Job Performance Measure

Transfer RR Fast to Slow with Trip of One Pump - Alternate Path

JPM Number: JPM215

Revision Number: 04

Date: 3/5/18

Developed By:	Tony Jennings Instructor	3/5/18 Date
Validated By:	Cuong Hoang SME or Instructor	4/1/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 3302.01 Rev: 36c
Procedure 4008.01 Rev: 20c
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	7/9/07	Updated numbering convention. Old JPM number: 33020124LSA01.
01	8/18/10	Minor Technical Changes
02	3/11/13	Updated procedure revisions, footers and headers.
03	6/22/16	Updated procedure references.
04	3/5/18	Updated to new JPM template. Updated procedure references.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM215 per step 2)
   a. Reset the simulator to any at power IC for plant shutdown with the following conditions:
      1) ~ 32% power
      2) RR 'A' and 'B' FCVs set at ~ 15% (minimizes the time required to administer the JPM).
      3) One TDRFP running in Automatic on the Master Level Controller.
   b. Save to a different IC if JPM is being used more than once. IC-218 (pw 78910) is saved for the ILT 17-1 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 the simulator to the IC saved in Step 1 above.
   b. Open and execute Simulator Lesson Plan JPM215 containing the following:
      1) Malfunction RR07A-RECIRC PUMP A INCOMPLETE START SEQUENCE.
      2) Remote 1 to insert:
         a) RR PMP A S126A-S127A KEYLOCK SWITCH to BYPASS
         b) RR PMP B S126B-S127B KEYLOCK SWITCH to BYPASS
   c. Verify robust barriers are on both RR Pumps Suction Valves pushbuttons.
   d. This completes the setup for this JPM.
   e. Save to a different IC if required.
   f. Freeze the simulator.

INITIAL CONDITIONS

A plant shutdown is in progress with power at approximately 33% of rated thermal power.

The next step in the shutdown is to transfer RR Pumps 'A' and 'B' to slow speed.

INITIATING CUE

The CRS has directed you to transfer both RR Pumps to slow speed per CPS 3302.01 Reactor Recirculation (RR).

Annunciators associated with Reactor Recirculation Pump transfer are to be considered "Expected Annunciators" and treated as such. All other annunciators not associated with the Reactor Recirculation System will be handled by the Extra RO.

REMA indicates it is permissible to enter the Controlled Entry Region.

Equipment Operators are standing by at the LFMG Aux Relay Panels.

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:

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 3302.01 Reactor Recirculation (RR).				
***1**	8.1.3 Transfers RR Pumps to Slow Speed.	**Examinee locates and depresses:** • **LFMG A MTR BKR 1A close pushbutton (verifies red light on, green light off), and** • **LFMG B MTR BKR 1B close pushbutton (verifies red light on, green light off)** *Examiner note – if examinee reports start of the LFMGs, acknowledge the report.*	___	___	___
		Examinee directs Equipment Operator(s) to place the following keylock switches in BYPASS: • S126A Power Interlock (Both on FB 781' East) • S127A Total Feedwater Low Flow Interlock • S126B Power Interlock (Both on FB 781' West) • S127B Total Feedwater Low Flow Interlock *Examiner Note – Cue the simulator booth operator to insert REMOTE1. When annunciators 5003-4C and 5003-4J actuate, cue the examinee that S126A, S127A, S126B, and S127B are in BYPASS.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***1 (cont.)**	8.1.3 (cont')	Examinee simulates: • calling RP to notify them of potential Rad level changes • making Gaitronics announcement of transferring RR Pumps to Slow Speed. *Examiner Note – When the examinee notifies RP of the pump shift, acknowledge the notification.*			
		Examinee positions both FCV slide levers (one at a time) to the left until both 1B33-F060A & B, Recirc FCVs are at ~ 10% (but not > 10%) position. *Examiner Note – Alarms 5006-3D OPRM Enabled, 5004-3D & 5005-3D TCV/TSV Trip Bypassed, and 5006-3H Low Power Alarm Point are expected alarms.*			
		Examinee simultaneously depresses both Transfer to LFMG A and B push-buttons. *Examiner Note – If the examinee issues reports concerning the RR Pump transfer operation, acknowledge the report.*			
Alternate Path Begins					
2	Diagnoses trip of the 'A' RR Pump.	Examinee observes: • 5A and 5B breakers open • 2B breaker closes • 2A breaker fails to close.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	Executes immediate actions for CPS 4008.01 Abnormal Coolant Flow.	Examinee locates and depresses the "Close" pushbutton for 1B33-F067A Discharge Valve and verifies red light extinguishes and green light illuminates. *Examiner Note – If the examinee issues reports concerning the RR Pump trip and/or 1B33-F067A status, acknowledge the report.*			
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: Transfer RR Fast to Slow With Trip of One Pump – Alternate Path
JPM Number: JPM215 Revision Number: 04
Task Number and Title: 330201.24 RR Pump Transfer To Slow Speed
K/A Number and Importance: 202001 A2.03 / RO (3.6), SRO (3.7)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3302.01 Reactor Recirculation (RR), Rev. 36c
- CPS 4008.01 Abnormal Reactor Coolant Flow, Rev. 20c

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 20 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 plant shutdown is in progress with power at approximately 33% of rated thermal power.

The next step in the shutdown is to transfer RR Pumps 'A' and 'B' to slow speed.

INITIATING CUE

The CRS has directed you to transfer both RR Pumps to slow speed per CPS 3302.01 Reactor Recirculation (RR).

Annunciators associated with Reactor Recirculation Pump transfer are to be considered "Expected Annunciators" and treated as such. All other annunciators not associated with the Reactor Recirculation System will be handled by the Extra RO.

REMA indicates it is permissible to enter the Controlled Entry Region.

Equipment Operators are standing by at the LFMG Aux Relay Panels.

Report to the CRS after completing the task.

Job Performance Measure

MDRFP Shutdown

JPM Number: JPM558

Revision Number: 00

Date: 3/5/18

Developed By:	Tony Jennings Instructor	3/5/18 Date
Validated By:	Mark McCleary SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/20/18 Date
Approved By:	Tony Jennings Training Department	4/20/18 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 3103.01_____ Rev: 31f__
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	3/5/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM558 per step 2)
   a. Reset the simulator to any at power IC with a TDRFP and the MDRFP operating in parallel (~22% power).
   b. Make sure 1FW004 is in manual and throttled open, but NOT on the Master Level Controller.
   c. This completes the setup for this JPM.
   d. Save to a different IC if JPM is being used more than once. IC-219 (PW 78910) is saved for the ILT 17-1 NRC Exam.
   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.

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 is saved for the ILT 17-1 NRC Exam (PW 78910).
   b. Prepare a working copy of CPS 3103.01 by marking up pages 63, 64 & 65 as follows:
      1) Note and Caution statements before 8.1.5 – slashed
      2) All steps up to but not including 8.1.5.5 – circled and slashed
      3) 8.1.5.5 - circled
      4) 8.1.5.5 AUTO 1) & 2) – N/A'ed
      5) 8.1.5.5 MANUAL 1) – circled and slashed
   c. No simulator lesson plan is required for this JPM.
   d. Save to a different IC if required.
   e. Freeze the simulator.

INITIAL CONDITIONS

You are an extra RO in the MCR.

The plant is in Mode 1 performing a power ascension.

CPS 3103.01 Feedwater (FW) section 8.1.5 Transition from MDRFP to a TDRFP is in progress. Steps 8.1.5.1 through 8.1.5.5 MANUAL 1) are complete.

Feedwater system status is as follows:

- 'A' TDRFP is operating in automatic on the MLC
- MDRFP FRV is in manual and throttled open.

INITIATING CUE

The CRS has directed you to shutdown the MDRFP using the MANUAL method IAW CPS 3103.01 Feedwater section 8.1.5 Transition from MDRFP to a TDRFP, beginning at MANUAL 2).

Ensure actions are taken to minimize the feed water suction pressure transient during the operation.

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:

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 marked up copy of CPS 3103.01 Feedwater.				
*1	8.1.5.5 / 8.1.8 MDRFP Shutdown	On DFW touchscreen, examinee presses the 1FW004 FRV Close arrow until the valve indicates closed (green indication and O = 0%).	___	___	___
*2		On DFW touchscreen, examinee presses the 1FW010C icon, then presses open button on 1FW010C (red flagged).	___	___	___
*3		On DFW touchscreen, examinee presses the: • MDRFP icon • RFP 1C Stop Start button • Stop button	___	___	___
*4		On DFW touchscreen, examinee presses the: • 1FW010C icon • 1FW010C Min Flow • M button (for manual) • Lock M/A button • Down Arrow (to close 1FW010C) (until 1FW010C indicates closed / green and O = 0%) • Close button on 1FW010C • Lock M/A button (to deselect) • A button (for Auto)	___	___	___
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: MDRFP Shutdown
JPM Number: JPM558 Revision Number: 00
Task Number and Title: 310301.41 MDRFP Shutdown.
K/A Number and Importance: 259001 A4.01/ RO (3.6), SRO (3.5)
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 3103.01 Feedwater (FW) Rev. 31f

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 25 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 an extra RO in the MCR.

