCKED OUT light comes ON.** *Evaluator Cue – if status of lights and annunciators at P680 and 1PA06J is requested, cue the examinee that all expected lights and annunciators were received.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5 (cont'd)	Re-initiates Electrical Trip Test (cont'd)	3812.01 8.1.5 **Examinee releases the START TEST push-button** and observes the following: • RESET light goes OFF, and TRIPPED light comes ON. • TRIPPED light goes OFF, and RESET light comes on • LOCKED OUT light goes OFF, and NORMAL light comes on. *Evaluator Cue – If the examinee reports successful re-test of the electrical trip system, acknowledge the report.*	___	___	___
		3812.01 8.1.6 Examinee directs field operator to reset all alarms at 1PA06J First Hit Panel. *Evaluator Cue – Cue the examinee that all alarms at 1PA06J are reset and that the JPM is complete.*	___	___	___

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Turbine On Line Tests – Alternate Path
JPM Number: JPM517 Revision Number: 02
Task Number and Title: 381201.01, Complete Control Room actions to perform the Turbine Electrical Trip Test
K/A Number and Importance: 241000 A4.19 / RO (3.5), SRO (3.4)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3812.01 Turbine On Line Tests, Rev. 18c
- CPS 3105.01 Turbine (TG, EHC, TS), Rev. 43a

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

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

INITIAL CONDITIONS

You are the B RO.

- The plant is in Mode 1 with the Main Turbine synchronized to the grid.
- CPS 3812.01, Turbine On Line Tests is scheduled to be performed.
- All prerequisites for CPS 3812.01 Turbine On Line Tests Section 8.1 Electrical Trip Test and Section 8.2 BOST Test are complete.
- Turbine Trips are NOT Disabled (NOT BYPASSED) per CPS 3105.01, Disabling Turbine Trips Using Global Bypass.
- Operators are stationed at Main Turbine Front Standard and at the first hit panel 1PA06J to reset annunciators.

INITIATING CUE

The CRS has directed you to perform CPS 3812.01 Turbine On Line Tests sections 8.1 Electrical Trip Test and 8.2 Backup Overspeed Trip Test.

You have CRS permission to perform Critical Steps (CS).

Report to the CRS after completing the task.

Job Performance Measure

Place Feedwater Leakage Control (FWLC) In-Service

JPM Number: JPM473

Revision Number: 01

Date: 10/1/18

Developed By:	Tony Jennings Instructor	10/1/18 Date
Validated By:	Tim Windingland SME or Instructor	4/30/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3312.01 Rev: 47
Procedure_____ Rev:_____
Procedure_____ Rev:_____

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	9/14/16	New JPM.
01	10/1/18	Updated procedure references. Updated to new JPM template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM473 per step 2)
   a. Initialize to any shutdown IC.
   b. Open or verify open 1B21-F065A and B RPV Inlet Valves.
   c. Open and execute Simulator Lesson Plan JPM473 containing the following:
      1) RAT_B_DIFFERENTIAL
      2) YP_XMFTB_1 HPCS PMP MTR COUPLING FAILURE
      3) YFRIPPSS RCIC PUMP SHEARED SHAFT
      4) Ed01LMalfMot(32) = 3 LPCS Motor Short Circuit
      5) Ed01LMalfMot(35) = 3 RHR Pump C002C Motor Short Circuit
      6) YPXMALSE_510 RR03B-RR B SUCTION LINE LEAK (51%)
   d. Allow ADS to automatically initiate and depressurize the RPV.
   e. This completes the setup for this JPM.
   f. Ensure plant is stable and then save to a different IC if JPM is being used more than once. IC-218 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-218 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. Ensure RHR ‘A’ and ‘B’ are operating in LPCI injection mode.
   c. No simulator lesson plan is required once the IC has been established per step 1 above.
   d. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.
   e. Freeze the simulator.

INITIAL CONDITIONS

A Loss of Coolant Accident (LOCA) has occurred resulting in a reactor scram. Recirculation Pumps have been secured.

INITIATING CUE

This is a time critical JPM.

The CRS has directed you to perform time critical subsequent actions contained in CPS 4001.02 Automatic Isolation.

Report to the CRS when the task has been completed.

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

Information For Evaluator's Use:

Task Standard: The examinee will place the Feedwater Leakage Control (FWLCS) System in service within 20 minutes of candidate acknowledgment of the initiating cue (JPM start time).

