Limerick Generating Station

Job Performance Measure

MANUALLY INITIATE A CONTROL ROOM CHLORINE/TOXIC CHEMICAL ISOLATION

JPM Number: 0023

Revision Number: 006

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

REVISION RECORD (Summary)

Revision 006, Corrected Typographical Error on Step 16

SIMULATOR SETUP INSTRUCTIONS:

1. Reset the Simulator to IC-17
2. Ensure the B CREFAS Fan switch is in AUTO and the A CREFAS Fan switch is in STBY
3. Ensure the A Control Room Supply and Return fans are in RUN, and the B Control Room Supply and Return fans are in AUTO.

TASK STANDARD:

The Control Room HVAC system is operating in the Chlorine/Toxic Chemical Isolation mode with a chlorine/toxic chemical isolation signal present on B and D isolation channels and no radiation isolation signals present.

INITIAL CONDITIONS:

1. Control Room HVAC is in the normal operating mode.

2. The Control Room Emergency Fresh Air Supply system is lined up for automatic operation.

INITIATING CUES:

You are directed by Shift Supervision to manually initiate a Control Room HVAC Chlorine/Toxic Chemical Isolation for maintenance using the 'B' subsystem only per S78.8A Section 4.4

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: MANUALLY INITIATE A CONTROL ROOM CHLORINE/TOXIC CHEMICAL ISOLATION

JPM Number:LLOJPM0023 Revision Number: 006

K/A Number and Importance: 290003 A3.01 3.3/3.5

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: No

Time Critical: No

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

References: S78.8.A, Rev.14

EVALUATION SUMMARY:

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

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

Comments:_____

_____

_____

_____

_____

_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

The timeclock starts when the candidate acknowledges the initiating cue.

Job Performance Measure (JPM)

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. VERIFY Control Room HVAC in normal operating mode per S78.1.A, Placing the Control Room HVAC System into Normal Operation. (Cue: If asked, respond, "Control Room HVAC is in the normal operating mode per S78.1.A.")	Recognized from task conditions that Control Room HVAC is in normal operating mode per S78.1.A., OR consulted supervisor to obtain this information.			
2. VERIFY Control Room Emergency Fresh Air System lined up for automatic operation per S78.1.B, Aligning the Control Room HVAC Isolation and Emergency Fresh Air Supply System for Automatic Operation. (Cue: If asked, respond, "Control Room Emergency Fresh Air System is lined up for automatic operation per S78.1.B.")	Recognized from task conditions that Control Room Emergency Fresh Air System is lined up for automatic operation, OR consulted supervisor to obtain this information.			
3. ENSURE keys for keylock handswitches HS-78-017B,D (RESET), are available.	Two keys for keylock handswitches HS-78-017B,D (RESET) are obtained.			
4. **IF no** chemical isolation has been initiated, **THEN** ensure alignment as follows:	N/A			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4a. HS-78-010B, "B" CONT RM EMERG FRESH AIR FAN CONT 0BV127 in AUTO	HS-78-010B, "B" CONT RM EMERG FRESH AIR FAN CONT 0BV127 in AUTO			
4b. HS-78-010A, "A" CONT RM EMERG FRESH AIR FAN 0AV127 in STANDBY	HS-78-010A, "A" CONT RM EMERG FRESH AIR FAN CONT 0AV127 in STANDBY			
*5. PLACE Control Room Isolation Valve Reset Keylock switch HS-78-017B (RESET B) to "RESET".	Reset Keylock switch HS-78-017B (RESET B) is placed in "RESET" at 00C681.			
*6. PLACE Control Room Isolation Valve Reset Keylock switch HS-78-017D (RESET D) to "RESET".	Reset Keylock switch HS-78-017D (RESET D) is placed in "RESET" at 00C681.			
*7. PLACE Control Room Isolation Valve Trip Switch HSS-78-017B (TRIP B) to "CL_2".	Switch HSS-78-017B (TRIP B) arming collar is rotated to " CL_2" at 00C681.			
*8. PLACE Control Room Isolation Valve Trip Switch HSS-78-017D (TRIP D) to " CL_2".	Switch HSS-78-017D (TRIP D) arming collar is rotated to " CL_2" at 00C681.			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*9. **PLACE** Control Room Isolation Valve Reset Keylock switch HS-78-017B (RESET B) to "AUTO".	Reset Keylock switch HS-78-017B (RESET B) is placed in "AUTO" at 00C681.			
*10. **PLACE** Control Room Isolation Valve Reset Keylock switch HS-78-017D (RESET D) to "AUTO".	Reset Keylock switch HS-78-017D (RESET D) is placed in "AUTO" at 00C681.			
*11. **DEPRESS AND RELEASE** pushbutton portion of Trip Switch HSS-78-017B (TRIP B).	Switch HSS-78-017B (TRIP B) pushbutton is depressed and released at 00C681.			
*12. **DEPRESS AND RELEASE** pushbutton portion of Trip Switch HSS-78-017D (TRIP D).	Switch HSS-78-017D (TRIP D) pushbutton is depressed and released at 00C681.			
13. **RECORD** CREFAS run time in appropriate log.	CREFAS start data is recorded in CREFAS run time log.			
14. **ENSURE** CHLOR ISLN CHAN B, D amber lights are lit.	CHLOR ISLN CHAN B, D amber lights are lit on 00C681.			
15. **VERIFY** CONTROL ROOM CHLORINE ISOLATION INITIATED annunciator alarmed at 002 VENT A-2.	Annunciator window A-2, CONTROL ROOM CHLORINE ISOLATION INITIATED, on 002 VENT, is in.			
16. **VERIFY** CONTROL ROOM ISOLATION NOT COMPLETE annunciator is **not** alarmed at 002 VENT A-3, after 25 seconds.	Annunciator window A-3, CONTROL ROOM ISOLATION NOT COMPLETE, on 002 VENT, is **not** alarmed 25 seconds after the isolation is initiated.			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
17. **ENSURE** 0B(A)V127, EMERGENCY AIR FAN B(A), is running.	0BV127, EMERGENCY AIR FAN B, is running.			
18. **ENSURE** 0A(B)V116, CONTROL ROOM AIR SUPPLY FAN A(B) running.	0AV116, SUPPLY FAN A, is running.			
19. **ENSURE** 0A(B)V121, CONTROL ROOM AIR RETURN FAN A(B) running.	0AV121, RETURN FAN A, is running.			
20. **VERIFY** PDI-78-054, CONTROL ROOM AIR INSIDE/OUTSIDE ΔPX, 0 inches of water after a time delay (CUE: "You have met the termination criteria for the JPM. You may stop here.")	PDI-78-054, CONTROL ROOM AIR INSIDE/OUTSIDE ΔPX indicates 0 inches of water after a time delay.			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. Control Room HVAC is in the normal operating mode.
2. The Control Room Emergency Fresh Air Supply systems is lined up for automatic operation.

INITIATING CUES:

You are directed by Shift Supervision to manually initiate a Control Room HVAC Chlorine/Toxic Chemical Isolation for maintenance using the 'B' subsystem only per S78.8A Section 4.4

Job Performance Measure (JPM)

Limerick Generating Station

Job Performance Measure

PLACE 3RD RFP IN SERVICE (DFW)

JPM Number: 0111

Revision Number: 001

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Operator's Name: _____

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

JPM Title: PLACE 3RD RFP IN SERVICE (DFW)

JPM Number: LLOJPM0111 Revision Number: 001

K/A Number and Importance: 259002 A4.02 3.7/3.6

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: No

Time Critical: No

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

References:

S06.1.C U/1 Placing A Standby Reactor Feed Pump In Service

EVALUATION SUMMARY:

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

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

Comments:_____

_____

_____

_____

_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____Date:_____

Revision Record (Summary)

1. Revision 1, Format Change Only

SIMULATOR SETUP INSTRUCTIONS

1. Reset to IC #3

INITIAL CONDITIONS:

1. ____% Power
2. "1C" RFPT is in Standby in accordance with S06.1.A U/1
3. "1C" RFPT is has been in Standby at 2300 RPM for 60 minutes
4. Minimum Recirculation Flow established in Auto Mode per S06.0.A U/1
5. Lube Oil Cooler Outlet Between 110-120°F

INITIATING CUES:

You are directed by Shift Supervision place the "1C" Reactor Feed Pump in service from Standby per S06.1.C, Section 4.1.3.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.

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

The timeclock starts when the candidate acknowledges the initiating cue.

Critical Element(s) indicated by "*" in Performance Checklist.

JPM Start Time: _____

TASK STANDARD: "1C" RFP started and injecting into the vessel.