The plant is in Mode 1 performing a power ascension.

CPS 3103.01 Feedwater (FW) section 8.1.5 Transition from MDRFP to a TDRFP is in progress. Steps 8.1.5.1 through 8.1.5.5 MANUAL 1) are complete.

Feedwater system status is as follows:

- 'A' TDRFP is operating in automatic on the MLC
- MDRFP FRV is in manual and throttled open.

INITIATING CUE

The CRS has directed you to shutdown the MDRFP using the MANUAL method IAW CPS 3103.01 Feedwater section 8.1.5 Transition from MDRFP to a TDRFP, beginning at MANUAL 2).

Ensure actions are taken to minimize the feed water suction pressure transient during the operation.

Report to the CRS after completing the task.

Job Performance Measure

Main Turbine Control Valve Tests

JPM Number: JPM501

Revision Number: 00

Date: 3/6/18

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Mark McCleary SME or Instructor	4/1/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 9031.07_____ Rev: 34___
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	3/6/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM501 per step 2)
   a. Reset the simulator to any at power IC with the Main Turbine on-line.
   b. This completes the setup for this JPM.
   c. 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.
   d. Save to a different IC if JPM is being used more than once. IC-218 (PW 78910) is saved for the ILT 17-1 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 78910) is saved for the ILT 17-1 NRC Exam.
   b. No simulator lesson plan is required for this JPM.
   c. Ensure computer points C71-NC013, 14, 15, 16, 17, 18, 19, and 20 are displayed on PPC Display #10.
   d. Prepare a copy of CPS 9031.07 with section 5.0 marked as complete. Ensure step 5.9.2 is marked up as follows:
      1) 115 VAC Present? – No for each CV
      2) Contact Continuity – Open for each CV
      3) Results – SAT for each CV
   e. Freeze the simulator.

INITIAL CONDITIONS

The plant is in Mode 1.

The Main Turbine is on-line.

CPS 9031.07 Main Turbine Control Valve Tests is scheduled to be performed on your shift.

INITIATING CUE

The CRS has directed you to perform CPS 9031.07 Main Turbine Control Valve Tests on #1. #2, #3, and #4 Turbine Control Valves (CVs).

CPS 9031.07 Section 5.0 Prerequisites are complete.

The activity has been screened for production risk.

Another operator will monitor CV positions on 1H13-P678.

Plant conditions are stable.

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:

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 time clock 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 9031.07 Main Turbine Control Valve Tests. Ensure an instructor is stationed at 1H13-P678 Standby Information Panel to monitor CV position during the test.				
1	Performs pre-test verifications for CV-1.	Examinee verifies: • RPS and turbine trips reset and plant conditions stable, and • Section 5.0 Prerequisites complete and acceptable for CV-1. *Evaluator Note – if requested by the examinee, initial step 8.1.1 as the independent verifier.*	___	___	___

CUE	For step 2, provide the following cues when requested by the examinee: • Instructor at 1H13-P678 (when CV-1 has been closed), “CV-1 operated smoothly, indicates closed, and fast closed the last 10% of valve travel”. • Instructor at 1H13-P678 (when CV-1 has been re-opened), “CV-1 has returned to the pre-test position”. • Instructor at 1H13-P678 (when CV-1 has been re-opened) – Initial the IV for step 8.1.4.1.				
***2**	Tests CV-1.	Examinee depresses and holds the CV-1 TEST push-button, and then verifies the following: • 5004-2D DIV 1 OR 4 TCV FST CL TRIP annunciator energizes. • Computer point C71NC017 TCV FAST CLOSURE CH A actuation. • Smooth CV-1 operation with fast closing during ~ the last 10% of valve closure. Examinee releases the CV-1 TEST push-button, and then verifies the following: • CV-1 returns to pre-test position. • 5004-2D DIV 1 OR 4 TCV FST CL TRIP annunciator de-energizes. • Computer point C71NC017 TCV FAST CLOSURE CH A resets.			
3	Performs pre-test verifications for CV-2.	Examinee verifies: • RPS and turbine trips reset and plant conditions stable, and • Section 5.0 Prerequisites complete and acceptable for CV-2. *Evaluator Note – if requested by the examinee, initial step 8.2.1 as the independent verifier.*	___	___	___

CUE	For step 4, provide the following cues when requested by the examinee: • Instructor at 1H13-P678 (when CV-2 has been closed), “CV-2 operated smoothly, indicates closed, and fast closed the last 10% of valve travel”. • Instructor at 1H13-P678 (when CV-2 has been re-opened), “CV-2 has returned to the pre-test position”. • Instructor at 1H13-P678 (when CV-2 has been re-opened) – Initial the IV for step 8.2.4.1.				
***4**	Tests CV-2.	Examinee depresses and holds the CV-2 TEST push-button, and then verifies the following: • 5005-2D DIV 2 OR 3 TCV FST CL TRIP annunciator energizes. • Computer point C71NC018 TCV FAST CLOSURE CH B actuation. • Smooth CV-2 operation with fast closing during ~ the last 10% of valve closure. Examinee releases the CV-2 TEST push-button, and then verifies the following: • CV-2 returns to pre-test position. • 5005-2D DIV 2 OR 3 TCV FST CL TRIP annunciator de-energizes. • Computer point C71NC018 TCV FAST CLOSURE CH B resets.			
5	Performs pre-test verifications for CV-3.	Examinee verifies: • RPS and turbine trips reset and plant conditions stable, and • Section 5.0 Prerequisites complete and acceptable for CV-3. *Evaluator Note – if requested by the examinee, initial step 8.3.1 as the independent verifier.*	___	___	___

CUE	For step 6, provide the following cues when requested by the examinee: • Instructor at 1H13-P678 (when CV-3 has been closed), “CV-3 operated smoothly, indicates closed, and fast closed the last 10% of valve travel”. • Instructor at 1H13-P678 (when CV-3 has been re-opened), “CV-3 has returned to the pre-test position”. • Instructor at 1H13-P678 (when CV-3 has been re-opened) – Initial the IV for step 8.3.4.1.				
***6**	Tests CV-3.	Examinee depresses and holds the CV-3 TEST push-button, and then verifies the following: • 5005-2D DIV 2 OR 3 TCV FST CL TRIP annunciator energizes. • Computer point C71NC019 TCV FAST CLOSURE CH C actuation. • Smooth CV-3 operation with fast closing during ~ the last 10% of valve closure. Examinee releases the CV-3 TEST push-button, and then verifies the following: • CV-3 returns to pre-test position. • 5005-2D DIV 2 OR 3 TCV FST CL TRIP annunciator de-energizes. • Computer point C71NC019 TCV FAST CLOSURE CH B resets.			
7	Performs pre-test verifications for CV-4.	Examinee verifies: • RPS and turbine trips reset and plant conditions stable, and • Section 5.0 Prerequisites complete and acceptable for CV-4. • CV-4 is fully closed *Evaluator Note – if requested by the examinee, initial step 8.4.1 as the independent verifier.*	___	___	___

CUE	For step 8, provide the following cues when requested by the examinee: • Instructor at 1H13-P678 (when asked to verify CV-4 position), “CV-4 indicates closed.” • Instructor at 1H13-P678 (when CV-4 Test push-button has been released), “CV-4 indicates closed”. • Instructor at 1H13-P678 (when CV-4 Test push-button has been released) – Initial the IV for step 8.4.5.1.				
***8**	Tests CV-4.	Examinee depresses and holds the CV-4 TEST push-button, and then verifies the following: • 5004-2D DIV 1 OR 4 TCV FST CL TRIP annunciator energizes. • Computer point C71NC020 TCV FAST CLOSURE CH D actuation. Examinee releases the CV-4 TEST push-button, and then verifies the following: • CV-4 remains closed. • 5004-2D DIV 1 OR 4 TCV FST CL TRIP annunciator de-energizes. • Computer point C71NC020 TCV FAST CLOSURE CH D resets.			
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: Main Turbine Control Valve Tests
JPM Number: JPM501 Revision Number: 00
Task Number and Title: 903107.01 Main Turbine Control Valve Tests.
K/A Number and Importance: 241000 A1.08 / RO (3.3), SRO (3.2)
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 9031.07 Main Turbine Control Valve Tests, Rev. 34

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 25 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

The plant is in Mode 1.

The Main Turbine is on-line.

CPS 9031.07 Main Turbine Control Valve Tests is scheduled to be performed on your shift.

INITIATING CUE

The CRS has directed you to perform CPS 9031.07 Main Turbine Control Valve Tests on #1. #2, #3, and #4 Turbine Control Valves (CVs).

CPS 9031.07 Section 5.0 Prerequisites are complete.

The activity has been screened for production risk.

Another operator will monitor CV positions on 1H13-P678.

Plant conditions are stable.

Report to the CRS after completing the task.