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide the examinee with a copy of CPS 4001.02 AUTOMATIC ISOLATION.				
1	Determines Feedwater Leakage Control needs to be placed in service.	Examinee reviews CPS 4001.02 Automatic Isolation section 4.0 Subsequent Actions and determines that step 4.5 (start FWLCS) needs to be performed. *Evaluator Cue: If the examinee requests a copy of CPS 4001.02C001 Automatic Isolation Checklist, cue him/her that another operator is verifying appropriate isolations.* *Evaluator Cue: If the examinee reports the need to place FWLCS in service, acknowledge the report.*	___	___	___
CUE	When requested, provide the examinee with a copy of CPS 3312.01 RESIDUAL HEAT REMOVAL (RHR).				
***2**	Aligns RHR 'A' and 'B' to the Feedwater Leakage Control (FWLC) System.	8.3.1.1 Examinee determines FW/CB/CD injection is no longer available. *Evaluator Cue: If asked, cue the examinee that the current FW/CB/CD injection status is not expected to change.*	___	___	___
		***8.3.1.2** **Examinee rotates the control switches for 1B21-F065A and B RPV Inlet Valves (1H13-P870-5016) counter clockwise to the close position and verifies green lights are illuminated and red lights are extinguished.**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*2 (cont'd)	Aligns RHR 'A' and 'B' to the Feedwater Leakage Control (FWLC) System (cont'd)	8.3.1.3 Examinee observes that RPV pressure is < 330 psig using PPC or MCR meter indications.	___	___	___
		8.3.1.4 Examinee observes that RHR Pumps A and B are operating in LPCI mode.	___	___	___
		***8.3.1.5** **On 1H13-P601-5065, examinee turns the control switch for 1E12-F496, RHR to Feedwater "B" Keep Fill Valve clockwise to the Open position and verifies red light illuminated and green light extinguished.**	___	___	___
		***8.3.1.6** **On 1H13-P601-5064, examinee turns the control switch for 1E12-F497, RHR to Feedwater "A" Keep Fill Valve clockwise to the Open position and verifies red light illuminated and green light extinguished.** *Evaluator:* • *Record current time: _____* • *Record JPM start time: _____* • *Verify times recorded in step 8.3.1.6 and JPM Start Time does not exceed 20 minutes.* *Cue: State the JPM is complete.*	___	___	___

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Place Feedwater Leakage Control (FWLC) In-Service
JPM Number: JPM473 Revision Number: 01
Task Number and Title: 331201.22 Feedwater Leakage Control System (FWLCS)
K/A Number and Importance: 223001 A2.01 / RO (4.3), SRO (4.4)
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☒ Yes ☐ No
Reference(s):

- CPS 4001.02 AUTOMATIC ISOLATION, Rev. 17f
- CPS 3312.01 RESIDUAL HEAT REMOVAL (RHR), Rev. 47

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

INITIAL CONDITIONS

A Loss of Coolant Accident (LOCA) has occurred resulting in a reactor scram. Recirculation Pumps have been secured.

INITIATING CUE

This is a time critical JPM.

The CRS has directed you to perform time critical subsequent actions contained in CPS 4001.02 Automatic Isolation.

Report to the CRS when the task has been completed.

Job Performance Measure

Manually Startup RCIC System (Alternate Path)

JPM Number: JPM204

Revision Number: 05

Date: 10/1/18

Developed By:	Tony Jennings Instructor	10/1/18 Date
Validated By:	Matt Baker SME or Instructor	4/30/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3310.01 Rev: 30d
Procedure 3310.01H001 Rev: 0a
Procedure _____ Rev: _____

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	07/06/07	Updated numbering convention. Old JPM number: 33100104LSA02.
01	08/18/10	Minor Technical Changes
02	3/5/13	Minor Technical Changes
03	6/16/15	Updated procedure references.
04	6/29/16	Updated procedure references.
05	10/1/18	Updated to new JPM template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM204 per step 2)
   a. Initialize to any suitable at power IC with RCIC in standby.
   b. Lockout the MDRFP and auxiliary oil pump by performing the following:
      1) Select FPC
      2) Select RFP 1C Stop Start
      3) Hold stop for ~ 5 seconds (until FPC arrow disappears)
      4) Select Exit
      5) Select Aux Lube Oil Pump
      6) Select RFP 1C Aux Oil Pump
      7) Select Lock (until Stopped indicated)
      8) Select Exit
   c. Place the RMS in shutdown and stabilize RPV level.
   d. Open and execute Simulator Lesson Plan JPM204 which will perform the following:
      1) Loss of Main Condenser Vacuum (YPXMALSE_239 100%) - will result in a Group 1 Isolation
      2) Insert malfunction to disable RCIC Automatic Initiation (YP_XMFTB_4959 – Insert)
      3) Insert an Instructor Override (I/O) to maintain the RCIC Manual Initiation Pushbutton NOT DEPRESSED (A05_A02_A09S59B_1 – Release)
   e. Restore Reactor level to approximately -10 inches using High Pressure Core Spray (HPCS) and then shutdown the HPCS system (as necessary). DO NOT allow RPV Level to lower to the Level 2 setpoint (prevents Gland Seal Air Compressor from shunt tripping on Level 2).
   f. Freeze the simulator.
   g. This completes the setup for this JPM.
   h. Save to a different IC if JPM is being used more than once. IC-219 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-219 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. Make sure the RCIC Initiation / Shutdown Hard Card on 1H13-P601 is free of markings.
   c. No simulator lesson plan is required once the IC has been established per step 1 above.
   d. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.
   e. Freeze the simulator.