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. ENSURE the following	N/A			
1a. Oncoming RFPT has been adequately warmed CUE: "Feedpump has been in standby for 60 minutes"	RFPT has been adequately warmed (Provided as Cue in Turnover)			
1b. HV-006-108AC, "1C RFP Disch Vlv" (FEED DISCH C), is closed for oncoming RFP	HV-006-108C, "1C RFP Disch Vlv" (FEED DISCH C) is closed			
1c. HIC-006-106C, "C RFP Min Flow Control" (FLOW), in "AUTO" for oncoming RFP	HIC-006-106C CRFP Min Flow Control" (FLOW), in "AUTO"			
2. IF third RFP is being placed IN SERVICE, THEN PERFORM the following:	N/A			
2a. REFER TO current P-1 edit AND verify FLLLP value is < 0.92	Current P-1 edit obtained AND FLLLP value verified < 0.92			
2b. ACCESS screen FWLC_01, Process Overview, at FWLCS Operator Station	FWLC_01, Process Overview Accessed at FWLCS Station			
*2c. SELECT blue bordered box next to "Reset" in FLLLP < 0.92 Dialog Box until it is outlined in white AND then release	Blue bordered box next to "Reset" in FLLLP < 0.92 Dialog Box outlined in white then clear			
*2d. SELECT "Activate" (D4) Dialog Key (at bottom of screen)	Activate" (D4) Dialog Key Selected			
2e. AND verify box next to "Reset" in FLLLP < 0.92 Dialog Box turns solid blue with a white circle in center	Box next to "Reset" in FLLLP < 0.92 Box turns solid blue with a white circle in center			

*3.	Place FIC-M1-1R601A(B,C), "A(B,C) RFPT Speed Controller" (FEED PUMP A(B, C), S), in "AUTO" for oncoming RFP	FIC-M1-1R601C "CRFPT Speed Controller" (FEED PUMP A, in "AUTO			
4.	ACCESS screen FWLC_07, Automatic Sequences, at FWLCS Operator Station	Screen FWLC_07 Accessed			
5.	ENSURE "READY" box to left of "Start C RFP" sequence is solid green	Ensure "READY" box to left of "Start C RFP" sequence is solid green			
*6.	SELECT blue bordered box next to "Start C RFP" sequence until it is outlined in white AND then release	Blue bordered box next to "Start C RFP" sequence until it is outlined in white AND then released			
*7.	SELECT "Start" (D4) Dialog Key (at bottom of screen)	"Start" (D4) Selected			
8.	Verify the following on screen FWLC_07, Automatic Sequences, at FWLCS Operator Station	N/A			
8a.	Box next to "Start C RFP" sequence turns solid blue	Box next to "Start C RFP" sequence turns solid blue			
8b.	Step Number AND Title appears next to blue box of "Start C RFP" sequence	Step Number AND Title appears next to blue box of "Start C RFP" sequence			
9.	VERIFY the following automatic actions:	N/A			
9a.	HV-006-108C "1C RFP Disch Vlv" (DISCH C), for oncoming RFP opens	HV-006-108C "1C RFP Disch Vlv" (DISCH C), for oncoming RFP opened			
9b.	Oncoming RFPT speed rises until oncoming RFP discharge pressure is nominal 10 psig below RPV pressure	Oncoming RFPT speed rises, RFP discharge pressure is nominal 10 psig below RPV pressure			
9c.	WHEN oncoming RFP discharge pressure nominal 10 psig below RPV pressure, THEN oncoming RFPT speed slowly rises until oncoming RFP begins feeding RPV	Oncoming RFP begins feeding RPV			

10.	VERIFY oncoming AND running RFP(s) are maintaining RPV level	Oncoming AND running RFP(s) are maintaining RPV level			
11.	ENSURE oncoming AND running RFP flows are within 0.5 Mlb/hr of each other using the Flow Equalizer in accordance with S06.0.E U/1, Feedwater Level Control And Reactor Feed Pump Control System Manipulation (CUE: "You may stop here, you have met the termination criteria for this JPM.")	N/A			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. ____% Power
2. "1C" RFPT is in Standby in accordance with S06.1.A U/1
3. "1C" RFPT is has been in Standby at 2300 RPM for 60 minutes
4. Minimum Recirculation Flow established in Auto Mode per S06.0.A U/1
5. Lube Oil Cooler Outlet Between 110-120°F

INITIATING CUES:

You are directed by Shift Supervision place the "1C" Reactor Feed Pump in service from Standby per S06.1.C, Section 4.1.3.

Limerick Generating Station

Job Performance Measure

ST-6-001-660-1, Main Turbine CIV, Stop Valve RPS & EOC-RPT Channel Functional Test

JPM Number: 0112

Revision Number: 000

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

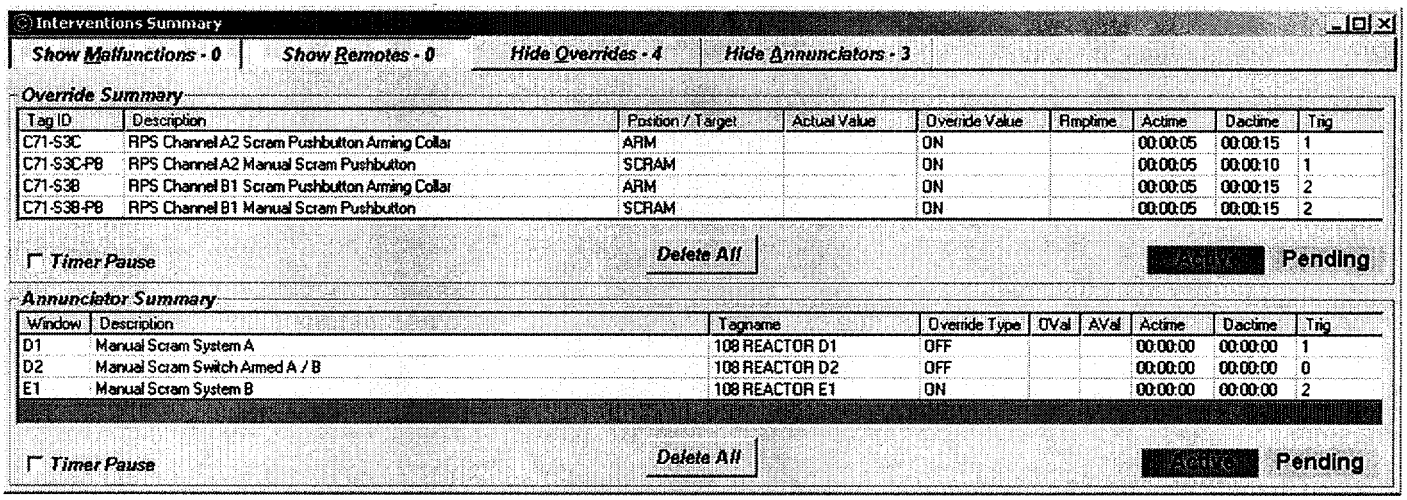
Job Performance Measure (JPM)

REVISION RECORD (Summary)

New Revision

SIMULATOR SETUP INSTRUCTIONS:

1. The simulator can be reset to any IC with the plant at less than 94% power
2. DFW MSIV Test Mode activated
3. Inset the following Malfunctions and Overrides



TASK STANDARD:

Section 4.4 of ST-6-001-660-1 is completed for performance of MSV testing.

INITIAL CONDITIONS:

1. All prerequisites of ST-6-001-660-1 are completed.
2. The Initial Conditions have been verified per section 4.3.
3. An Equipment Operator is standing by in the AER to support this evolution.
4. An additional Reactor Operator is available to operate the controls at 10C670.

INITIATING CUES:

Shift Supervision directs you to perform MSV testing per section 4.4 of ST-6-001-660-1.

Job Performance Measure (JPM)

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
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Job Performance Measure (JPM)

Operator's Name: _____
Job Title: ☐ NLO ☐ RO ☐ SRO ☐ STA ☐ SRO Cert

JPM Title: ST-6-001-660-1, MAIN TURBINE CIV, STOP VALVE RPS & EOC-RPT CHANNEL FUNCTIONAL TEST
JPM Number:LLOJPM0112 Revision Number:000

K/A Number and Importance: 500000 EA1.07 3.4 / 3.3

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: ☐ Perform **Faulted:** ☐ No