Job Performance Measure

Restore RPV Water Level Using Low Pressure ECCS – Alternate Path

JPM Number: JPM416

Revision Number: 00

Date: 3/6/18

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Cuong Hoang SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 CPS 3313.01 Rev: 17
Procedure CPS 3312.01 Rev: 46
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	3/6/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM416 per step 2)
   a. Initialize to any suitable shutdown/depressurized IC such as IC-15.
   b. Shut RPV Inlet Valves 1B21-F065A and 1B12-F065B.
   c. Lower RPV level below Level 3 and above Level 2 using RT letdown.
   d. Freeze the simulator.
   e. This completes the setup for this JPM.
   f. Save to a different IC if JPM is being used more than once. IC-220 (PW 78910) is saved for the ILT 17-1 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 is saved for the ILT 17-1 NRC Exam (PW 78910).
   b. Open and execute Simulator Lesson Plan ILT 17-1NRC Exam JPMs LP.
      1) Release JPM416 which will establish initial conditions for the JPM (RPV pressure less than 55 psig (below the discharge head of the LPCS and RHR 'A' pumps, Drywell Pressure less than 1.68 psig, Division 1 ECCS initiation logic not sealed in).
         a) S_A05_A02_A09S61B_1 LPCS/LPCI FM RHR A MAN INIT PB overridden in the 'Release' position.
         b) Insert malfunctions LP17BE21C1FTC LPCS Pump Bkr Fails To Close and RH51BE12C2AFTC RHR Pump A Bkr Fails To Close.
         c) Overrides control switches for RPV Inlet Valves 1B21-F065A and 1B12-F065B to shut (A04_A27_S05) and A04_A27_S05 Close).
         d) YP_XMFTB_1 HPCS Pump shaft sheared.
         e) 4160V Bus 1B1 de-energized by overriding control switches for RAT, ERAT, and DG Feed Breakers to PTL (A05_A01_A06S05 PTL, A05_A01_A06S12 PTL, A05_A01_A06S04 PTL).
   c. 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.
   d. Save to a different IC if required.
   e. Freeze the simulator.

INITIAL CONDITIONS

You are the 'B' RO.

Plant conditions are as follows:

- A loss of high pressure injection has caused low RPV water level.
- 4160V Bus 1B1 has de-energized due to a fault.

INITIATING CUE

The CRS has directed you to restore RPV Level between Level 3 and Level 8 using available Low Pressure ECCS pumps.

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:

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 Note - JPM step 1 is performed using either: • CPS 3313.01H001 LPCS MANUAL INITIATION – SHUTDOWN HARD CARD, or • CPS 3312.01H001 LPCI INITIATION and SHUTDOWN HARD CARD				
1	Manually initiates Div 1 Low Pressure ECCS Systems (LPCS / RHR 'A')	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 • determines that neither LPCS nor RHR Pump 'A' have started by observing the pump green indicating lights remain illuminated and the red lights remain extinguished. *Evaluator Cue – As the CRS, acknowledge the report from the examinee that neither LPCS nor RHR Pump 'A' has started.* *Evaluator Note – the examinee should recognize that the LPCS and LPCI 'A' initiation logic is not operable and proceed to 3312.01 (RHR) or 3313.01 (LPCS) section 8.1.4 (Manual Initiation – Logic Not Operable).* *Evaluator Note – the examinee may attempt to start the LPCS or RHR 'A' Pump using the pump control switch (taking manual actions for auto actions that did not occur). This is an acceptable action.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
2	Manually initiates Div 1 Low Pressure ECCS Systems (LPCS / RHR 'A') – Logic Not Operable	Examinee performs one of the following: • On 1H13-P601-5063, examinee rotates the pump control switch clockwise for 1E21-C001 LPCS Pump to the 'START' position, OR • On 1H13-P601-5064, examinee rotates the pump control switch clockwise for 1E12-C002A RHR Pump 'A' to the 'START' position. Examinee observes the chosen pump has tripped (red light OFF, green and amber lights ON). *Evaluator Cue – If the examinee reports the chosen pump has tripped, acknowledge the report.*	___	___	___
Alternate Path Begins					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	Manually initiates the un-tripped Div 1 ECCS Pump.	Examinee performs one of the following for the un-tripped Div 1 ECCS Pump: • On 1H13-P601-5063, examinee rotates the pump control switch clockwise for 1E21-C001 LPCS Pump to the 'START' position, OR • On 1H13-P601-5064, examinee rotates the pump control switch clockwise for 1E12-C002A RHR Pump 'A' to the 'START' position. Operator observes: • chosen pump has started (red light ON, green and amber lights OFF). • chosen pump motor current meter pegs high, and then drops into the meter green band. *Evaluator Cue – If the examinee reports the non-tripped pump has been started, acknowledge the report.*			

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4	Initiates injection into the RPV using the running ECCS pump.	Examinee: • opens the running ECCS Pump Injection Valve (1E21-F005 or 1E12-F042A) and observes RED light ON and green light OFF. • observes the running ECCS Pump flow indicator (E21-R600 or E12-R603A) is increasing. • observes rising RPV level and then restores and maintains RPV level between Level 3 and Level 8. *Evaluator Note – If RPV level rises above Level 8 (as evidenced by receipt of 5004-3A and/or 5005-3A), it is a competency hit, not a critical task failure.* *Evaluator Cue – When the examinee reports that RPV level has been restored, acknowledge the report and 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: Restore RPV Water Level Using Low Pressure ECCS – Alternate Path

JPM Number: JPM416 Revision Number: 00

Task Number and Title: 331201.04 LPCI Manual Initiation with Logic NOT Operable, and 331301.03 Manual LPCS Initiation with Logic NOT Operable.

K/A Number and Importance:

K/A System	K/A Number	Importance (RO/SRO)	
209001	A4.01	3.8	3.6
203000	A4.01	4.3	4.1
209001	A4.11	3.7	3.6

Suggested Testing Environment: Simulator

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

Reference(s):

- CPS 3313.01 Low Pressure Core Spray (LPCS), Rev. 17
- CPS 3312.01 Residual Heat Removal (RHR) Rev. 46

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)

INITIAL CONDITIONS

You are the 'B' RO.

Plant conditions are as follows:

- A loss of high pressure injection has caused low RPV water level.
- 4160V Bus 1B1 has de-energized due to a fault.

INITIATING CUE

The CRS has directed you to restore RPV Level between Level 3 and Level 8 using available Low Pressure ECCS pumps.

Hard Card use is authorized.

Report to the CRS after completing the task.

Job Performance Measure

CNMT Pool Makeup From Suppression Pool

JPM Number: JPM531

Revision Number: 02

Date: 3/6/18

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Mark McCleary SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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: 46
Procedure 3317.01 Rev: 32d
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	8/25/15	New JPM.
01	7/28/17	Updated initiating cue to reflect new hard card 4411.03H001. Made the JPM setup more automatic.
02	3/6/18	Updated procedure references and changed to new JPM template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM531 per step 2)
   a. Reset the simulator to any Mode 4 IC with RHR Pump 'A' in standby.
   b. Dump the upper containment pools by performing the following:
      1) Shut 1FC036, FC Sply CNMT Outbd Isol Vlv.
      2) Shut 1FC037, FC Sply CNMT Inbd Isol Vlv.
      3) Open 1SM001A, Supp Pool Dump Vlv.
      4) Open 1SM002A, Supp Pool Dump Vlv.
      5) Open 1SM001B, Supp Pool Dump Vlv.
      6) Open 1SM002B, Supp Pool Dump Vlv.
   c. **Shut 1SM001A, 2A, 1B, AND 2B as <u>soon</u> as 5040-5E LOW LEVEL CNMT XFER POOL is received (note – delaying this action will add substantial time to the JPM).**
   d. This completes the setup for this JPM.
   e. Save to a different IC if JPM is being used more than once. IC-229 (PW 78910) is saved for the ILT 17-1 NRC Exam.
   f. 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.

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-229 is saved for the ILT 17-1 NRC Exam (PW 78910).
   b. Open and execute simulator lesson plan for the ILT 17-1N JPMs.
   c. When requested by the examinee, release JPM531to energize 1E12-F037A.
   d. Save to a different IC if required.
   e. Freeze the simulator.

INITIAL CONDITIONS

The plant is in Mode 4.

An event occurred requiring the Upper Containment Pools to be dumped using CPS 4411.03H001, DUMP UPPER POOL Hard Card.

The event has been mitigated and recovery actions are in progress.

The Supp Pool Dump Valves (1SM001A, 2A, 1B, and 2B) have been reclosed IAW CPS 3220.01 Suppression Pool Makeup (SM) section 8.7 Recovery from Suppression Pool Dump Valve Actuation.

An Equipment Operator has performed the valve alignment verifications in CPS 3317.01 steps 8.1.4.9.1 and 8.1.4.9.2, and is standing by on Containment 828' Elevation to monitor Upper Containment Pool level locally.

INITIATING CUE

The CRS has directed you to restore Upper Containment Pool level per CPS 3312.01 Residual Heat Removal (RHR) section 8.3.2 Pumping Suppression Pool To CNMT Pool using Residual Heat Removal (RHR) Pump 'A'.