INITIAL CONDITIONS

You are the Extra RO.

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

All immediate Operator actions have been completed.

INITIATING CUE

Manually initiate RCIC and inject into the RPV.

Hard card use is authorized.

Report to the CRS after completing the task.

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

Information For Evaluator's Use:

Task Standard: The examinee will attempt to initiate RCIC using the manual initiation pushbutton and recognize the failure of RCIC to respond. The examinee will then use an alternate method to successfully initiate RCIC with the logic not operable.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1	Initiates RCIC	3310.01H001 step 1 Examinee: • rotates the collar of the RCIC MANUAL INITIATION push-button to ARM position, and • depresses and holds the RCIC MANUAL INITIATION push-button for a minimum of 6 seconds, and • determines that RCIC has failed to initiate (1E51-F045 fails to open). *Examinee Cue – If the examinee reports the failure of RCIC to initiate, acknowledge the report and then state, "Continue with RCIC startup".*	___	___	___
Alternate Path Begins					
CUE	Provide the examinee with a copy of CPS 3310.01 REACTOR CORE ISOLATION COOLING (RI) when requested.				
2	Performs RCIC System pre-start verifications.	3310.01 8.1.4.1 Examinee drains the RCIC Exhaust Drain Pot (if time allows). *Examinee Cue – If the examinee asks if time allows for draining the RCIC Exhaust Drain pot, state, "Time does not allow for draining the RCIC Exhaust Drain Pot."*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
2 (cont'd)	Performs RCIC System pre-start verifications (cont'd).	3310.01 8.1.4.2 On 1H13-P601-5063, examinee rotates the control switch for the Gland Seal Air Compressor to the START position. Verifies red light ON and green light OFF. *Evaluator Note – This is not a critical step – RCIC can function without the Gland Seal Air Compressor.*	___	___	___
		3310.01 8.1.4.3 Examinee verifies 1E51-F019 RCIC Pmp Min Flow Recirc valve operation when RCIC has been started. • Opens when RCIC flow is < 120 gpm, and • Shuts when RCIC flow is > 240 gpm.	___	___	___
		3310.01 8.1.4.4 On 1H13-P680-5007 (PPC Display) or at 1H13-P678 Standby Information Panel, the examinee verifies the Main Turbine tripped using at least one of the following methods: • Verifying all Main Turbine Stop Valves, Control Valves, Intercept Valves, and Intermediate Stop Valves are closed, or • Verifying the two green indicator lights for the Trip Valves indicate "tripped", or • Verifying annunciator 5007-1B Turb Trip EHC Sys is locked in.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
2 (cont'd)	Performs RCIC System pre-start verifications (cont'd).	3310.01 8.1.4.5 On 1H13-P680-5002, the examinee verifies the TDRFPs are tripped using at least one of the following methods: • Graphic indications for FPA and FPB on the DFW screen indicates tripped (orange or white icon), or • Verifying annunciators 5002-1C and 1G locked in.	___	___	___
***3**	Manually initiates RCIC with logic NOT operable.	***3310.01 8.1.4.6** **Examinee locates hand switch for 1E51-F045 on 1H13-P601-5063, rotates switch to the OPEN position, and verifies Red light ON and Green light OFF.**	___	___	___
		***3310.01 8.1.4.7** **Examinee locates hand switch for 1E51-F013 on 1H13-P601-5063, rotates switch to the OPEN position and verifies Red light ON and Green light OFF.** *Examiner Cue – if the examinee reports that RCIC is injecting, acknowledge the report.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4	Performs RCIC post start verifications.	3310.01 8.1.4.8 – 8.1.4.9 Examinee performs the following post start verifications: • 1E51-F025, RHR & RCIC Stm Supp First Drn Isol Vlv shuts • 1E51-F026, RHR & RCIC Stm Supp Second Drn Isol Vlv shuts • 1E51-F004, RCIC Turb Exh Drn To RF First Isol Valve shuts • 1E51-F005, RCIC Turb Exh Drn To RF Second Isol Valve shuts • RCIC Pmp Rm Sply Fan, 1VY04C running (1H13-P801-5050)	___	___	___
5	Adjusts RCIC flow to raise RPV level.	3310.01 8.1.4.10 Examinee adjusts RCIC Pump Flow Cont, 1E51-R600, as necessary to raise RPV level. *Examiner Note:* - *If RCIC flow is adjusted < 450 gpm, examinee shifts 1E51-R600 to Manual.* - *If RCIC Flow Controller is shifted to Manual, the examinee maintains RCIC Turbine speed ≥ 1500 rpm.* *Examiner Note: If the examinee exceeds these limits for more than 30 seconds (< 450 gpm in Auto or < 1500 RPM in manual), then the step is unsat and a competency deficiency should be documented.* *Examiner Cue - If asked, as CRS state, "Maintain the RCIC Flow Controller in AUTO. Your level band is Level 3 to Level 8."*	___	___	___
CUE	When the RPV level trend is steady or rising, cue the examinee that the JPM is complete.				