Alternate Path: ☐ No ☐

Time Critical: ☐ No

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

References: ST-6-001-660-1, Rev. 40

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

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

Comments:_____
_____
_____
_____
_____
_____
_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. **VERIFY** status light "TURB STOP VALVE B2 CLOSURE TRIP DS2D" is Lit, at panel 10C611. (Cue: EO reports "TURB STOP VALVE B2 CLOSURE TRIP DS2D" is Lit, at panel 10C611)	EO in AER is contacted to verify light status			
2. **VERIFY** status light "TURB STOP VALVE A2 CLOSURE TRIP DS3C" is Lit, at panel 10C611. (Cue: EO reports "TURB STOP VALVE A2 CLOSURE TRIP DS3C" is Lit, at panel 10C611" is Lit, at panel 10C611)	EO in AER is contacted to verify light status			
3. **IF** status lights in step 4.4.1 **OR** 4.4.2 are **not** lit, **THEN STOP** test **AND INVESTIGATE** problem.	N/A			
*4. **DEPRESS AND HOLD** MSV-1 TEST Pushbutton, at panel 10C670.	MSV-1 TEST pushbutton is depressed and held			
5. **VERIFY** MSV-1 No. 1 (TURBINE VALVE POSITION, MAIN STOP, MSV-1) closes, at panel 10C670.	MSV-1 is verified to close			
6. **VERIFY no** half scram has occurred, at panel 10C603.	Alarms and panel indications are reviewed to verify no half scram			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7. **POSITION** Turbine Stop Valve Logic Test Switch C71A-S7C in "TEST 2" position, to simulate MSV-2 closure, at panel 10C609. (Cue: EO reports Turbine Stop Valve Logic Test Switch C71A-S7C in "TEST 2" position at panel 10C609)	EO in AER is contacted to perform this step			
Simulator Instructor: **Activate Trigger 1** (Cue: EO report Turbine Stop Valve Logic Test Switch C71A-S7C in "TEST 2" position, to simulate MSV-2 closure, at panel 10C609)				
8. **VERIFY** the following: Window A-1 "TURBINE STOP VALVE CLOSURE TRIP" is alarmed, at panel 107 REACTOR	107 REACTOR window A-1 is verified alarmed			
8a. Window B-2 "AUTO SCRAM CHANNEL A2" is alarmed, at panel 108 REACTOR	108 REACTOR window B-2 is verified alarmed			
9. **VERIFY** the following status lights **not** Lit, at panel 10C603: Group 1 Scram System A, SCRAM SYSTEM LOGIC, "A1", "A2", "A3", "A4"	A1, A2, A3, and A4 Scram System Status lights are verified NOT lit			
10. **POSITION** Turbine Stop Valve Logic Test	EO is contacted to return C71A-S7C to "NORM"			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
Switch, C71A-S7C to "NORM," at panel 10C609.				
Simulator Instructor Delete Annunciator for 108 D-1 Manual Scram System A (Cue: EO report Turbine Stop Valve Logic Test Switch C71A-S7C in "NORM" position at panel 10C609)				
*11. **RESET** half scram by momentarily placing Scram Reset Switch, (C71A-S5) to "GRP 1/4" **AND** "GRP 2/3" positions at panel 10C603.	"A" side half scram is reset			
12. **VERIFY** the following: Window B-2, "AUTO SCRAM CHANNEL A2," can be cleared at panel 108 REACTOR	108 REACTOR window B-2 is verified cleared			
12a. Window A-1, "TURBINE STOP VALVE CLOSURE TRIP," can be cleared, at panel 107 REACTOR	107 REACTOR window A-1 is verified cleared			
13. **VERIFY** the following status lights Lit, at panel 10C603: Group 1 Scram System A, SCRAM SYSTEM LOGIC, "A1", "A2", "A3", "A4"	A1, A2, A3, and A4 Scram System Status lights are verified lit			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
14. **POSITION** Turbine Stop Valve Logic Test Switch C71A-S7B in "TEST 1," position, to simulate MSV-3 closure, at panel 10C611. (Cue: EO reports Turbine Stop Valve Logic Test Switch C71A-S7B in "TEST 1" position at panel 10C611)	EO in AER is contacted to perform this step			
Simulator Instructor: **Activate Trigger 2** (Cue: EO reports Turbine Stop Valve Logic Test Switch C71A-S7B in "TEST 1," position, to simulate MSV-3 closure, at panel 10C611)				
15. **VERIFY** the following: Window A-1, "TURBINE STOP VALVE CLOSURE TRIP", alarmed, at panel 107 REACTOR	107 REACTOR window A-1 is verified alarmed			
16. Window C-1, "AUTO SCRAM CHANNEL B1", alarmed, at panel 108 REACTOR	108 REACTOR window C-1 is verified alarmed			
17. **VERIFY** the following status lights **not** Lit, at panel 10C603: Group 1 Scram System B, SCRAM SYSTEM LOGIC, "B1", "B2", "B3", "B4"	B1, B2, B3, and B4 Scram System Status lights are verified NOT lit			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
18. **POSITION** Turbine Stop Valve Logic Test Switch, C71A-S7B to "NORM," at panel 10C611. (Cue: EO reports Turbine Stop Valve Logic Test Switch C71A-S7B in "NORM" position at panel 10C611)	EO in AER is contacted to perform this step			
Simulator Instructor: Delete Annunciator for 108 E-1 Manual Scram System B (Cue: EO report Turbine Stop Valve Logic Test Switch C71A-S7C in "NORM" position at panel 10C609)				
*19. **RESET** half scram by momentarily placing Scram Reset Switch (C71A-S5) to "GRP 1/4" **AND** "GRP 2/3" positions, at panel 10C603.	"B" side half scram is reset			
20. **VERIFY** the following: Window C-1, "AUTO SCRAM CHANNEL B1," can be cleared, at panel 108 REACTOR	108 REACTOR window C-1 is verified cleared			
20a. Window A-1, "TURBINE STOP VALVE CLOSURE TRIP," can be cleared, at panel 107 REACTOR	107 REACTOR window A-1 is verified cleared			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
21. **VERIFY** the following status lights Lit, at panel 10C603: Group 1 Scram System B, SCRAM SYSTEM LOGIC, "B1", "B2", "B3", "B4"	B1, B2, B3, and B4 Scram System Status lights are verified lit			
22. **WHEN** any transients have disappeared, **THEN RELEASE** MSV-1 TEST pushbutton, at panel 10C670.	MSV-1 TEST pushbutton is released			
23. **VERIFY** TURBINE VALVE POSITION, MAIN STOP, MSV-1 indicates fully open, at panel 10C670.	MSV-1 is verified fully open			
(CUE: "You can stop here you have met the termination criteria for this JPM")	N/A			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. All prerequisites of ST-6-001-660-1 are completed.
2. The Initial Conditions have been verified per section 4.3.
3. An Equipment Operator is standing by in the AER to support this evolution.
4. An additional Reactor Operator is available to operate the controls at 10C670.

INITIATING CUES:

Shift Supervision directs you to perform MSV testing per section 4.4 of ST-6-001-660-1.

Limerick Generating Station

Job Performance Measure

ST-6-107-880-1, APRM AND LPRM NOISE LEVEL DETERMINATION

JPM Number: 0113

Revision Number: 000

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

REVISION RECORD (Summary)

New Revision

SIMULATOR SETUP INSTRUCTIONS:

1. The simulator can be reset to any at power IC.

TASK STANDARD:

Section 4.3 of ST-6-107-880-1 is completed APRM/LPRM noise levels calculated.

INITIAL CONDITIONS:

1. "1B" Reactor Recirc Pump tripped 20 minutes ago.
2. All prerequisites of ST-6-107-880-1 are completed.
3. SSV has given permission to start test.
4. PRO has given permission to start test.

INITIATING CUES:

Shift Supervision directs you to perform Section 4.3 of ST-6-107-880-1, APRM AND LPRM NOISE LEVEL DETERMINATION.

Job Performance Measure (JPM)

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: ST-6-107-880-1, APRM AND LPRM NOISE LEVEL DETERMINATION

JPM Number:LLOJPM0113 Revision Number:000

K/A Number and Importance: 215005 A4.06 3.6/3.8

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: No

Time Critical: No

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

References: ST-6-107-880-1, Rev. 06

EVALUATION SUMMARY:

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

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

Comments:_____

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Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. RECORD time of entry into Hi Power/Lo Flow region OR Recirculation Pump trip: (Cue: "1B" Recirc Pump Tripped 20 minutes ago)	Time of Recirc Pump recorded on ST			
2. PERFORM the following to determine each APRM noise level:				
*2a. RECORD highest value for each APRM listed on Attachment 1 from XR X-M1-1R603A through D on panel 10C603	Highest value for each APRM listed on Attachment 1 from XR X-M1-1R603A through D on panel 10C603 Recorded on ST			
*2b. RECORD lowest value for each APRM listed on Attachment 1 from XR X-M1-1R603A through D on panel 10C603	Lowers value for each APRM listed on Attachment 1 from XR X-M1-1R603A through D on panel 10C603 Recorded on ST			
*3. CALCULATE noise level for each APRM listed on Attachment 1 as follows NL = HV – LV NL = Noise Level (%) HV = Highest Value (step 4.3.2.1) LV = Lowest Value (step 4.3.2.2) NL = _____ - _____ (4.3.2.1) (4.3.2.2) NL = _____ %	Noise level for each APRM listed on Attachment 1 calculated			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4. RECORD each APRM noise level on Attachment 1	APRM noise level recorded on Attachment 1			
5. PERFORM the following to determine each selected LPRM noise level:				
*5a. SELECT each rod listed on Attachment 2	Any Control Rod within the 4-rod group containing the rod specified in Attachment 2 is selected			
*5b. RECORD highest value for all LPRM levels A/C from the Rod Block Monitor ODA on Attachment 2	Highest value for all LPRM levels A/C from the Rod Block Monitor ODA on Attachment 2 Recorded			
*5c. RECORD lowest value for all LPRM levels A/C from the Rod Block Monitor ODA on Attachment 2	Lowest value for all LPRM levels A/C from the Rod Block Monitor ODA on Attachment 2 Recorded			
*6. CALCULATE noise level for each LRPM listed on Attachment 2 as follows NL = HV – LV NL = Noise Level (W/CM^2) HV = Highest Value (step 4.3.3.2) LV = Lowest Value (step. 4.3.3.3) NL = _____ - _____ (4.3.3.2) (4.3.3.3) NL = _____ (W/CM^2)	Noise level for each LRPM listed on Attachment 2 Calculated			
7. RECORD each LPRM noise level on Attachment 2				

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
8. SELECT each rod listed on Attachment 2 (CUE: "You may stop here. You have met the termination criteria for this JPM")	Control Rod 30-15 Selected			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. "1B" Reactor Recirc Pump tripped 20 minutes ago.
2. All prerequisites of ST-6-107-880-1 are completed.
3. SSV has given permission to start test.
4. PRO has given permission to start test.

INITIATING CUES:

Shift Supervision directs you to perform Section 4.3 of ST-6-107-880-1, APRM AND LPRM NOISE LEVEL DETERMINATION.

Limerick Generating Station

Job Performance Measure

SHUTDOWN COOLING FLOW ADJUSTMENTS - RHRSW HI RAD
(ALTERNATE PATH)

JPM Number: 0515

Revision Number: 009

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

REVISION RECORD (SUMMARY)

Rev. 009, Format change only

SIMULATOR SETUP INSTRUCTIONS

1. Reset simulator to IC-15 (Flooded up into Rx Well)
2. Adjust HV-C-51-103A (1A RHR Heat Exchanger Outlet Bypass POS) to 100%
3. Ensure HV-51-1F015A (Shutdown Cooling Return Valve) is full open
4. Throttle HV-C-51-1F048A (Heat Exchanger Bypass) closed to obtain 9000 gpm flow
5. Close HV-51-1F003A (Heat Exchanger Outlet)
6. Apply mousetraps to the following:
   a. HV51-1F027A and B, SUPP POOL SPRAY
   b. HV51-1F040 and 49, LETDOWN TO RW
   c. HV51-1F024A, SUPP POOL CLNG
   d. HV43-1F023A and B, RECIRC SUCTION
7. Prepare a copy of S51.8.B marked up to and including 4.3.22.5

INITIAL CONDITIONS:

1. "1A" RHR has been placed in service for Shutdown Cooling with Reactor Coolant temperature at 85°F as read on XI-36-101 point 1.
2. "0A" RHRSW pump is in service providing flow to "1A" RHR Heat Exchanger.
3. Reactor level is being maintained at 83" as read on LI-42-1R605.
4. HV-C-51-103A, RHR Heat Exchanger Outlet Bypass (POS), is full open and additional cooling is required to maintain reactor coolant temperature within the 75°F to 85°F band.
5. The Unit 1 Reactor Operator is performing the cooldown ST.