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:

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 a copy of: • CPS 3317.01, Fuel Pool Cooling and Cleanup (FC) with steps 8.1.4.9.1 and 8.1.4.9.2 marked as complete. • CPS 3312.01, Residual Heat Removal (RHR).				
	Evaluator Note The cue for critical step #3 to close 1E12-F037A is triggered when annunciator 5040-5F Low Level Upper CNMT Pool resets. Be prepared to provide the cue to the examinee when annunciator 5040-5F resets.				
***1**	3312.01 8.3.2 Performs pre-transfer activities.	Examinee notifies Chemistry that Suppression Pool water will be transferred to the Upper Containment Pools. *Evaluator Cue – As the Chemistry Technician, report to the examinee that the water in the Suppression Pool meets the chemistry requirements for transfer to the Upper Containment Pools.*	___	___	___
		Examinee verifies CPS 3317.01 8.1.4.9.1 and 8.1.4.9.2 are complete (provided in the initiating cue).	___	___	___
		Examinee directs an Equipment Operator to monitor Upper Cnmt Pool Level. *Evaluator Cue – As the Equipment Operator, acknowledge the order and report that you are staged by the Upper Containment Pools.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***1 (cont.)**	3312.01 8.3.2 (cont.)	**Examinee directs an Equipment Operator to:** • **shut the breaker for 1E12-F037A at AB MCC 1A2 Cub 1B**, and • place Alarm Bypass Switch 1E12S070A to Normal at AB MCC 1A2 Cub 1B. *Evaluator Cue – As the Equipment Operator, acknowledge the order and then cue the simulator booth operator to insert REMOTE1.* *Evaluator Note – closing the breaker for 1E12-F037A is the only portion of step 1 that is critical.*			
		Examinee verifies: • 1RIX-PR038 Shutdown Service Water A Effluent PRM indicates reliable on the MCR AR/PR LAN • 1E12-F048A RHR 'A' Heat Exchanger Bypass Valve is open (red light on, green light off).			
***2**	8.3.2.9 – 8.3.2.11 Starts RHR Pump A and commences SP to Upper Cnmt Pool transfer.	**Examinee starts RHR Pump 'A' and verifies the pump is running (red light is ON, green light is Off) and current is indicated on RHR Pump A Amps Meter.** *Evaluator Cue – If the examinee reports starting RHR Pump 'A', acknowledge the report.*			

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2 (cont.)**	8.3.2.9 - 8.3.2.11 (cont.)	Examinee: • **Opens1E12-F037A until RHR Pump A Flow indicator E12-R603A indicates ≥4300 gpm at 1H13-P601-5064.** • Verifies flow to CNMT pools by observing flow on RHR Pump A flow meter. *Evaluator Cue – If the examinee reports commencing filling the Upper Containment Pools to the Equipment Operator and/or the CRS, acknowledge the report. If Equipment Operator is asked if the Upper Containment Pool Level is rising, cue the examinee the Upper Containment Pool Level is rising.*			

Evaluator Note The cue for critical step #3 to close 1E12-F037A is triggered when annunciator 5040-5F Low Level Upper CNMT Pool resets. Be prepared to provide the cue to the examinee when annunciator 5040-5F resets.					
***3**	8.3.2.12 Secures Suppression Pool to Upper Containment Pool transfer.	**Examinee shuts 1E12-F037A until the green light is ON and the red light is OFF.** *Evaluator Cue – When annunciator 5040-5F Low Level Upper Cnmt Pool RESETS, cue the examinee (as the Equipment Operator in the Containment) that Upper Containment Pool Level has reached the bottom edge of the lowest skimmer.* *Evaluator Note - At 5000 gpm RHR flow, it will take ~ 5-6 minutes for 5040-5F to reset.*			
***4**	Secures RHR Pump A and verifies RHR Loop A in standby.	Examinee: • **Secures RHR Pump and verifies red light is OFF and green light is ON.** • Verifies RHR Loop A in standby per Appendix A. *Evaluator Cue – If the examinee reports securing RHR Pump 'A', acknowledge the report.* *Evaluator Note – If the examinee proceeds to Appendix A, cue him/her that the JPM is complete.*			
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: CNMT Pool Makeup From Suppression Pool
JPM Number: JPM531 Revision Number: 02
Task Number and Title: 331201.26 Pump the Suppression Pool To CNMT Pool
K/A Number and Importance: 223001 2.1.23 / 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 3312.01 Residual Heat Removal (RHR), Rev. 46
- CPS 3317.01 Fuel Pool Cooling and Cleanup (FC), Rev. 32d

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 21 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

The plant is in Mode 4.

An event occurred requiring the Upper Containment Pools to be dumped using CPS 4411.03H001, DUMP UPPER POOL Hard Card.

The event has been mitigated and recovery actions are in progress.

The Supp Pool Dump Valves (1SM001A, 2A, 1B, and 2B) have been reclosed IAW CPS 3220.01 Suppression Pool Makeup (SM) section 8.7 Recovery from Suppression Pool Dump Valve Actuation.

An Equipment Operator has performed the valve alignment verifications in CPS 3317.01 steps 8.1.4.9.1 and 8.1.4.9.2, and is standing by on Containment 828' Elevation to monitor Upper Containment Pool level locally.

INITIATING CUE

The CRS has directed you to restore Upper Containment Pool level per CPS 3312.01 Residual Heat Removal (RHR) section 8.3.2 Pumping Suppression Pool To CNMT Pool using Residual Heat Removal (RHR) Pump 'A'.

Report to the CRS after completing the task.

Job Performance Measure

Energize 4160V Bus 1B1 - Alternate Path

JPM Number: JPM559

Revision Number: 00

Date: 3/6/18

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Cuong Hoang SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/20/18 Date
Approved By:	Tony Jennings Training Department	4/20/18 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 4200.01_____ Rev: 25___
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	3/6/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (NA if administering JPM559 per step 2)
   a. Reset the simulator to any shutdown Mode 4 IC (such as IC-16).
   b. Place clearance order tag on 1FC01PA CS (in PTL).
   c. Place/verify the RMS in shutdown.
   d. Open and execute simulator lesson plan ILT 17-1N JPMs.
      1) Release JPM559 (Setup).
      2) Wait until DG 1B starts and trips before proceeding.
      3) Release step 2 of the setup lesson plan to remove 1AP09EA Trip and Close Fuses.
      4) Place 4160V Bus 1B1 Mn Bkr 1AP09EA CS in PTL.
      5) This completes the setup for this JPM.
   e. Save to a different IC if JPM is being used more than once. IC-228 (PW 78910) is saved for the ILT 17-1 NRC Exam.
   f. 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.

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-228 is saved for the ILT 17-1 NRC Exam (PW 78910).
   b. Open and execute simulator lesson plan ILT 17-1N JPMs.
      1) Release JPM559 **Administration** (NOT setup).
   c. Save to a different IC if required.
   d. Freeze the simulator.

INITIAL CONDITIONS

The plant was shutdown and operating in Mode 4 when the 4160V Bus 1B1 Main Feed Breaker faulted, resulting in an overcurrent lockout of 4160V Bus 1B1.

- 4160V Bus 1B1 is currently de-energized.
- Power has been lost to FC Pump 1B.
- FC Pump 1A is unavailable.
- 4160V Bus 1B1 Main Feed Breaker has been racked out, which has isolated the 1B1 bus fault.

INITIATING CUE

The CRS directs you to re-energize 4160V Bus 1B1 IAW CPS 4200.01 Loss of AC Power, section 4.2.3 Re-Energizing 4160V Bus 1A1(1B1)[1C1] so that cooling can be restored to the Spent Fuel Pool.

- CPS 4200.01C002 DC Load Shedding During a SBO WILL NOT be performed.
- The ERAT Circuit Switcher B018 is closed.
- The ERAT is available to re-energize 4160V Bus 1B1.
- Field operators are standing by to reset ECCS bus lockouts.