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Manually Startup RCIC System (Alternate Path)
JPM Number: JPM204 Revision Number: 05
Task Number and Title: 331001.04 Manually RCIC Initiation with Logic Not Operable
K/A Number and Importance: 217000 A4.04 / RO (3.6), SRO (3.6)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3310.01 REACTOR CORE ISOLATION COOLING (RI), Rev. 30d
- CPS 3310.01H001 RCIC INITIATION-SHUTDOWN HARD CARD, Rev. 0a

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 12 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

INITIAL CONDITIONS

You are the Extra RO.

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

All immediate Operator actions have been completed.

INITIATING CUE

Manually initiate RCIC and inject into the RPV.

Hard card use is authorized.

Report to the CRS after completing the task.

Job Performance Measure

Re-energize 4160V Bus 1A

JPM Number: JPM503

Revision Number: 03

Date: 10/2/18

Developed By:	Tony Jennings Instructor	10/2/18 Date
Validated By:	Tim Windingland SME or Instructor	4/30/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3501.01 Rev: 29
Procedure_____ Rev:_____
Procedure_____ Rev:_____

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	11/17/12	New JPM.
01	9/16/16	Updated procedure references. Updated to new template.
02	2/27/17	Revised to incorporate comments from the ILT 15-1 NRC Exam.
03	10/2/18	Updated procedure references. Updated to new template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM503 per step 2)
   a. Initialize to any suitable at power IC.
   b. Verify CRD Pump B is running.
   c. Insert a manual scram and allow the MDRFP to stabilize RPV level.
   d. Place the following control switches in PTL or Lock/Stop:
      1) Component Cooling Water Pump 1A, 1CC01PA
      2) Component Cooling Water Pump 1C, 1CC01PC
      3) Plant Service Water Pump 1A, 1WS01PA
      4) Plant Service Water Pump 1C, 1WS01PC
      5) Service Air Compressor 0, 0SA01C
      6) Condensate Pump 1A, 1CD01PA
      7) Condensate Pump 1C, 1CD01PC
      8) Condensate Booster A, 1CB01PA / Cond Booster Pmp 1A Aux Lube Oil Pmp, 1CB07PA
      9) Condensate Booster C, 1CB01PC / Cond Booster Pmp 1C Aux Lube Oil Pmp, 1CB07PC
   e. Freeze the simulator.
   f. This completes the setup for this JPM.
   g. Save to a different IC if JPM is being used more than once. IC-220 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-220 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. Open and execute simulator lesson plan ILT 18-1 NRC exam JPMs.

c. Release JPM 503 which performs the following:

   1) Inserts override to switch 4160V BUS 1A RES BKR 1AP06EM to the PTL position.

   2) Overrides 1AP06EM GREEN LITE to ON.

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

e. This completes the setup for this JPM.

f. Freeze the simulator.

INITIAL CONDITIONS

A scram has occurred.

4160V Bus 1A failed to transfer to the reserve source due to a breaker failure, resulting in de-energization of 4160V Bus 1A.

CPS 4200.01 Loss of AC Power actions have been taken.

CPS 3514.01C003 4160V Bus 1A (1AP06E) Outage checklist has been performed.

The breaker failure has been corrected.

INITIATING CUE

You are the 'B' RO.

The CRS has directed you to re-energize 4160V Bus 1A IAW CPS 3501.01 High Voltage Auxiliary Power System, section 8.1.2 Energizing 4160V Bus 1A, 1AP06E (1B, 1AP08E).

- After 4160V Bus 1A has been re-energized, restoration actions will be performed by another Reactor Operator.

Report to the CRS after completing the task.