INITIATING CUES:

The CRS has directed you to continue performing S51.8.B at step number 4.3.22.6 to provide additional cooling to reactor coolant.

Job Performance Measure (JPM)

TASK STANDARD:

1A RHR pump tripped and 1A RHR Heat Exchanger isolated.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.

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

The timeclock starts when the candidate acknowledges the initiating cue.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: SHUTDOWN COOLING FLOW ADJUSTMENTS - RHRSW HI RAD (ALTERNATE PATH)

JPM Number: LLOJPM0515 Revision Number: 009

K/A Number and Importance: 205000 K1.15 3.5/3.6

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: Yes

Time Critical: No

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

References: S51.8.B, Rev. 58, ARC-MCR-011 B-4, Rev. 1

EVALUATION SUMMARY:

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

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

Comments:_____

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Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. If additional cooling is required, then PERFORM the following: (Cue: Additional cooling is required)	N/A			
1a. OPEN HV-C-51-*F048A(B), HEAT EXCH BYPASS	HV-C-51-1F048A handswitch to OPEN			
1b. OPEN HV-51-*F003A(B), OUTLET	HV-51-1F003A handswitch to OPEN			
1c. CLOSE HV-C-51-*03A(B), POS	Depress HV-C-51-103A controller "CLOSE" pushbutton to reduce meter output to 0%			
NOTE: Insert MRM019A U1 RHR SW Return Hdr Rad Mon fails to 500 cpm.				
2. Respond to alarm B-4 on 011 SERV WTR B (RHRSW HI RADIATION.) (Cue if needed: "You have received the RHRSW HI Rad Alarm")	Obtain ARC B-4 on 011 SERV WTR B			
3. Verify the high rad condition on RR12-0R615A,B panel C667	Observe RHRSW rad recorder RR12-0R615A and determine increasing trend			
4. If an actual high radiation condition is suspected, **THEN:** (CUE: If asked, report Chemistry has confirmed that a hi rad condition exsist)	Determine recorder response is due to an actual increasing radiation condition			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*4a. Trip associated RHR pump	RHR Pump "1A" handswitch taken to STOP			
*4b. **AND** Isolate the shell side of HX by closing HV-51-*F047A(B) or HV-51-*82A(B) with HS-51-*82A(B) (309/238' U/1) (376/238' U/2)	HV-51-1F047A keylock switch taken to CLOSE, green light on, red light off			
*4c. **AND** HV-51-*F003A(B) **OR** HV-C-51-*03A(B) (Cue: " You have reached the termination point for the JPM")	HV-51-1F003A keylock switch taken to CLOSE, green light on, red light off			

JPM Stop Time _____

Initial Conditions:

1. "1A" RHR has been placed in service for Shutdown Cooling with Reactor Coolant temperature at 85°F as read on XI-36-101 point 1.
2. "0A" RHRSW pump is in service providing flow to "1A" RHR Heat Exchanger.
3. Reactor level is being maintained at 83" as read on LI-42-1R605.
4. HV-C-51-103A, RHR Heat Exchanger Outlet Bypass (POS), is full open and additional cooling is required to maintain reactor coolant temperature within the 75°F to 85°F band.
5. The Unit 1 Reactor Operator is performing the cooldown ST.

Initiating Cues:

The CRS has directed you to continue performing S51.8.B at step number 4.3.22.6 to provide additional cooling to reactor coolant.

Limerick Generating Station

Job Performance Measure

SUPPLYING POWER TO A 480 VAC NON-SAFEGUARD LOAD CENTER FROM ITS ALTERNATE SOURCE (ALTERNATE PATH)

JPM Number: 0525

Revision Number: 000

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

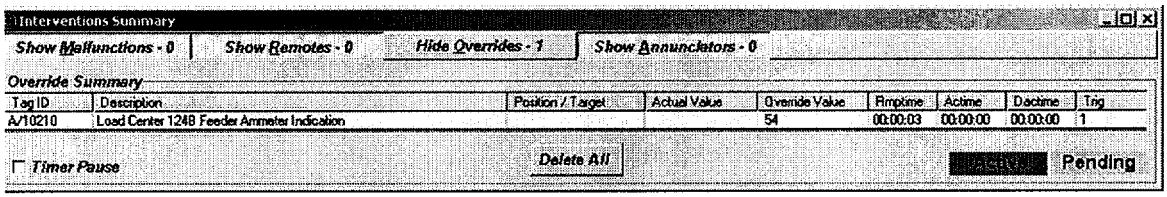
_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

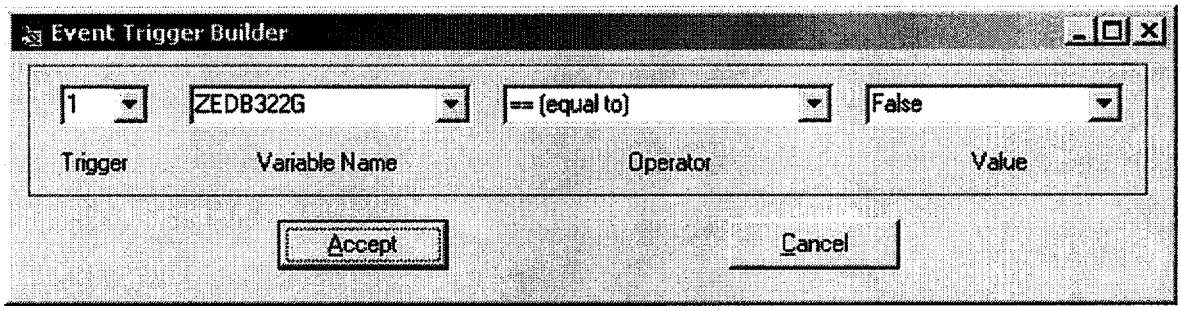
REVISION RECORD (SUMMARY)

New Revision

SIMULATOR SETUP INSTRUCTIONS



Trigger 1 on Indicating Light 52-10322/CS (114B Breaker Green Lamp on) when 52-10322/CS taken to close.



INITIAL CONDITIONS:

1. Shift Manger's Permission has been given to close 480 VAC Tie breaker
2. Maintenance has been scheduled for the 114B Reactor Area Load Center
3. Load on the 114B Load Center has been minimized by placing alternate trains of components in service

INITIATING CUES:

Shift Supervision has directed you to supply the 114B Non-Safeguard Load Center from its alternate source 124B Load Center per step 4.6 of S93.7.A

TASK STANDARD:

114B load transferred to 124B Load Center then load is restored to 114B Load Center

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: Supplying Power To A 480 VAC Non-Safeguard Load Center From Its Alternate Source (ALTERNATE PATH)

JPM Number: LLOJPM0525 Revision Number: 000

K/A Number and Importance: 262001 A2.10 2.9/3.4

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: Yes

Time Critical: No

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

References: S93.7.A, Rev. 22

EVALUATION SUMMARY:

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

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

Comments:_____

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Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

Job Performance Measure (JPM)

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*1. PLACE Tie Breaker control switch in "CLOSE" OR (DEPRESS Tie Breaker "CLOSE" pushbutton at load center for TSC load centers 144D/244D only) AND PERFORM the following:	Breaker Control Switch 52-10342/CS taken to "CLOSE" for 114B 480 Volt Load Center			
*2. PLACE appropriate Bus Breaker control switch to "OPEN"	Bus Breaker 252-10110/CS placed in "OPEN"			
3. WHEN Tie Breaker indicates closed, AND Main Breaker indicates tripped, THEN RELEASE Tie Breaker Control switch	Bus Breaker 252-10110/CS released			
NOTE:Insert Override A/10210 124B Load Center Ammeter Indication to 54 Amps				
4. OBSERVE ammeter associated with Load Center Bus which is now feeding intertied buses	Ammeter for 124B is Checked			
5. IF 13 KV load exceeds specified amperage values, THEN PERFORM the following:	Recognize load exceeds amperage values			
*5a. CLOSE opened Bus Breaker	Bus Breaker 252-10110/CS placed in "CLOSE"			
Remove Override A/10210 124B Load Center Ammeter Indication to 54 Amps				
(Cue: "You may stop here you have met the termination criteria for this JPM")				

JPM Stop Time _____

INITIAL CONDITIONS:

1. Shift Manger's Permission has been given to close 480 VAC Tie breaker
2. Maintenance has been scheduled for the 114B Reactor Area Load Center
3. Load on the 114B Load Center has been minimized by placing alternate trains of components in service

INITIATING CUES:

Shift Supervision has directed you to supply the 114B Non-Safeguard Load Center from its alternate source 124B Load Center per step 4.6 of S93.7.A

Limerick Generating Station

Job Performance Measure

START REACTOR RECIRC MG SET (ALTERNATE PATH)

JPM Number: 0526

Revision Number: 000

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

REVISION RECORD (Summary)

New Revision

SIMULATOR SETUP INSTRUCTIONS:

1. Reset Simulator to IC 15
2. Ensure that the "1B" RRP shutdown IAW S43.2.A
3. Insert the following malfunctions when the MG drivemotor breaker is taken to "START"
   - Insert Malf VIC105A6 0-18 over 1 minute
   - Insert Malf VIC106A3 0-18 over 1 minute
   - Insert Annunciator 111 D-2 RECIRC M-G PUMP MOTOR HI VIBRATION