Report to the CRS when 4160V Bus 1B1 is re-energized.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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 4200.01 Loss of AC Power.				
***1**	4.2.3 Aligns 4160V Bus 1B1 Feed Breakers.	On 1H13-P877-5061 examinee: • verifies the control switch for 1AP09EA in PTL • **places the CS for DG 1B Output Bkr 1AP09EH in PTL** • **places the CS for 4160V Bus 1B1 Res Bkr 1AP09EC in PTL** *Examiner Note – placing the ERAT and DG feed breakers in PTL are the only critical portions of step 1. 1AP09EA is placed in PTL as part of the setup for the JPM.*	___	___	___
2	Verifies 4160 V Bus 1B1 sources are ready and aligned to re-energize the bus.	Examinee verifies: • the ERAT is ready to re-energize 4160V Bus 1B1 (*per the initiating cue)* • *Circuit 32 on DC MCC 1B is on (circuit 32 energized per the initiating cue)*	___	___	___
3	Resets 1B1 Bus lockouts (4200.01 step 4.2.3.4).	Examinee directs Equipment Operator to reset 4160V Bus 1B1 bus lockouts. *Examiner Cue – cue the simulator booth operator to release "Reset 1B1 Bus Lockouts (4.2.3.4)", and then cue the examinee that the 1B1 Bus Lockouts have been reset.* *Examiner Note – this step is not critical since the bus lockouts are reset during JPM setup.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4	Aligns ERAT Circuit Switcher B018	Examinee verifies B018 Circuit Switcher closed (provided in the initiating cue, or by verifying red light on, green light off on 1H13-P870-5010).	___	___	___
5	Turns 4160 Bus 1B1 Res Bkr Sync Switch on.	Examinee: • places 4160V Bus 1B1 Res Bkr Sync switch in the ON position, and • determines that the 4160V Bus 1B1 Incoming Voltage meter failed to indicate a value for incoming voltage. *Examiner Cue – When the examinee reports that the 1B1 Reserve Breaker Sync Switch is failed, acknowledge the report and cue him/her that 4160V Bus 1B1 needs to be re-energized to restore cooling to the Spent Fuel Pool.* *Examiner Cue – if the examinee requests Reactor Operator(s) to hold RHR pump B and C control switches in OFF, cue the simulator floor instructor (as an extra RO) to hold the RHR Pump B and C control switches in OFF.* *Examiner Cue – If the examinee requests the Equipment Operator to remove RHR Pump B and C control power fuses, cue the simulator booth operator to release "Remove RHR 'B' and 'C' Pump Control Power Fuses (4.2.4.9)", and then cue the examinee that the control power fuses have been removed for RHR Pumps 'B' and 'C'.* *Examiner Note – If examinee attempts to shut the ERAT feeder breaker it will trip. This is a competency hit.*	___	___	___
Alternate Path Begins					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6	4200.01 Section 4.2.4 Aligns 4160V Bus 1B1 Feed Breakers (step 4.2.4.1).	Examinee verifies the control switches for 1AP09EA, 9EH and 9EC in PTL.	___	___	___
***7**	Places DG 1B Engine Maintenance Switch in LOCKOUT (step 4.2.4.2).	Examinee directs Equipment Operator to place DG 1B Engine Maintenance Switch in LOCKOUT. *Examiner Cue – cue the simulator booth operator to release "DG 1B Maintenance Switch in Lockout (4.2.4.2)", and then cue the examinee that DG 1B Maintenance Switch is in Lockout.*	___	___	___
8	Verifies DG 1B ready to re-energize 4160V Bus 1B1 (4.2.4.3).	Examinee verifies DG 1B ready to re-energize 4160V Bus 1B1. *Examiner Cue – cue the examinee that DG 1B is available and ready to re-energize 4160V Bus 1B1.*	___	___	___
9	Verifies Circuits 14 and 32 on DC MCC 1B are energized (4.2.4.4).	Examinee verifies Ckt 14 and 32 on DC MCC 1B are on. *Examiner Cue – cue the examinee that circuits 14 and 32 on DC MCC 1B are ON per the initiating cue.*	___	___	___
***10**	Resets DG 1B Lockouts (4.2.4.5).	Examinee directs Equipment Operator to reset DG 1B lockout relays. *Examiner Cue – cue the simulator booth operator to release "Reset DG 1B Lockouts (4.2.4.5)", and then cue the examinee that DG 1B lockout relays are reset.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***11**	Prepares DG 1B to re-energize 4160V Bus 1B1 (4.2.4.6 and 4.2.4.7)	Examinee: • **places DG 1B Output Bkr control switch in the AUTO position.** • verifies DG 1B control switch is in Auto After Stop.	___	___	___
12	Disables Div 2 ECCS Systems from auto starting (4.2.4.9).	Examinee directs one of the following: • RO to hold the RHR B and C control switches in OFF, or • Equipment Operator to remove control power fuses for RHR Pumps B and C. *Examiner Cue – if the examinee requests Reactor Operator(s) to hold RHR pump B and C control switches in OFF, cue the simulator floor instructor (as an extra RO) to hold the RHR Pump B and C control switches in OFF.* *Examiner Cue – If the examinee requests the Equipment Operator to remove RHR Pump B and C control power fuses, cue the simulator booth operator to release "Remove RHR 'B' and 'C' Pump Control Power Fuses (4.2.4.9)", and then cue the examinee that the control power fuses have been removed for RHR Pumps 'B' and 'C'.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***13**	Starts DG 1B and re-energizes 4160V Bus 1B1 (4.2.4.10).	Directs Equipment Operator to place DG 1B Engine Maintenance Switch in OPERATE. *Examiner Cue – cue the simulator booth operator to release "DG 1B Maintenance Switch in Operate (4.2.4.10)" and then cue the examinee as the Equipment Operator that the DG 1B Maintenance Switch has been placed in Operate.* *Examiner Note – this step will cause DG 1B to start, and the output breaker to close, re-energizing 4160 V Bus 1B1.*	___	___	___
14	Verifies DG 1B auto start actions (4.2.4.11)	Once the bus is reenergized, 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: Energize 4160V Bus 1B1 – Alternate Path
JPM Number: JPM559 Revision Number: 00
Task Number and Title: 420001.02 Respond to a partial Loss of AC Power
K/A Number and Importance: 262001 A4.01 / RO (3.4), SRO (3.7)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 4200.01 Loss of AC Power, Rev. 25

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

The plant was shutdown and operating in Mode 4 when the 4160V Bus 1B1 Main Feed Breaker faulted, resulting in an overcurrent lockout of 4160V Bus 1B1.

- 4160V Bus 1B1 is currently de-energized.
- Power has been lost to FC Pump 1B.
- FC Pump 1A is unavailable.
- 4160V Bus 1B1 Main Feed Breaker has been racked out, which has isolated the 1B1 bus fault.

INITIATING CUE

The CRS directs you to re-energize 4160V Bus 1B1 IAW CPS 4200.01 Loss of AC Power, section 4.2.3 Re-Energizing 4160V Bus 1A1(1B1)[1C1] so that cooling can be restored to the Spent Fuel Pool.

- CPS 4200.01C002 DC Load Shedding During a SBO WILL NOT be performed.
- The ERAT Circuit Switcher B018 is closed.
- The ERAT is available to re-energize 4160V Bus 1B1.
- Field operators are standing by to reset ECCS bus lockouts.

Report to the CRS when 4160V Bus 1B1 is re-energized.

Job Performance Measure

Perform RPS MSIV Channel Functional – Alternate Path

JPM Number: JPM537

Revision Number: 00

Date: 3 / 6 / 2018

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Cuong Hoang SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 9031.10 Rev: 26c
Procedure 3101.01 Rev: 24
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	3/6/18	New JPM. Modeled from JPM447 as an alternate path JPM. Updated template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (N/A if administering the JPM per step 2)
   a. Initialize to any suitable IC with power < 75% and the MSIVs open. IC-218 or 219 is saved for the ILT 17-1 NRC exam (pw 78910).
2. JPM Administration
   a. Reset the simulator to the IC saved in step 1.
   b. Open and execute Simulator Lesson Plan ILT 17-1 NRC Exam JPMs.
   c. Reset TT06 system troubles.
   d. Release JPM537 which will perform the following
      1) Insert malfunction YAMSSIFP_2 0% (causes 1B21-F022B to fail completely closed) when the test push-button is depressed for 1B21-F022B, Main Steam Line B Inbd MSIV.
      2) Deletes malfunction YAMSSIFP_2 0% when the control switch for 1B21-F022B is placed in CLOSE.

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.

   e. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs if applicable.
   f. This completes the setup for this JPM.
   g. Save to a different IC if JPM is being used more than once. IC-218 or 219 is saved for the ILT 17-1 NRC exam (pw 78910).
   h. Station an instructor to acknowledge alarms (not associated with the JPM) and perform Independent Verifications as required.
   i. Freeze the simulator.

INITIAL CONDITIONS

You are an extra RO in the MCR.

The plant is in Mode 1.

INITIATING CUE

The CRS has directed you to perform CPS 9031.10 RPS Main Steam Line Isolation Valve Channel Functional.

All prerequisites are complete.

You have permission to perform critical steps.

An operator is stationed to provide computer point status and independent verifications as required. You may request the computer point status at any time during or after the performance of the applicable step.

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:

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 marked up copy of CPS 9031.10 RPS Main Steam Line Isolation Valve Channel Functional Do NOT provide the examinee with the copy of CPS 3101.01 Main Steam that is included in the JPM package until the examinee locates the procedure to perform the alternate path steps beginning on page 9.				
***1**	8.1.1 Test 1B21-F022A, Main Steam Line A Inbd MSIV.	Examinee performs the following: • rotates control switch for 1B21-F022A on 1H13-P601-5066 clockwise to the CLOSE TEST position. *Evaluator Note – No valve movement will occur until the test push-button is depressed and held in the next step.* • depresses and holds the test push button for 1B21-F022A. • verifies red and green lights are ON. • Verifies alarm 5004-3C, DIV 1 or 4 MSIV CL TRIP annunciates. • Verifies computer point B21NC047, Main Steam Line Isolation Valve CH. A indicates 'tripped' or in a Logic 1 State. *Evaluator Cue – When the green light illuminates for 1B21-F022A, cue the examinee that computer point B21NC047 indicates 'tripped'.* *Evaluator Note – It takes ~ 30 – 40 seconds for the MSIV to close to the intermediate position (both red and green lights ON).* • releases the test push button for 1B21-F022A before the RED light extinguishes.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
		• verifies red light ON and green light OFF. • Verifies alarm 5004-3C, DIV 1 or 4 MSIV CL TRIP clears. • verifies computer point B21NC047, Main Steam Line Isolation Valve CH. A indicates 'Reset' or in a Logic 0 State. *Evaluator Cue – When the green light extinguishes for 1B21-F022A, cue the examinee that computer point B21NC047 indicates 'reset'.* • rotates control switch for 1B21-F022A counter clockwise to the 'Auto' position.			