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

Information For Evaluator's Use:

Task Standard: The examinee will perform necessary actions to re-energize 4160V Bus 1A following a loss of power.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Cue	Provide the examinee with a copy of CPS 3501.01 High Voltage Auxiliary Power System.				
***1**	Prepares 4160V Bus 1A for re-energization.	CPS 3501.01 step 8.1.2.1 On 1H13-P870-5012 examinee: • **Places 4160V Bus 1A Mn Bkr 1A 1AP06EK in the PULL-TO-LOCK position.** • Places 4160V Bus 1A Res Bkr 1A 1AP06EM in the PULL-TO-LOCK position. *Evaluator Note: Only 1AP06EK is critical with 1AP06EM in PTL per the JPM setup.*	___	___	___
		CPS 3501.01 step 8.1.2.2 On 1H13-P870-5012 examinee verifies open (green light illuminated, red light extinguished) the following breakers: • 480V XFMR Q & I BKR, 1AP06EJ • 480V XFMR G & K BKR, 1AP06EQ	___	___	___
		CPS 3501.01 steps 8.1.2.3 & 8.1.2.4 Examinee verifies control switches for 4160V Bus 1A loads are in Pull-To-Lock or Lock/Stop. 1H13-P800-5041 • Service Air Compr 0, 0SA01C • PSW Pmp 1A, 1WS01PA • PSW Pmp 1C, 1WS01PC 1H13-P800-5040 • CCW Pump 1A, 1CC01PA • CCW Pump 1C, 1CC01PC 1H13-P680-5001 • Cond Booster A, 1CB01PA • Cond Booster Pmp 1A Aux Lube Oil Pmp, 1CB07PA • Cond Booster C, 1CB01PC • Cond Booster Pmp 1C Aux Lube Oil Pmp, 1CB07PC • Cond Pmp A, 1CD01PA • Cond Pmp C, 1CD01PC	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2**	Re-energizes 4160V Bus 1A.	***CPS 3501.01 step 8.1.2.5** **On 1H13-P870-5012, examinee places 4160V Bus 1A Res Bkr Sync switch to ON.**	___	___	___
		***CPS 3501.01 step 8.1.2.6** **On 1H13-P870-5012 examinee:** • **takes the 4160V Bus 1A Res Bkr 1AP06EM control switch (CS) out of Pull To Lock (PTL) and verifies breaker automatically closes (red light illuminated and green light extinguished)** • turns the 1AP06EM control switch clockwise and releases to the auto after close position (red flags CS)	___	___	___
		CPS 3501.01 step 8.1.2.7 Examinee verifies 4160 Bus 1A energized by observing any/all of the following indications: • Bus energized red light • 4160 V Bus 1A Voltage Meter on P870 • Annunciator 5012-1D AC Undervoltage 4160V Bus reset.	___	___	___
		***CPS 3501.01 step 8.1.2.8** **On 1H13-P870-5012, examinee places 4160V Bus 1A Res Bkr Sync switch to OFF.**	___	___	___

STEP	**ELEMENT**	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
***2 (cont'd)**	Re-energizes 4160V Bus 1A (cont'd).	CPS 3501.01 step 8.1.2.9 Examinee may place 4160V Bus 1A Mn Bkr, 1AP06EK C/S to AUTO. *Evaluator note – Examinee may N/A step 8.1.2.9 in anticipation of placing the plant in a normal shutdown alignment. If that occurs, is should not be considered a competency hit.*	___	___	___
		CPS 3501.01 step 8.1.2.10 Examinee re-energizes 480V Unit Subs powered from 4160V Bus 1A. *Evaluator Note - No action required by examinee. 480V Unit Sub restoration activities will be performed by another operator.* *Evaluator Cue – State that the JPM is complete.*	___	___	___

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Re-energize 4160V Bus 1A
JPM Number: JPM503 Revision Number: 03
Task Number and Title: 350101.17 Energize 4160V Bus 1A 1AP06E
K/A Number and Importance: 295003 AA1.01 / RO (3.7), SRO (3.8)
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3501.01 High Voltage Auxiliary Power System, Rev. 29

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

INITIAL CONDITIONS

A scram has occurred.

4160V Bus 1A failed to transfer to the reserve source due to a breaker failure, resulting in de-energization of 4160V Bus 1A.

CPS 4200.01 Loss of AC Power actions have been taken.

CPS 3514.01C003 4160V Bus 1A (1AP06E) Outage checklist has been performed.

The breaker failure has been corrected.

INITIATING CUE

You are the 'B' RO.

The CRS has directed you to re-energize 4160V Bus 1A IAW CPS 3501.01 High Voltage Auxiliary Power System, section 8.1.2 Energizing 4160V Bus 1A, 1AP06E (1B, 1AP08E).

- After 4160V Bus 1A has been re-energized, restoration actions will be performed by another Reactor Operator.

Report to the CRS after completing the task.