TASK STANDARD:

"1B" RRP started then secured due to High Reactor Recirc Pump Vibration

INITIAL CONDITIONS:

1. All Prerequisites of S43.1.A have been completed
2. Sections 4.1 of S43.1.A has been completed
3. Another Operator is completing ST-6-043-390-*, Reactor Recirculation Pump Idle Loop Startup Temperature and Flow Check and ST-6-043-390-*, temperature differential requirements

INITIATING CUES:

You are directed by shift supervision start the "1B" Reactor Recirc pump in accordance with step 4.2.6 of S43.1.A

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: START REACTOR RECIRC MG SET (ALTERNATE PATH)
JPM Number: LLOJPM0526 Revision Number: 000

K/A Number and Importance: 202001 A3.02 3.1/3.0

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: Yes

Time Critical: No

Estimated Time to Complete: 20 minutes **Actual Time Used:** ____minutes

References: S43.1.A, Rev.53

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

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

Comments:_____
_____
_____
_____
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_____
_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*1. **PLACE** "Recirc Pp M-G Set Drive Motor Control" (MOTOR), to "START" at *0C602 **AND VERIFY** the following:	"Recirc Pp M-G Set Drive Motor Control" (MOTOR), taken to "START"			
1a. XY4-M1-*R621A(B), "Recirc Pp Speed" (S), increases to approximately 100%	XY4-M1-*R621A(B), "Recirc Pp Speed" (S), increases at approximately 100%			
1b. M-G Field breaker closes approximately 13 seconds after M-G start	M-G Field breaker closed approximately 13 seconds after M-G start			
1c. B32-*R627A(B), "Generator Current" (AM), rise	B32-*R627A(B), "Generator Current" (AM) rises			
1d. B32-*R623A(B), "Generator Voltage" (V), rise	B32-*R623A(B), "Generator Voltage" (V), rises			
1e. PDI-43-*R612A(B), "Recirc Pp Differential Pressure" (DELTA PX), rise	PDI-43-*R612A(B), "Recirc Pp Differential Pressure" (DELTA PX), rose			
1f. XY5-M1-*R621A(B), "Recirc Pp Speed Demand" (DEMAND), reduces to approximately 20%	XY5-M1-*R621A(B), "Recirc Pp Speed Demand" , at approximately 20%			
1g. XY4-M1-*R621A(B), "Recirc Pp Speed" (S), reduces to approximately 20%	XY4-M1-*R621A(B), "Recirc Pp Speed" (S), reduces to approximately 20%			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*2a. **JOG OPEN** HV-43-*F031A(B), DISCHARGE, at 0C602 for 1 to 2 seconds allowing 5 to 10 seconds for power	HV-43-*F031A(B), DISCHARGE jogged open			
2b. **AND** level to stabilize repeating as necessary until the following conditions are met:	N/A			
2c. Recirc Pp speed is stable	Recirc Pp speed is stable			
2d. FI-42-*R611A(B), "Total Jet Pump Loop Flow" (FL), is approximately 15 lbs/hr X10E6	FI-42-*R611A(B), "Total Jet Pump Loop Flow" (FL), is approximately 15 lbs/hr X10E6			
Insert Malf VIC105B9 0-18 over 1 minute after Discharge Valve is fully open Insert Malf VIC106B1 0-18 over 1 minute after Discharge Valve is fully open Insert Annunciator 112 D-2 RECIRC M-G PUMP MOTOR HI VIBRATION 30 seconds after Discharge Valve is fully open				
The following actions are from ARC 111 D-2 1A RECIRC M-G PUMP MOTOR HI VIBRATION				
3. IF no speed changes on "1B" Recirc Pump were made OR Vibration Monitoring System indicates a problem during a speed change, THEN reduce speed of "1B" Recirc Pump to clear annunciator	Recirc Pump verified to be at minimum speed			
4. IF annunciator cannot be cleared after reducing flow to the low speed setpoint, THEN secure "1B" Recirc Pump, per S43.2.A	Recognize that the vibration alarms will not clear			
The following actions are from S43.2.A				

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
5. **ENSURE** XC-M1-*R621A(B), "Recirc Pp Speed Controller" (S), set at 0%, at *0C602	XC-M1-*R621A(B), "Recirc Pp Speed Controller" (S), set at 0%,			
*6. **TRIP** M-G Drive Motor breaker (MOTOR)	M-G Drive Motor breaker (MOTOR) Tripped			
7. **AND VERIFY** B32-*R628A(B), "Motor current" (AM), lowers to zero	B32-*R628A(B), "Motor current" (AM), at zero			
*8. **CLOSE** HV-43-1F031A(B), "Recirc Pp Discharge" (DISCHARGE) **OR** HV-43-1F023A(B), "Recirc Pp Suction" (SUCTION)	HV-43-1F031A(B), "Recirc Pp Discharge" (DISCHARGE) **OR** HV-43-1F023A(B), "Recirc Pp Suction" (SUCTION) CLOSED			
(CUE: "You can stop here you have met the termination criteria for this JPM")	N/A			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. All Prerequisites of S43.1.A have been completed
2. Sections 4.1 of S43.1.A has been completed
3. Another Operator is completing ST-6-043-390-*, Reactor Recirculation Pump Idle Loop Startup Temperature and Flow Check and ST-6-043-390-*, temperature differential requirements

INITIATING CUES:

You are directed by shift supervision start the "1B" Reactor Recirc pump in accordance with step 4.2.6 of S43.1.A

Limerick Generating Station

Job Performance Measure

T-228 DRYWELL INERTING WITH NITROGEN (ALTERNATE PATH)

JPM Number: 0527

Revision Number: 000

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

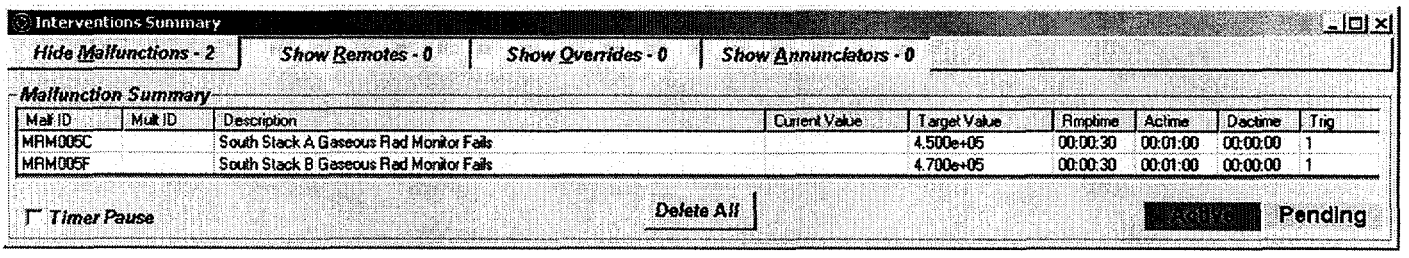
Job Performance Measure (JPM)

REVISION RECORD (Summary)

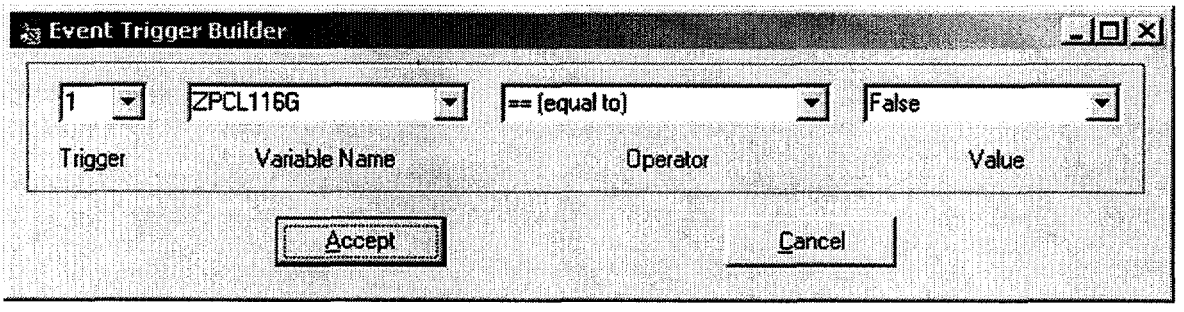
New Revision

SIMULATOR SETUP INSTRUCTIONS:

1. The simulator can be reset to any IC 55 or IC 17 and insert MALF MRR440A and remove when Drywell Pressure is at 25 psig.
2. Perform a GP-4 Shutdown.
3. Bypass and restore H2O2 analyzer to service.
4. Bypass and restore Drywell Cooling.
5. Stabilize plant.



Activate trigger 1 (HS-57-116 Green Indicating Light Off) when HS-57-116 is opened.



TASK STANDARD:

Section 4.5 of T-228 is completed to initiate inerting of the drywell with nitrogen.