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
2	8.1.2 Test 1B21-F022B, Main Steam Line B Inbd MSIV.	Examinee performs the following: • rotates control switch for 1B21-F022B on 1H13-P601-5066 clockwise to the CLOSE TEST position. *Evaluator Note – No valve movement will occur until the test push-button is depressed and held in the next step.* • depresses and holds the test push button for 1B21-F022B. • verifies red and green lights are ON. • Verifies alarm 5005-3C, DIV 2 or 3 MSIV CL TRIP annunciates. • Verifies computer point B21NC048, Main Steam Line Isolation Valve CH. B indicates 'tripped' or in a Logic 1 State. *Evaluator Cue – When the green light illuminates for 1B21-F022B, cue the examinee that computer point B21NC048 indicates 'tripped'.* *Evaluator Note – It takes ~ 30 – 40 seconds for the MSIV to close to the intermediate position (both red and green lights ON).* • releases the test push button for 1B21-F022B <u>before</u> the RED light extinguishes. • observes 1B21-F022B <u>has fully closed</u> (green light ON, red light OFF) • observes Alarm 5005-3C, DIV 2 or 3 MSIV CL TRIP does <u>NOT</u> clear. • Observes computer point B21NC048, Main Steam Line Isolation Valve CH. B does <u>NOT</u> indicate 'Reset' or in a Logic 0 State.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Alternate Path Begins					
2 (cont.)	8.1.2 (cont.)	*Evaluator Cue – When examinee reports that 1B21-F022B closed fully after the test pushbutton was released, acknowledge the report.* *Evaluator Cue - When located, provide the examinee with a copy of CPS 3101.01 Main Steam (MS, IS & ADS).*	___	___	___
***3**	CPS 3101.01, Section 8.2.5 Responds to Inadvertent MSIV Closure	Examinee: • Verifies Reactor Power ≤ 75% RTP • **Places 1B21-F022B, Main Steam Line B Inbd MSIV control switch to the CLOSE position by rotating the switch fully counter clockwise.** • Verifies annunciator 5005-3C energized. • Reports recommended ITS LCOs (3.3.1.1, 3.3.6.1 and 3.6.1.3) for review to CRS. *Evaluator Note – The only critical portion of the step is to place the Control Switch for 1B21-F022B in close.* *Evaluator Cue – When the RO reports the impacted LCOs, acknowledge the report.*			

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	When examinee reports the issue, acknowledge the report and then cue the examinee that you will refer to Technical Specifications and notify Maintenance to investigate. **TIME COMPRESSION** When the examinee has completed step 8.2.5.1, cue the examinee: • 24 hours have elapsed. • Maintenance has discovered and repaired the problem with 1B21-F022B. • You have permission to recover Main Steam Line 'B'. • Cycling Main Steam Line Drains to drain accumulated condensate upstream of the 'B' MSIV per section 8.1.2 of CPS 3101.01 was just completed.				
4	8.2.5.2 Obtain SMngt permission to reopen the MSIV.	No action required. Permission was obtained in the step 8.2.5.1 Time Compression cue.	___	___	___

***5**	8.2.5.5
	Opens 1B21-F022B Main Steam Line B Inbd MSIV.
		Examinee:
		• rotates the control switch for 1B21-F022B clockwise to the AUTO position and verifies the valve opens (red light on, green light off).
		• monitors the following:
		  • MSL flow conditions.
		  • APRM levels for oscillations.
		  • Reactor pressure.
		  • Reactor water level.
		• verifies annunciator 5005-3C is clear.
			___	___	___

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: Perform RPS MSIV Channel Functional – Alternate Path
JPM Number: JPM537 Revision Number: 00
Task Number and Title: 310101.11 Inadvertent MSIV Closure at Power/Recovery
K/A Number and Importance: 212000 A4.02 / RO (3.6), SRO (3.7)
Suggested Testing Environment: Simulator
Alternate Path: ☒ Yes ☐ No SRO Only: ☐ Yes ☒ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CPS 9031.10 RPS Main Steam Line Isolation Valve Channel Functional, Rev. 26c
- CPS 3101.01 MAIN STEAM (MS, IS & ADS), Rev. 24

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 20 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 an extra RO in the MCR.

The plant is in Mode 1.

INITIATING CUE

The CRS has directed you to perform CPS 9031.10 RPS Main Steam Line Isolation Valve Channel Functional.

All prerequisites are complete.

You have permission to perform critical steps.

An operator is stationed to provide computer point status and independent verifications as required. You may request the computer point status at any time during or after the performance of the applicable step.

Report to the CRS after completing the task.

Job Performance Measure

Startup CCP in Filtered Mode

JPM Number: JPM518

Revision Number: 02

Date: 3 / 6 / 2018

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Mark McCleary SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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: 20c__
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	06/14/13	This JPM was developed new for the ILT 12-1 NRC Exam.
01	6/30/16	Updated procedure references. Added new steps to align 1VR036, 1VR041, 1VR035, and 1VR040 during CCP system startup and shutdown that were added to rev. 19a of 3408.01. Adjusted Estimated Time to Complete based on validations.
02	3/6/18	Updated procedure references and JPM template.

SIMULATOR SETUP INSTRUCTIONS

1. IC Setup (N/A if administering the JPM per step 2)
   a. Initialize to any suitable IC with the reactor at power or shutdown with CCP in Unfiltered Mode. ICs-218 and 219 (pw 78910) are saved for the ILT 17-1 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. Verify CCP is operating in unfiltered mode.
   b. No simulator lesson plan is required to perform 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. Save to a different IC if JPM is being used more than once. ICs-218 and 219 (pw 78910) are saved for the ILT 17-1 NRC exam.
   e. Freeze the simulator.

INITIAL CONDITIONS

You are an extra RO in the MCR.

A Safety Relief Valve has inadvertently opened. Actions are in progress to reclose the valve.

INITIATING CUE

The CRS has directed you to shift the Continuous Containment Purge (CCP) System from Unfiltered Mode to Filtered Mode per CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ) section 8.1.1.2 Startup Continuous Containment Purge Filtered (Auto).

RP has been notified that the MCR will be shifting the Containment Ventilation alignment.

An EO is stationed at 0PL39JA to monitor primary to secondary containment differential pressure.

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:

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). If the examinee asks the CRS which section of 3408.01 to perform to secure the Containment Building/Drywell HVAC System, cue him/her to use section 8.1.3.				
***1**	8.1.3.1 Secures CCP unfiltered mode.	**Examinee locates the CCP Mode switch (joystick on 1H13-P800-5043) and places the joystick in the neutral position (centered).** Examinee observes CCP valves close and the running CCP supply and exhaust fans trip on 1H13-P800-5043 (Red light OFF, Green light ON). *Evaluator Cues* • *If the examinee reports that annunciator 5043-2A is alarming, acknowledge the report.* • *If the examinee reports that annunciator 5042-7C High/Low Diff Pressure Containment Bldg is alarming, acknowledge the report.* • *If the examinee reports that CCP Unfiltered has been secured, acknowledge the report.*	___	___	___
		Examinee closes 1VQ003 on 1H13-P800-5042 and then verifies the Red light is OFF and the Green light is ON.	___	___	___
		Examinee closes 1HS-VR204 <u>and</u> 1HS-VR205 and then verifies the Red light is OFF and the Green light is ON for 1VR036, 1VR041, 1VR035, and 1VR040.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***1 (cont.)**	8.1.3.1 (cont.)	**Examinee places the control switch for 1VR06CA AND 1VR07CA in the AFTER-STOP position and then verifies the amber lights are OFF for 1VR06CA AND 1VR07CA.** *Evaluator Note – This step is critical. If not performed, the CCP System will not automatically start when placing the system in the Filtered Mode.* *Evaluator Cue - If the examinee reports that annunciator 5043-2A has reset, acknowledge the report.*	___	___	___
***2**	8.1.1.2 Startup CCP Filtered (Auto)	Examinee verifies isolation signals are clear. *Evaluator Cue – If the examinee asks for the status of isolation signals, cue him/her that there are NO isolation signals present.*	___	___	___
		Examinee verifies VR/VQ system containment isolation valves are closed (RED light OFF and Green light ON). • 1VR001A • 1VR002B • 1VR001B • 1VQ006A • 1VQ004A • 1VQ006B • 1VQ004B • 1VQ002 • 1VR002A • 1VQ005 Examinee documents verification in the Auto Log. *Evaluator Cue – Cue the examinee that another operator will make the log entry.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2** (cont.)	8.1.1.2 (cont.)	Examinee verifies that each control switch is in the Auto after close (switch is centered with each valve Red light OFF and Green light ON. • 1VR006A. • 1VR006B • 1VR007A • 1VR007B	___	___	___
		Examinee opens 1VQ003 and then verifies the Red light ON and the Green light OFF. *Evaluator Note – This step is critical only if 1VQ003 was closed in step 8.1.3.1.2.*	___	___	___
		Examinee opens 1HS-VR204 <u>and</u> 1HS-VR205 and then verifies the Red light ON and Green light OFF for 1VR036, 1VR041, 1VR035, and 1VR040. Evaluator Note – Step is only critical if 1HS-VR204 and 1HS-VR205 were taken to close in step 8.1.3.1.3.	___	___	___
		Examinee places the control switch for DW PRG EXH FAN, 0VQ02CA <u>or</u> CB control switch in AUTO and verifies the Green light comes ON. *Evaluator Cue - If the examinee asks which fan should be used, direct him/her to use the 'A' fan.*	___	___	___
		Examinee opens 1VQ02Y and verifies Red light ON and Green light OFF.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2** (cont.)	8.1.1.2 (cont.)	**Examinee positions the CNMT CONTINUOUS PRG MODE switch (joystick) in FILT position (to the left).** The examinee observes: • CCP isolation dampers (listed below) open (Red light ON, Green light OFF). • CCP supply (1VR06CA/B) and exhaust (1VR07CA/B) fans auto start (Red light ON, Green light OFF). • Drywell purge exhaust fan (0VQ02CA/B) starts. • 1VR006A • 1VR009A/B • 1VR006B • 1VR005 • 1VR007B • 1VR004A/B • 1VR007A • 0VQ24YA/B • 1VQ020 • 0VQ07YA/B	___	___	___
		Examinee directs field operator to perform post startup field actions. • Energizing heating coil (1VR05A) • Verifying transfer fan (1VR12C) is running • Checks primary to secondary dP Evaluator Cues • 1VR05A is energized • 1VR12C is running • Primary to Secondary dP is 0 psid	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2** (cont.)	8.1.1.2 (cont.)	Examinee checks that Drywell to Primary Containment differential pressure stabilizes between -0.2 and +1.0 psid (Modes 1, 2, 3). *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.*	___	___	___
		Examinee places running CCP supply/exhaust fan control switches in AFTER-START (rotates clockwise and then releases) for: • 1VR06CA/B • 1VR07CA/B • 0VQ02CA/B *Evaluator Cue – If the examinee reports that annunciator 5043-1G is reset, acknowledge the report.*	___	___	___
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: Startup CCP in Filtered Mode
JPM Number: JPM518 Revision Number: 02
Task Number and Title: Task 340801.36 Startup Filtered Continuous Containment Purge (Auto) of the Containment Building / Drywell HVAC System.
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. 20c

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

You are an extra RO in the MCR.

A Safety Relief Valve has inadvertently opened. Actions are in progress to reclose the valve.

INITIATING CUE

The CRS has directed you to shift the Continuous Containment Purge (CCP) System from Unfiltered Mode to Filtered Mode per CPS 3408.01 Containment Building/Drywell HVAC (VR, VQ) section 8.1.1.2 Startup Continuous Containment Purge Filtered (Auto).

RP has been notified that the MCR will be shifting the Containment Ventilation alignment.

An EO is stationed at 0PL39JA to monitor primary to secondary containment differential pressure.

Report to the CRS after completing the task.

Job Performance Measure

RSP – Div 2 LPCI Operation

JPM Number: JPM533

Revision Number: 02

Date: 3 / 6 / 2018

Developed By:	W. D. Kiser Instructor	3/6/18 Date
Validated By:	Mark McCleary SME or Instructor	4/4/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 4003.01C011 Rev: 1a
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	06/23/15	New JPM.
01	09/26/17	Updated to reflect support of Time Sensitive Action 18. Minor Revision to add a tie to the time sensitive action #18.
02	03/06/18	Updated procedure references and JPM template.

Corrective Action AR#03969254

This training material supports the demonstration/execution of Time Sensitive Action 18. Do NOT change this material without reviewing OP-AA-102-106 Operator Response Time Program and OP-CL-102-106-1001 Operator Response Time Master List at CPS to verify that any changes made do not affect the demonstration/execution of Time Sensitive Action 18.

SIMULATOR SETUP INSTRUCTIONS

1. This is an in-plant JPM and requires no simulator setup.

INITIAL CONDITIONS

A plant transient has occurred.

The plant is shutdown with High Pressure Core Spray and Reactor Core Isolation Cooling inoperable. 4160V Bus 1A1 has de-energized due to a fault. Automatic Depressurization System was activated due to Reactor Coolant leak into the Secondary Containment. The Main Control Room had to be abandoned due to a major fire.

You are an Extra Operator.

INITIATING CUE

Inject into the RPV using CPS 4003.01C011, RSP – Div 2 LPCI Operation Section 4.0, DIV 2 LPCI STARTUP.

The Remote Shutdown Panel (RSP) is manned and an additional Operator has been dispatched to AB 707' to support you as required.

Report to the CRS when Div 2 LPCI is injecting to the RPV.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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 4003.01C011 RSP – Div 2 LPCI Operation.				
EVALUATOR NOTE Do NOT allow the Examinee to remove items from the RSP supply podium. Cue the examinee that required items are in the examinee's possession.					
***1**	4.1 Open 1E12-F004B, RHR PUMP 1B SUCT VLV.	At AB MCC 1B2 Cub 5C (1AP76E5C), AB 781' West, Examinee moves the key operated switch for 1E12-F004B, RHR PUMP 1B SUCT VLV to "OPEN". *Evaluator Cue:* • *(when switch is repositioned) – red light is ON and green light is ON.* • *(1.5 minutes later) – red light is ON and green light is OFF.*	___	___	___
***2**	4.2 Start RHR PUMP 1B, 1E12-C002B.	At 4160V Bus 1B1 Cub D (1AP09ED), AB 781' West, Examinee moves the REMOTE SHUTDOWN CIRCUIT BREAKER CONTROL handswitch to "CLOSE". *Evaluator Cue – When switch is repositioned, red light is ON and green light is OFF.*	___	___	___
EVALUATOR NOTE For the following steps, cues will be provided when requested from the Operator who was dispatched to AB 707'. Steps 4.4.1 and 4.4.2 may be performed more than once.					
3	4.3 Verify RHR PUMP ROOM 1B SUPPLY FAN, 1VY06C starts.	Examinee contacts the Operator in AB 707' and requests status of 1VY06C. *Evaluator Cue – 1VY06C is running.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4	4.4 Monitor the RHR Pump B for proper operation.	• Examinee contacts the Operator in AB 707' and requests RHR B pump ΔP. *Evaluator Cue – RHR pump ΔP is 374 psid.* • Examinee determines 1E12-F064B, RHR PUMP 1B MIN FLOW VLV should be open. *Evaluator Cue – Red light is ON and green light is OFF.*	___	___	___
EVALUATOR NOTE For the following step, cue for RPV pressure will be provided when requested from the Operator at the RSP.					
***5**	4.5 Aligns RHR B for injection. WHEN RPV pressure < 472 psig, THEN Open 1E12-F042B, RHR PUMP 1B LPCI CNMT VLV.	Examinee: • contacts the Operator at the RSP and requests RPV pressure. *Evaluator Cue – RPV pressure is 250 psig and lowering.* • opens 1E12-F042B, RHR PUMP 1B LPCI CNMT VLV. *Evaluator Cue:* • *(when switch is repositioned) – red light is ON and green light is ON.* • *(20 seconds later) – red light is ON and green light is OFF.* • *If requested, state "pump dP is 250 psid and 1E12-F064B indicates shut".*	___	___	___
6	Report to the CRS that Div 2 LPCI is injecting to the RPV.	Examinee reports to the CRS that Div 2 LPCI is injecting to the RPV.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
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: RSP – Div 2 LPCI Operation

JPM Number: JPM533 Revision Number: 02

Task Number and Title: 400301.04 Remote Shutdown Panel tasks that DO Require MCR Evacuation (licensed task).

K/A Number and Importance: 295016 A1.07 / RO (4.2), SRO (4.3)

Suggested Testing Environment: In-Plant

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

Reference(s):

- CPS 4003.01C011 RSP – Div 2 LPCI Operation, Rev. 1a

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

Testing Method: ☒ Simulate ☐ Perform

Estimated Time to Complete: 20 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 plant transient has occurred.

The plant is shutdown with High Pressure Core Spray and Reactor Core Isolation Cooling inoperable. 4160V Bus 1A1 has de-energized due to a fault. Automatic Depressurization System was activated due to Reactor Coolant leak into the Secondary Containment. The Main Control Room had to be abandoned due to a major fire.

You are an Extra Operator.

INITIATING CUE

Inject into the RPV using CPS 4003.01C011, RSP – Div 2 LPCI Operation Section 4.0, DIV 2 LPCI STARTUP.