Job Performance Measure

Restore ADS Air Supply To Normal Source (Alternate Path)

JPM Number: JPM427

Revision Number: 03

Date: 10/3/18

Developed By:	Tony Jennings Instructor	10/3/18 Date
Validated By:	Matt Baker SME or Instructor	4/29/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3101.01 Rev: 24
Procedure 5040.06 Rev: 28b
Procedure_____ Rev:_____

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	07/28/10	Update Procedure Revs, KAs and JPM number (31010107LSN02)
01	06/14/13	Updated to new template
02	8/29/16	Updated procedure references. Made editorial changes to the simulator setup instructions.
03	10/3/18	Updated procedure references. Updated to new JPM template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM427 per step 2)
   a. Initialize to any suitable at power/shutdown IC.
   b. Place the ADS Backup Air Bottles in service with 1IA012A & 13A open, and 1IA012B and 13B shut IAW CPS 3101.01 Main Steam (MS, IS & ADS) steps 8.2.4.1 and 8.2.4.2.
   c. Freeze the simulator.
   d. Save to a different IC if JPM is being used more than once. IC-203 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-203 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. Open and execute Simulator Lesson Plan ILT 18-1N JPMs.
   c. Release JPM427 which will insert the following malfunctions & overrides:
      1) Fail 1PI-IA079 to 125 psig (0.5) on a 2 minute ramp when 1IA013A is shut.
      2) Fail 1PI-IA078 to 125 psig (0.5) on a 2 minute ramp when 1IA012A is shut.
      3) Delete the 1PI-IA079 (P601) instructor override when 1IA013A is reopened.
      4) Delete the 1PI-IA078 (P601) instructor override when 1IA012A is reopened.
      5) Bring in Annunciator 5040-6F when either 1PI-IA079 or 1PI-IA078 less than 150 psig (0.6).
      6) Clear Annunciator 5040-6F when both 1IA013A and 1IA012A open.
   d. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.
   e. This completes the setup for this JPM.
   f. Freeze the simulator.

INITIAL CONDITIONS

You are the 'B' RO.

The ADS backup air bottles are in service.

INITIATING CUE

Return ADS to the normal air supply per CPS 3101.01 Main Steam (MS, IS & ADS) step 8.2.4.5.

Report to the CRS after completing the task.

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

Information For Evaluator's Use:

Task Standard: The examinee will align the ADS system to the normal air supply, recognize that air pressure is unacceptably low, and then return the ADS air supply back to the backup air bottles.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Cue	Provide the examinee with a copy of CPS 3101.01 Main Steam (MS, IS & ADS)				
Evaluator Note The procedure steps for this task list the Division 1 and 2 valves in each step. The examinee may execute the procedure in 1 of 2 ways as follows, either of which is acceptable: • Performs all the procedure steps (8.2.4.5.1 – 8.2.4.5.4) for Div 1 and then goes back and performs all the procedure steps for Div 2 (8.2.4.5.1 – 8.2.4.5.4) or vice versa. • Performs each step for Div 1 and then Div 2 valves or vice versa. The examinee may elect to position the IA Sys Div 1 & 2 In Test switches to the Test position. This action is optional but not required. If used, switches should be returned to Normal after valve stroking is complete.					
***1**	Isolates the ADS Backup Air Bottles.	**3101.01 8.2.4.5.1** **Examinee:** **Examinee rotates the control switches for 1IA012A(13A) ADS IA CNMT Outbd Isol Vlv to CLOSE and verifies red light OFF, green light ON.** **1IA012A Closed SAT__ UNSAT __ Comment No. __** **1IA013A Closed SAT__ UNSAT __ Comment No. __**	___	___	___
***2**	Aligns the normal air supply to the ADS valves.	**3101.01 8.2.4.5.2** **Examinee rotates the control switches for 1IA012B(13B) ADS IA CNMT Inbd Isol Vlv to OPEN and release and verifies red light ON, green light OFF.** **1IA012B Opened SAT__ UNSAT __ Comment No. __** **1IA013B Opened SAT__ UNSAT __ Comment No. __**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***3**	Restores control switches to normal position for the ADS Backup Air Bottles.	**3101.01 8.2.4.5.3** **Examinee rotates the control switches for 1IA012A(13A) ADS IA CNMT Outbd Isol Vlv to AUTO.** **1IA012A in AUTO SAT__ UNSAT __ Comment No. __** **1IA013A in AUTO SAT__ UNSAT __ Comment No. __** *Evaluator Note – No valve movement will occur when the 1IA012A and 13A control switches are restored to AUTO.*	___	___	___
4	Verifies ADS Instrument Air Header pressure within procedural limits.	Examinee locates 1PI-IA078 & 1PI-IA079 on 1H13-P601 and determines air pressure is less than 160 psig. *Evaluator Cue – If the examinee requests an Equipment Operator to check air amplifier operation, cue him/her that the Containment is not accessible.*	___	___	___
Alternate Path Begins					
5	Responds to annunciator 5040-6F.	Examinee determines that 5040-6F Operator Action 4 should be performed to shift ADS air supply back to the backup air bottles. *Evaluator Cue – If the examinee recommends SRO review ORM and/or ITS LCOs listed in 5040-6F, acknowledge the report.*	___	___	___
***6**	Isolates the normal air supply to the ADS valves.	**3101.01 8.2.4.1 and 8.2.4.2** **Examinee rotates the control switches for 1IA012B(13B) ADS IA CNMT Inbd Isol Vlv to CLOSE and release and verifies red light OFF, green light ON.** **1IA012B Closed SAT__ UNSAT __ Comment No. __** **1IA013B Closed SAT__ UNSAT __ Comment No. __**	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7	Verifies Backup Air Bottles auto align.	3101.01 8.2.4.1 and 8.2.4.2 Examinee verifies 1IA012A (13A) opens. 1IA012A Open SAT__ UNSAT __ Comment No. __ 1IA013A Open SAT__ UNSAT __ Comment No. __	___	___	___
8	Verifies ADS Instrument Air Header pressure within procedural limits.	3101.01 8.2.4.3 Examinee verifies (1H13-P601, 5067): • ADS Instrument Air Hdr Pressure, 1PI-IA078/79 > 147.5 psig. • ADS Backup Air Hdr Pressure, 1PI-IA080/81 > 2300 psig. • Examinee locates 1PI-IA078 / 79 on 1H13-P601-5067 and determines Instrument Air Header Pressure is > 147.5 psig. • Examinee locates 1PI-IA080 / 81 on 1H13-P601-5067 and determines Backup Air Header Pressure is > 2300 psig. *Evaluator Cue – When the examinee reports that the ADS Backup Air Bottles have been placed on service, acknowledge the report and state that the JPM is complete.*	___	___	___