INITIAL CONDITIONS:

1. Drywell inerting is required per T-102, leg DW/G-1
2. Drywell pressure is 29 psig and slowly rising
3. N_2 makeup is available at a supply pressure of 70 psig
4. Primary containment water level is 24.2 ft
5. All prerequisites of T-228 are completed
6. An Equipment Operator is standing by to support this evolution

Job Performance Measure (JPM)

INITIATING CUES:

Shift Supervision directs you to inert the drywell with low flow nitrogen per section 4.5 of T-228, Inerting/Purging Primary Containment

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: T-228 Drywell Inerting With Nitrogen (ALTERNATE PATH)
JPM Number: LLOJPM0527 Revision Number: 000

K/A Number and Importance: 500000 EA1.07 3.4 / 3.3

Suggested Testing Environment: Simulator

Actual Testing Environment: Simulator

Testing Method: Perform **Faulted:** No

Alternate Path: Yes

Time Critical: No

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

References: T-228 Rev. 20

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

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

Comments:_____
_____
_____
_____
_____
_____
_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. **DIRECT** dose assessment personnel to monitor offsite release (Cue: RP is performing offsite dose Assessment)	Dose Assessment personnel contacted			
2. **ENSURE** N_2 makeup available **AND** N_2 supply lined up for low flow service per S57.8.A, Placing Or Removing Liquid N_2 Vaporizer System In (From) Service and Changing Flow Modes.	Recognize condition met from initial conditions			
3. **IF** Drywell pressure is greater than Nitrogen Supply pressure, **THEN RAISE** setpoint of PC-X-IE-002, "Low Flow N_2 Supply Pressure Controller," to a value greater than Drywell Pressure but less than 75 psig.	N/A			
4. **ENSURE** SSVN is informed that H_2/O_2 Analyzers will be placed in STANDBY **AND** that Hydrogen readings will **not** be available	CRS is told that H_2/O_2 analyzers will be placed in STANDBY and H_2 readings will not be available			
5. **PLACE** HSS-57-196, "H_2/O_2 Analyzer 10S206," in "STANDBY" at 10C600 (Main Control Room)	HSS-57-196 is placed in STANDBY			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6. **PLACE** HSS-57-126, "H_2/O_2 Analyzer 10S205," in "STANDBY" at 10C600 (Main Control Room).	HSS-57-126 is placed in STANDBY			
7. **PLACE** HS-57-153, "Drywell Isolation," to "CLOSE" at 10C601 (Main Control Room).	HS-57-153 is placed in CLOSE			
8. **PLACE** HS-57-187, "Supp Pool Isolation," to "CLOSE" at 10C601 (Main Control Room).	HS-57-187 is placed in CLOSE			
9. **PLACE** HS-57-183, "Supp Pool Isolation" to "CLOSE" at 10C601 (Main Control Room).	HS-57-183 is placed in CLOSE			
*10. **OPEN** HV-57-111, DRYWELL EXH BYPASS INBD, at 10C601 (Main Control Room).	HV-57-111 is opened			
*11. **PLACE** HV-57-117, TO RX ENCL FILTER OUTBD, in "AUTO" **AND VERIFY** HV-57-117 opens at 10C601 (Main Control Room).	HV-57-117 is placed in AUTO and HV-57-117 is verified to open			
*12. **OPEN** HV-57-116, N_2 MAKE-UP **AND VERIFY** N_2 flow on XR-57-119, "Nitrogen Purge," (red pen).	HV-57-116 is opened, and nitrogen flow is verified on XR-57-119.			
13. **MONITOR** PI-57-121, "Drywell Pressure" (Px (NR)), **AND** PMS 057 DRYWELL PRESSURE	PI-57-121 is monitored			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
14. **THROTTLE** HV-57-116, N_2 MAKE-UP, to maintain desired Drywell pressure	HV-57-116 is throttled as required			
Insert Malf MRM005C and MRM005F (or Trigger 1) for South Stack Radiation Monitor failure upscale				
15. Recognize South Stack Radiation Monitor Hi-Hi alarm and take action to manually isolate the drywell vent path	The drywell inerting flowpath is manually isolated			
NOTE: The following are Actions from the ARC 003 RAD F1				
15a. Perform ST-6-104-880-1 (Cue: Another operator is performing ST-6-104-880-1)	N/A			
15b. Perform RMMS 402 (Cue: Another operator is performing ST-6-104-880-1)	N/A			
*15c. CLOSE HV-57-117, TO RX ENCL FILTER OUTBD	HV-57-117, TO RX ENCL FILTER OUTBD, in "CLOSE"			
*15d. OPEN HV-57-111, DRYWELL EXH BYPASS INBD	HV-57-111, DRYWELL EXH BYPASS INBD, in OPEN			
(CUE: "You can stop here. You have met the termination criteria for this JPM.")	N/A			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. Drywell inerting is required per T-102, leg DW/G-1
2. Drywell pressure is 29 psig and slowly rising
3. N_2 makeup is available at a supply pressure of 70 psig
4. Primary containment water level is 24.2 ft
5. All prerequisites of T-228 are completed
6. An Equipment Operator is standing by to support this evolution

INITIATING CUES:

Shift Supervision directs you to inert the drywell with low flow nitrogen per section 4.5 of T-228, Inerting/Purging Primary Containment

Limerick Generating Station

Job Performance Measure

BYPASSING AND REMOVING THE *A RPS AND UPS STATIC INVERTER FROM SERVICE

JPM Number: 0203

Revision Number: 003

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

REVISION RECORD (Summary)

Revision 003, This revision is a complete rewrite no Revision bars used

SIMULATOR SETUP INSTRUCTIONS:

None

TASK STANDARD:

*A RPS/UPS Static Inverter Bypassed and Removed from Service

INITIAL CONDITIONS:

1. *A RPS and UPS Static Inverter is in Service

INITIATING CUES:

You are directed by shift supervision to bypass the *A RPS/USP static inverter and remove it from service per S94.2.A.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.
Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: BYPASSING AND REMOVING THE *A RPS AND UPS STATIC INVERTER FROM SERVICE

JPM Number:LLOJPM0203 Revision Number:003

K/A Number and Importance: 262002 K6.02 2.8/3.1

Suggested Testing Environment: Plant

Actual Testing Environment: Plant

Testing Method: Simulate **Faulted:** No

Alternate Path: No

Time Critical: No

Estimated Time to Complete: 20 minutes **Actual Time Used:** ____minutes

References: S94.2A, Rev.13

EVALUATION SUMMARY:

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

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

Comments:_____

_____

_____

_____

_____

_____

_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date _____

Job Performance Measure (JPM)

The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. **VERIFY** ALT. AVAIL. yellow indicating light Lit. (CUE: "ALT. AVAIL. yellow indicating light Lit..")	ALT. AVAIL. yellow indicating light Lit.			
2. **VERIFY** SYNC REF. AVAIL. yellow indicating light Lit. (CUE: "SYNC REF. AVAIL. yellow indicating light Lit.")	SYNC REF. AVAIL. yellow indicating light Lit.			
3. **VERIFY** SYNC FAIL SYNC MONITOR red alarm light **not** Lit. (CUE: "SYNC FAIL SYNC MONITOR red alarm light **not** Lit.")	SYNC FAIL SYNC MONITOR red alarm light **not** Lit			
*4. **PLACE** TEST TRANSFER switch to "MAN" **AND VERIFY** the following: (CUE: "TEST TRANSFER switch in "MAN"	TEST TRANSFER switch in "MAN"			
4a. ON ALTERNATE red indicating light comes on (CUE: "ON ALTERNATE red indicating light on.")	ON ALTERNATE red indicating light on			
4b. ON INVERTER green indicating light goes off (CUE: "ON INVERTER green indicating light off.")	ON INVERTER green indicating light off			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
4c. DC AMPS ammeter decreases to approximately 5 amps (CUE: "DC AMPS ammeter approximately 5 amps.")	DC AMPS ammeter approximately 5 amps			
*5a. **PLACE** BYPASS SWITCH to BYPASS position at *0NAD160 (CUE: "BYPASS SWITCH in BYPASS.")	BYPASS SWITCH in BYPASS			
5b. **AND VERIFY** ATS BYPASSED red light comes on (CUE: "ATS BYPASSED red light on.")	ATS BYPASSED red light on			
*6a. **PLACE** TEST TRANSFER SWITCH to "AUTO" to transfer Static Switch from Alternate Source to Inverter **AND** (CUE: "TEST TRANSFER SWITCH in "AUTO".")	TEST TRANSFER SWITCH in "AUTO"			
6b. **VERIFY** the following steps occur within approximately 5 seconds:	N/A			
7. ON INVERTER green indicating light comes on (CUE: "ON INVERTER green indicating light on.")	ON INVERTER green indicating light on			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
8. ON ALTERNATE red indicating light goes off (CUE: "ON ALTERNATE red indicating light off.")	ON ALTERNATE red indicating light off			
*9. **PLACE** ISOLATION SWITCH to "OPEN" position at *0NAD160, **AND VERIFY** the following: (CUE: "ISOLATION SWITCH in "OPEN" position.")	ISOLATION SWITCH in "OPEN" position			
9a. ALT. AVAIL. yellow indicating light goes off (CUE: "ALT. AVAIL. yellow indicating light off.")	ALT. AVAIL. yellow indicating light off			
9b. ALT. LOW VOLTS red alarm light comes on (CUE: "ALT. LOW VOLTS red alarm light on.")	ALT. LOW VOLTS red alarm light on			
9c. SYNC. REF. AVAIL. yellow indicating light goes off (CUE: "SYNC. REF. AVAIL. yellow indicating light off.")	SYNC. REF. AVAIL. yellow indicating light off			
9d. SYNC FAIL SYNC MONITOR red alarm light comes on (CUE: "SYNC FAIL SYNC MONITOR red alarm light on.")	SYNC FAIL SYNC MONITOR red alarm light on			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
9e. ALT. VOLTS voltmeter goes to 0 volts (CUE: "ALT. VOLTS voltmeter at 0 volts.")	ALT. VOLTS voltmeter at 0 volts			
*10. **DEPRESS AND RELEASE** INVERTER STOP red pushbutton **AND VERIFY** the following: (CUE: "INVERTER STOP red pushbutton Depressed and Released.")	INVERTER STOP red pushbutton Depressed and Released			
10a. INV. VOLTS meter goes to 0 volts (CUE: "INV. VOLTS meter 0 volts.")	INV. VOLTS meter 0 volts			
10b. INV. FREQUENCY meter drops to far left (CUE: "INV. FREQUENCY meter at far left.")	INV. FREQUENCY meter at far left			
10c. Inverter cooling fans shut off as indicated by FAN FAIL red alarm light on **AND no** air flow from top rear of inverter (CUE: "FAN FAIL red alarm light on no air flow from top rear of Inverter")	FAN FAIL Red light on and Inverter cooling fans off			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
10d. SYNC FAIL SYNC MONITOR red alarm light goes off (CUE: "SYNC FAIL SYNC MONITOR red alarm light off.")	SYNC FAIL SYNC MONITOR red alarm light off			
10e. OUTPUT LOW VOLTS red alarm light comes on after approximately 10 seconds (CUE: "OUTPUT LOW VOLTS red alarm light comes on")	OUTPUT LOW VOLTS red alarm light comes on			
*11. **OPEN** Inverter DC INPUT breaker (CUE: "Inverter DC INPUT breaker Open.")	Inverter DC INPUT breaker Open			
*12. **PLACE** PRECHARGE/ DISCHARGE toggle switch to "DISCHARGE" position **AND VERIFY** the following: (CUE: "**PLACE** PRECHARGE/ DISCHARGE toggle switch in "DISCHARGE")	**PLACE** PRECHARGE/ DISCHARGE toggle switch in "DISCHARGE"			
12a. CHARGED green indicating light goes off (CUE: "CHARGED green indicating light off.")	CHARGED green indicating light off			