The Remote Shutdown Panel (RSP) is manned and an additional Operator has been dispatched to AB 707' to support you as required.

Report to the CRS when Div 2 LPCI is injecting to the RPV.

Job Performance Measure

MANUAL AND REDUNDANT INITIATION OF THE DG ROOMS CO_2 SYSTEM – Alternate Path

JPM Number: JPM930

Revision Number: 01

Date: 3 / 6 / 2018

Developed By:	Tony Jennings Instructor	3/6/18 Date
Validated By:	Mark McCleary SME or Instructor	4/4/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 3213.01P001 Rev: 2d
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	4/10/12	New JPM.
01	3/6/18	Updated to new JPM template. Updated procedure revisions.

SIMULATOR SETUP INSTRUCTIONS

1. This in an in-plant JPM with no simulator setup required.

INITIAL CONDITIONS

The Plant is at full power.

You are an extra Operator.

CPS 9080.01 Diesel Generator 1A Operability – Manual and Quick Start Operability was in progress when a fire broke out inside the room. The fire was reported by the DG operator, who was alone in the room and has evacuated.

DG1A Room CO_2 system failed to automatically initiate.

INITIATING CUE

The MCR has directed you to manually initiate DG1A Room CO_2 System in accordance with CPS 3213.01P001Fire Protection CO_2 Systems Operation, section 8.22 Manual Initiation of the Diesel Generator Rooms CO_2 System.

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:

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 3213.01P001Fire Protection CO_2 Systems Operation.				
1	8.22.1 Verifies room is free of personnel.	No action required – per the initiating cue the room was reported evacuated by the DG operator. *Evaluator Note – Examinee should not enter the DG1A room.*	___	___	___
2	8.22.2 Manually initiate DG1A CO_2 system from the Breakglass station.	Examinee simulates pulling 1HSCO001A, DG1A Room CO_2 Breakglass station and depressing the button to initiate discharge. *Evaluator Cue – DG1A Room alarm horns and revolving alarm lights are NOT activated.* *Evaluator Note – Examinee should progress to section 8.23 when CO_2 does not initiate in 8.22.2.*	___	___	___
Alternate Path Begins					
***3**	8.23.2 Manually opens the pilot and charges the CO_2 lines up to the DG1A selector valve.	Examinee simulates breaking glass and opening the 1USV-CO005, Master Pilot Valve No. 1. *Evaluator Cue – Component is in the position you've described.*	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***4**	8.23.3 Initiates CO_2 flow into the DG1A room.	Examinee simulates breaking glass and opening the 1USV-CO001, Selector Pilot Valve for 1 minute 12 seconds. *Evaluator Cue – Component is in the position you've described and flow noise can be heard.* *Evaluator Note – 1 minute 12 seconds is an approximate time and is not part of the critical portion of the task. If the examinee doubles the time, record as a competency hit, not a failure of a critical task.*	___	___	___
***5**	8.23.4 Secures CO_2 flow into the DG1A room.	Examinee simulates shutting the Master and Selector Pilot Valves. *Evaluator Cue – Components are in the position you've described.*	___	___	___
6	Report to the CRS that DG1A Room CO_2 system is initiated.	Examinee reports to the CRS that DG1A Room CO_2 system is initiated.	___	___	___
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: MANUAL AND REDUNDANT INITIATION OF THE DG ROOMS CO_2 SYSTEM – Alternate Path

JPM Number: JPM930 Revision Number: 01

Task Number and Title: 321301.53 – Manual Initiation of the DG Rooms CO_2 System
321301.54 – Redundant Manual Initiation of the DG Rooms CO_2 System

K/A Number and Importance: 286000 A2.08 / RO (3.2), SRO (3.3)

Suggested Testing Environment: In-Plant

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

Reference(s):

- CPS 3213.01P001Fire Protection CO_2 Systems Operation, Rev. 2d

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)

INITIAL CONDITIONS

The Plant is at full power.

You are an extra Operator.

CPS 9080.01 Diesel Generator 1A Operability – Manual and Quick Start Operability was in progress when a fire broke out inside the room. The fire was reported by the DG operator, who was alone in the room and has evacuated.

DG1A Room CO_2 system failed to automatically initiate.

INITIATING CUE

The MCR has directed you to manually initiate DG1A Room CO_2 System in accordance with CPS 3213.01P001Fire Protection CO_2 Systems Operation, section 8.22 Manual Initiation of the Diesel Generator Rooms CO_2 System.

Report to the CRS after completing the task.

Job Performance Measure

Startup the Fuel Building HVAC VF System to support Emergency Containment Venting

JPM Number: JPM431

Revision Number: 03

Date: 3 / 6 / 2018

Developed By:	Tony Jennings Instructor	3/16/18 Date
Validated By:	Mark McCleary SME or Instructor	4/4/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 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 3404.01_____ Rev: 14c__
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	7/28/10	New JPM.
01	6/14/14	Updated to new JPM template and updated procedure revisions.
02	9/19/16	Updated procedure references.
03	3/6/18	Updated to new JPM template and procedure revision.

SIMULATOR SETUP INSTRUCTIONS

1. This is an in-plant JPM and requires no simulator setup.

INITIAL CONDITIONS

A condition exists which requires Emergency Venting of the Containment.

- VF System was shutdown IAW CPS 3404.01 Fuel Building HVAC (VF), Section 8.3 Shutdown.
- VG System was shutdown IAW CPS 3319.01 Standby Gas Treatment (VG).
- 1VF04Y/9Y & 1VF06Y/7Y Fuel Bldg Sply Outbd & Inbd Isol Dmprs are OPEN.

INITIATING CUE

The CRS has directed you to restart the Fuel Building HVAC system to support the venting process per the normal startup section of CPS 3404.01 FUEL BUILDING HVAC (VF), section 8.1 Startup.

Use the 'A' VF exhaust and supply fans.

MCR actions per steps 8.1.1 through 8.1.3 are complete.

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:

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 3404.01 Fuel Building HVAC (VF).				
***1**	8.1.4 Places supply and exhaust fan hand switches in AFTER-STOP.	Examinee locates the control switches for 1VF04CA, 4CB, 3CA, and 3CB at 1PL44J (DG Bldg 762') and simulates rotating each control switch from PULL To LOCK to AFTER-STOP. *Evaluator Cue – The components are in the position you've described.*	___	___	___
2	8.1.5 – 8.1.7 Performs pre-startup verifications. Shutdown/verify shutdown VG per CPS 3319.01, Standby Gas Treatment (VG).	Verified per Initial Conditions: • VG shutdown • 1VF04Y/9Y open • 1VF06Y/7Y open	___	___	___
CUE	For JPM Step 3, cue the examinee that components and indications are as you've described.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number

***3**	8.1.8.1
	Starts 'A' VF Exhaust and Supply fans.
		Examinee performs the following:
		• Simulates rotating control switch for 1VF04CA to START and then releases
		  • Verifies RED light ON and GREEN light OFF
		  • Verifies 1VF11YA RED light ON and GREEN light OFF
		  • Verifies 1PDI-VF035B moves in the negative direction
		
		Evaluator Cue - When the exhaust fan is started, show the indicator needle (with an ink pen or similar device) on 1PDI-VF035B trending slowly in the negative direction.
		
		When Fuel Bldg Average Pressure reaches -0.5" H_2O, examinee performs the following:
		• Simulates rotating control switch for 1VF03CA to START and then releases
		  • Verifies RED light ON and GREEN light OFF
		  • Verifies 1VF02YA RED light ON and GREEN light OFF
		  • Verifies 1VF01Y RED light ON and GREEN light OFF
		  • Verifies 1PDI-VF035B steadies out at –0.7 inches water
		
		Evaluator Cue - When the supply fan is started, show the indicator needle (with an ink pen or similar device) on 1PDI-VF035B trending slowly in the positive direction and steadies at –0.7 inches water.
			___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7	8.1.8.3 Energizes the building heater if needed to maintain building temperature.	*Evaluator 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: Startup the Fuel Building HVAC VF System to support Emergency Containment Venting

JPM Number: JPM431 Revision Number: 03

Task Number and Title: 340401.01 Start up of the VF system.

K/A Number and Importance: 288000 A2.03 / RO (3.5), SRO (3.7)

Suggested Testing Environment: In-Plant

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

Reference(s):

- CPS 3404.01 Fuel Building HVAC (VF), Rev. 14c

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 condition exists which requires Emergency Venting of the Containment.

- VF System was shutdown IAW CPS 3404.01 Fuel Building HVAC (VF), Section 8.3 Shutdown.
- VG System was shutdown IAW CPS 3319.01 Standby Gas Treatment (VG).
- 1VF04Y/9Y & 1VF06Y/7Y Fuel Bldg Sply Outbd & Inbd Isol Dmprs are OPEN.

INITIATING CUE

The CRS has directed you to restart the Fuel Building HVAC system to support the venting process per the normal startup section of CPS 3404.01 FUEL BUILDING HVAC (VF), section 8.1 Startup.

Use the ‘A’ VF exhaust and supply fans.

MCR actions per steps 8.1.1 through 8.1.3 are complete.

Report to the CRS after completing the task.