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Restore ADS Air Supply To Normal Source (Alternate Path)
JPM Number: JPM427 Revision Number: 03
Task Number and Title: 310101.08 Complete control room actions to perform placing ADS backup air bottles in service.
K/A Number and Importance: 300000 A4.01 / RO (2.6), SRO (2.7)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3101.01 MAIN STEAM (MS, IS & ADS), Rev. 24
- CPS 5040.06 (6F) HIGH/LOW PRESS ADS IA SUPPLY DIV 1 OR 2, Rev. 28b

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

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Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

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

INITIAL CONDITIONS

You are the 'B' RO.

The ADS backup air bottles are in service.

INITIATING CUE

Return ADS to the normal air supply per CPS 3101.01 Main Steam (MS, IS & ADS) step 8.2.4.5.

Report to the CRS after completing the task.

Job Performance Measure

Shift CCP Supply and Exhaust Fans

JPM Number: JPM560

Revision Number: 00

Date: 10/8/18

Developed By:	Tony Jennings Instructor	10/8/18 Date
Validated By:	Aaron Marr SME or Instructor	4/29/19 Date
Reviewed By:	Pat Bulpitt Operations Representative	6/3/19 Date
Approved By:	Tony Jennings Training Department	6/3/19 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

_____ 1. Task description and number, JPM description and number are identified.

_____ 2. Knowledge and Abilities (K/A) references are included.

_____ 3. Performance location specified. (in-plant, control room, simulator, or other)

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating cue (and terminating cue if required) are properly identified.

_____ 6. Task standards identified and verified by SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 3408.01 Rev: 20e
Procedure 5043.01 Rev: 22a
Procedure_____ Rev:_____

_____ 10. Verify cues both verbal and visual are free of conflict.

_____ 11. Verify performance time is accurate

_____ 12. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 13. When JPM is initially validated, sign and date JPM cover page. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	10/8/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM560 per step 2)
   a. Initialize to any suitable at power IC.
   b. Verify Continuous Containment Purge (CCP) is operating in unfiltered mode with the 'A' supply and exhaust fans in operation.
   c. Freeze the simulator.
   d. This completes the setup for this JPM.
   e. Save to a different IC if JPM is being used more than once. IC-203 (PW 59567) is saved for the ILT 18-1 NRC Exam.

NOTE:	It is okay 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. JPM Administration
   a. Reset to the IC saved after performing step 1 above. IC-203 (PW 59567) is saved for the ILT 18-1 NRC Exam.
   b. No simulator lesson plan is required for this JPM.
   c. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.
   d. Freeze the simulator.

INITIAL CONDITIONS

You are the Extra RO.

Continuous Containment Purge (CCP) is operating in unfiltered mode IAW CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ).

A field operator has been briefed and is standing by to perform any required field operations.

INITIATING CUE

The CRS has directed you to shift the CCP Supply and Exhaust Fans IAW CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ) section 8.1.2.5 Shifting the CCP Supply and/or Exhaust Fans.

Radiation Protection has been notified of the ventilation system shift.

Report to the CRS after completing the task.

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

Information For Evaluator's Use:

Task Standard: The examinee will shift the operating Continuous Containment Purge (CCP) supply and exhaust fans to the standby supply and exhaust fans.