Job Performance Measure (JPM)

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
12b. DC VOLTS meter decreases to 0 volts (CUE: "DC VOLTS meter at 0 volts.")	DC VOLTS meter at 0 volts			
12c. DC AMPS meter decreases to 0 amps (CUE: "DC AMPS meter decreases to 0 amps")	DC AMPS meter decreases to 0 amps			
12d. All remaining indicating lights go off. (CUE: "All remaining indicating lights off. ")	All remaining indicating lights off.			
*13. **OPEN** breaker 72-20120 (*DA-20), at 250 VDC MCC *0D201 (*DA) (304-R11-217 for Unit 1, 370-R18-217 for Unit 2), to remove voltage to Inverter DC INPUT breaker (CUE: "Breaker 72-20120 (*DA-20), at 250 VDC MCC *0D201 (*DA) (304-R11-217 for Unit 1, 370-R18-217 for Unit 2) OPEN.")	Breaker 72-20120 (*DA-20), at 250 VDC MCC *0D201 (*DA) (304-R11-217 for Unit 1, 370-R18-217 for Unit 2) OPEN			
(CUE: "You have met the termination criteria for the JPM. You may stop here.")	N/A			

JPM Stop Time: _____

INITIAL CONDITIONS:

1. *A RPS and UPS Static Inverter is in Service.

INITIATING CUES:

You are directed by shift supervision to bypass the *A RPS/USP static inverter and remove it from service per S94.2.A.

Limerick Generating Station

Job Performance Measure

INADVERTENT OPENING OF A RELIEF VALVE

JPM Number: LLOJPM0204

Revision Number: 006

Date: _____

Developed By: _____ _____
Instructor **Date**

Validated By: _____ _____
SME or Instructor **Date**

Review By: _____ _____
Operations Representative **Date**

Approved By: _____ _____
Training Department **Date**

Job Performance Measure (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

Job Performance Measure (JPM)

Revision Record (Summary)

1. Revision 006, Changed rev. no. of OT-114 to Rev. 24. Verified steps accurate IAW rev. 23 of OT-114. Step 1 removed (obtain a current copy of the procedure)

INITIAL CONDITIONS:

1. LGS Unit ___ is in OPCON 3
2. PSV-41-*F013E is confirmed stuck open

INITIATING CUE:

You are directed by Shift Supervision to pull fuses for PSV-41-*F013E in accordance with OT-114.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.

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

The timeclock starts when the candidate acknowledges the initiating cue.

Job Performance Measure (JPM)

Operator's Name: _____

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

JPM Title: Inadvertent Opening of a Relief Valve

JPM Number: LLOJPM0204 Revision Number: 006

K/A Number and Importance: 239002A2.03 4.1/4.2

Suggested Testing Environment: Plant

Actual Testing Environment: Plant

Testing Method: Simulate **Faulted:** No

Alternate Path: No

Time Critical: No

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

References: OT-114, Rev. 24, Inadvertent Opening of a Relief Valve

EVALUATION SUMMARY:

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

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

Comments:_____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date: _____

Job Performance Measure (JPM)

TASK STANDARD: "1E" SRV fuses simulated removed per OT-114

JPM Start Time: _____

2ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1. Obtain Fuse Pullers NOTE: The operator can obtain fuse puller from a variety of locations. Most likely location is the MCR PRO's desk. (CUE: Once operator demonstrates ability to obtain fuse pullers, say "You have obtained fuse pullers.")	Fuse pullers in hand			
NOTE: Steps 2 – 5 are to be completed when performing this JPM on Unit 1. Steps 6 – 9 are to be completed when performing this JPM on Unit 2.				
*2. **UNIT 1 ONLY** **PULL** Fuse AA-F8 B21C-F3E at panel 10C628 (Cue: "Fuse is pulled")	Fuse AA-F8 B21C-F3E at panel 10C628 removed			
*3. **UNIT 1 ONLY** **PULL** Fuse AA-F9 B21C-F4E at panel 10C628 (Cue: "Fuse is pulled")	Fuse AA-F9 B21C-F4E at panel 10C628 removed			
*4. **UNIT 1 ONLY** **PULL** Fuse AA-F7 B21C-F7E at panel 10C631 (Cue: "Fuse is pulled")	Fuse AA-F7 B21C-F7E at panel 10C631 removed			

Job Performance Measure (JPM)

2ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5. **UNIT 1 ONLY** **PULL** Fuse AA-F8 B21C-F8E at panel 10C631 (Cue: "Fuse is pulled") (Cue: After all four fuses have been removed, tell operator "You have met the termination criteria for this JPM. You can stop here.")	Fuse AA-F8 B21C-F8E at panel 10C631 removed			
*6. **UNIT 2 ONLY** **PULL** Fuse 20-C628/B21C-F3E at panel 20C628 (Cue: "Fuse is pulled")	Fuse 20-C628/B21C-F3E at panel 20C628 removed			
*7. **UNIT 2 ONLY** **PULL** Fuse 20-C628/B21C-F4E at panel 20C628 (Cue: "Fuse is pulled")	Fuse 20-C628/B21C-F4E at panel 20C628 removed			
*8. **UNIT 2 ONLY** **PULL** Fuse 20-C631/B21C-F7E at panel 20C631 (Cue: "Fuse is pulled")	Fuse 20-C631/B21C-F7E at panel 20C631 removed			

Job Performance Measure (JPM)

2ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*9. **UNIT 2 ONLY** **PULL** Fuse 20-C631/B21C-F8E at panel 20C631 (Cue: "Fuse is pulled") (Cue: After all four fuses have been removed, tell operator "You have met the termination criteria for this JPM. You can stop here.")	Fuse 20-C631/B21C-F8E at panel 20C631 removed			

JPM Stop Time: _____

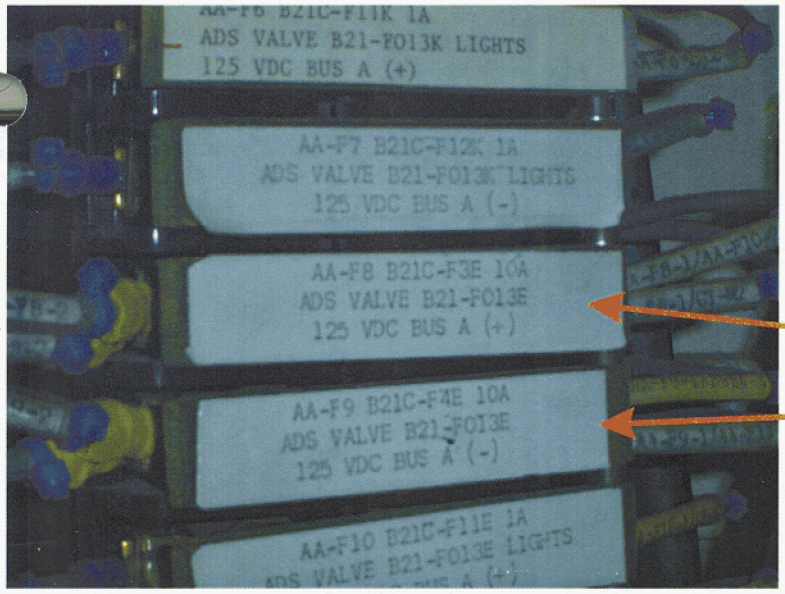
INITIAL CONDITIONS:

1. LGS Unit ___ is in OPCON 3

2. PSV-41-*F013E is confirmed stuck open

INITIATING CUE:

You are directed by Shift Supervision to pull fuses for PSV-41-*F013E in accordance with OT-114.