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Cue	Provide the examinee with a copy of CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ).				
***1**	Selects non-running CCP Supply Fan to lead.	**3408.01 8.1.2.5.1** **Examinee rotates CNMT BLDG SPLY FAN 1VR06CA/CB Selector Switch to 06CB lead.**	___	___	___
***2**	Shifts CCP Supply Fans.	**3408.01 8.1.2.5.2** **Examinee places CNMT BLDG SPLY FAN 1VR06CA handswitch in Auto-After-Stop and observes:** • **1VR06CB starts (red light ON, green light OFF)** • **CNMT BLDG SPLY FAN ISOL VLV 1VR004B opens (red light ON, green light OFF)** • **1VR06CA trips (red light OFF, green light ON).** • **CNMT BLDG SPLY FAN ISOL VLV 1VR004A closes (red light OFF, green light ON).** *Examiner Cue – if the examinee reports receipt of annunciators 5043-1G AUTO START VR SYSTEM CCP SUP/EXH FAN and/or 5042-7C HI/LO DP CNMT BLDG, acknowledge the report.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
3*	Normalizes HS for 1VR06CB.	**3408.01 8.1.2.5.3** **Examinee places Place CNMT BLDG SPLY FAN 1VR06CB handswitch for the running fan in Auto-After-Start and verifies 5043-1G AUTO START VR SYSTEM CCP SUP/EXH FAN resets.** *Examiner Cue – if the examinee reports reset of annunciator 5043-1G AUTO START VR SYSTEM CCP SUP/EXH FAN, acknowledge the report.*	___	___	___
***4**	Selects non-running CCP Exhaust Fan to lead.	**3408.01 8.1.2.5.4** **Examinee rotates CNMT BLDG EXH FAN 1VR07CA/CB Selector Switch to 07CB lead.**	___	___	___
***5**	Shifts CCP Exhaust Fans.	**3408.01 8.1.2.5.5** **Examinee places CNMT BLDG EXH FAN 1VR07CA handswitch in Auto-After-Stop and observes:** • **1VR07CB starts (red light ON, green light OFF)** • **CNMT BLDG SPLY FAN ISOL VLV 1VR009B opens (red light ON, green light OFF)** • **1VR07CA trips (red light OFF, green light ON).** • **CNMT BLDG SPLY FAN ISOL VLV 1VR009A closes (red light OFF, green light ON).** *Examiner Cue – if the examinee reports receipt of annunciator 5043-1G AUTO START VR SYSTEM CCP SUP/EXH FAN, acknowledge the report.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6*	Normalizes HS for 1VR07CB.	**3408.01 8.1.2.5.6** **Examinee places Place CNMT BLDG EXH FAN 1VR07CB handswitch for the running fan in Auto-After-Start and verifies 5043-1G AUTO START VR SYSTEM CCP SUP/EXH FAN resets.** *Examiner Cue – if the examinee reports reset of annunciator 5043-1G AUTO START VR SYSTEM CCP SUP/EXH FAN, acknowledge the report.*	___	___	___
7	Verifies Primary to Secondary Containment differential pressure in specification.	3408.01 8.1.2.5.7 Examinee directs field operator to verifies Primary Containment to Secondary Containment differential pressure stabilizes between -0.25 and +0.25 psid. *Evaluator Cue – Cue the examinee that Primary to Secondary Containment dP is 0 psid.*	___	___	___
8	Verifies Drywell to Primary Containment differential pressure in specification.	3408.01 8.1.2.5.8 Check that Drywell to Primary Containment differential pressure stabilizes between -0.2 and +1.0 psid. *Evaluator Note – This action is performed in the NSPS panels in the MCR and is not available in the simulator.* *Evaluator Cue – Cue the examinee that the 'B' RO has checked Drywell to Primary Containment differential pressure has stabilized between -0.2 and +1.0 psid.*	___	___	___
CUE	Cue the examinee that the JPM is complete.				

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Shift CCP Supply and Exhaust Fans
JPM Number: JPM560 Revision Number: 00
Task Number and Title: 340801.44 Shift the CCP Supply and/or Exhaust Fans
K/A Number and Importance: 288000 A4.01 / RO (3.1), SRO (2.9)
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3408.01 CONTAINMENT BUILDING/DRYWELL HVAC (VR, VQ), Rev. 20e
- CPS 5043.01 (1G) AUTO START VR SYSTEM CCP SUP/EXH FAN, Rev. 22a

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

Testing Method: ☐ Simulate ☒ Perform

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

EVALUATION SUMMARY:
Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ No

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

Comments: _____

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_____

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date**: _____

INITIAL CONDITIONS

You are the Extra RO.

Continuous Containment Purge (CCP) is operating in unfiltered mode IAW CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ).

A field operator has been briefed and is standing by to perform any required field operations.

INITIATING CUE

The CRS has directed you to shift the CCP Supply and Exhaust Fans IAW CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ) section 8.1.2.5 Shifting the CCP Supply and/or Exhaust Fans.

Radiation Protection has been notified of the ventilation system shift.

Report to the CRS after completing the task.