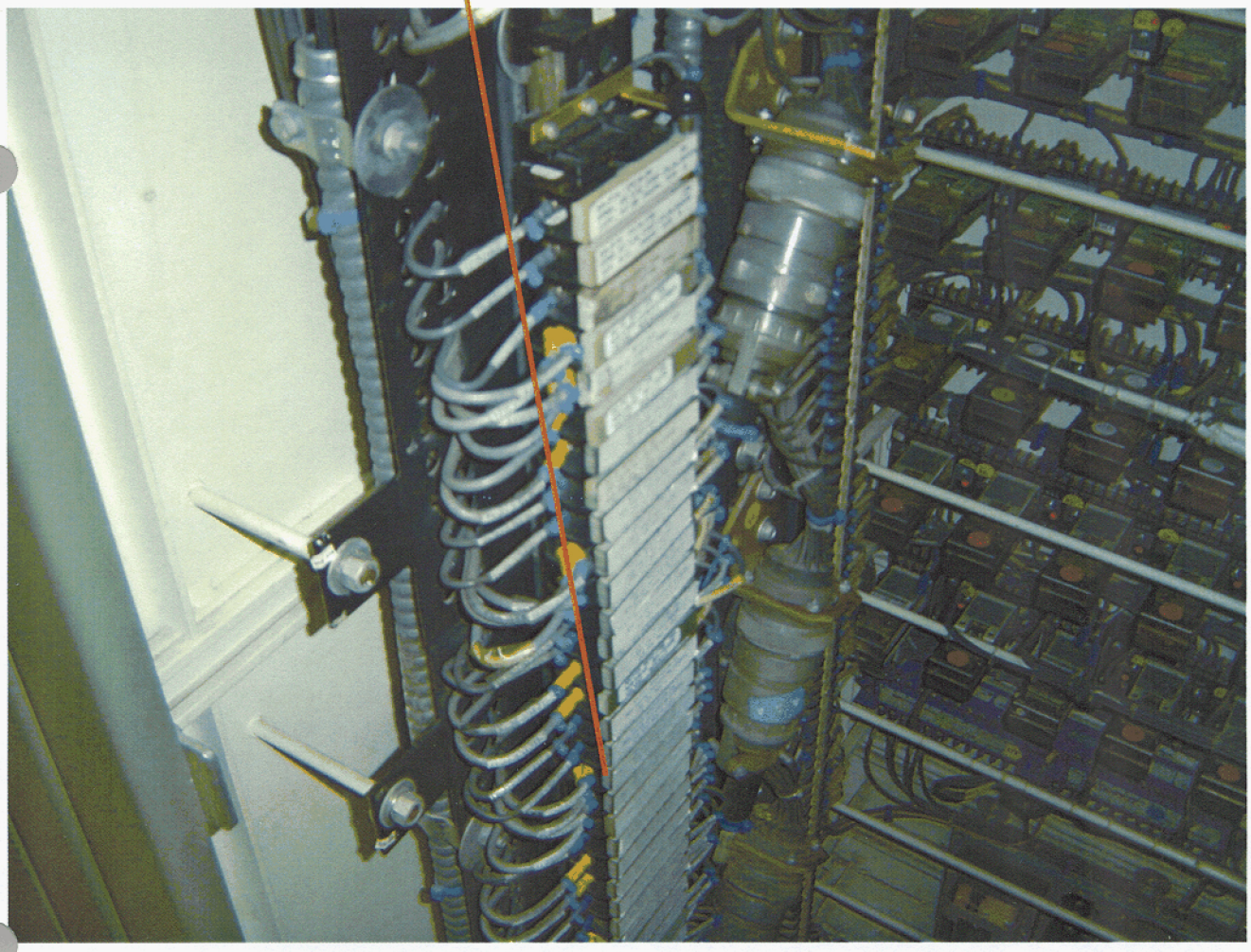


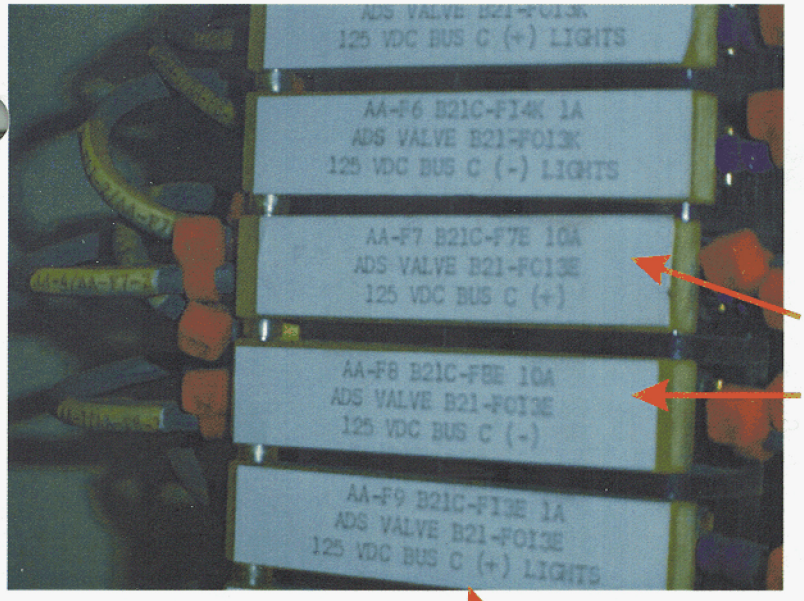
Inside of panel 10C628

Fuses:

AA-F8 B21C-F3E

AA-F9 B21C-F4E



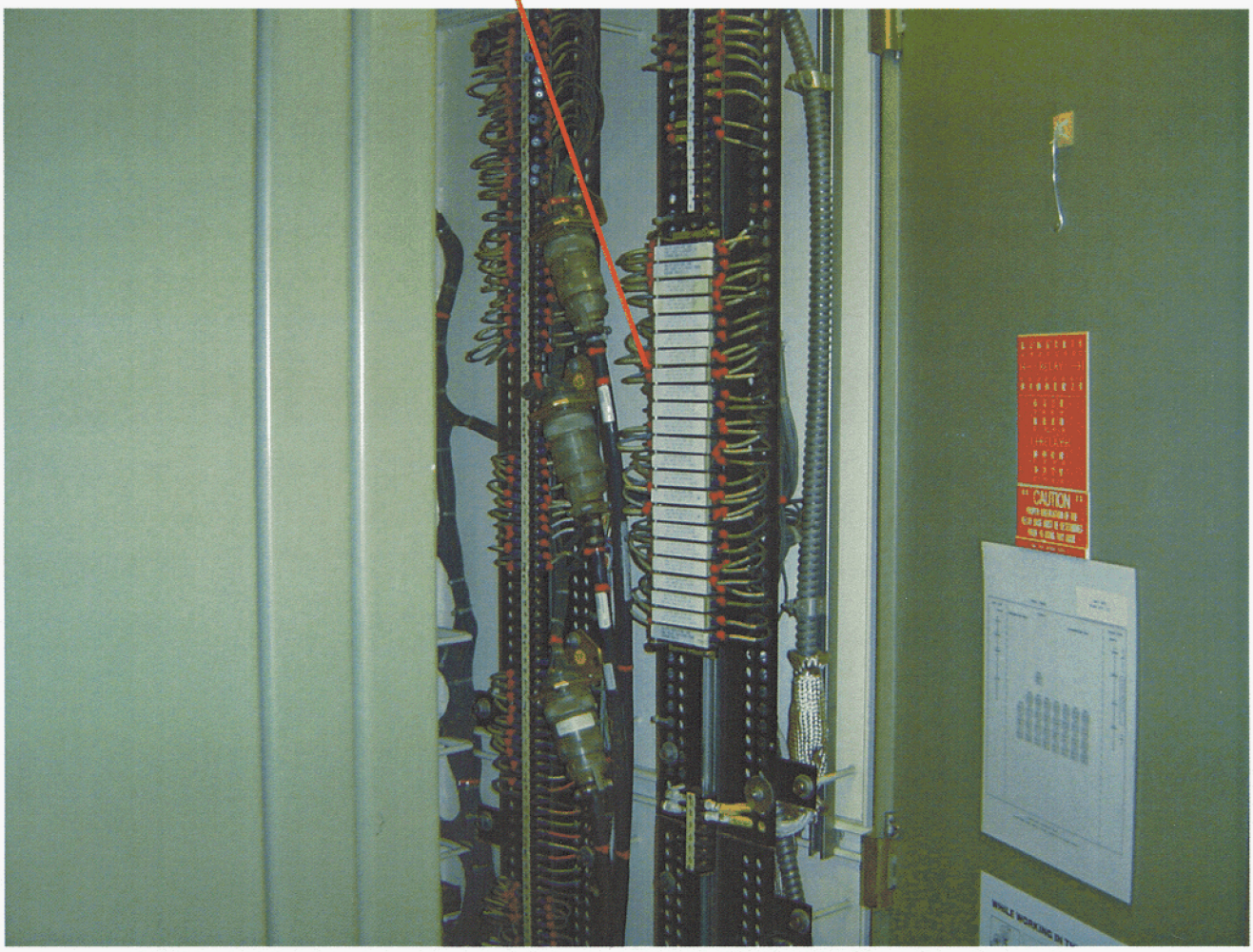


Inside of panel 10C631

Fuses:

AA-F7 B21C-F7E

AA-F8 B21C-F8E



Limerick Generating Station

Job Performance Measure

SCRAM DISCHARGE VOLUME DRAINING (T-217)

JPM Number: 0211

Revision Number: 007

Date: __/__/__

Developed By:	_____	_____
	Instructor	**Date**
Validated By:	_____	_____
	SME or Instructor	**Date**
Review By:	_____	_____
	Operations Representative	**Date**
Approved By:	_____	_____
	Training Department	**Date**

JOB PERFORMANCE MEASURE (JPM)

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 8 through 11 below.

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

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

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

_____ 4. Initial setup conditions are identified.

_____ 5. Initiating and terminating cues are properly identified.

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

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

_____ 8. Verify the procedure referenced by this JPM matches the most current revision of that procedure:
Procedure Rev. _____ Date _____

_____ 9. Pilot test the JPM:
a. verify cues both verbal and visual are free of conflict, and
b. ensure performance time is accurate.

_____ 10. If the JPM cannot be performed as written with proper responses, then revise the JPM.

_____ 11. When JPM is revalidated, SME or Instructor sign and date JPM cover page.

JOB PERFORMANCE MEASURE (JPM)

Revision Record (Summary)

1. Complete Rewrite. No rev bars used. Revision changes JPM to new format and changes were made to ensure JPM Matches Revision 19 of T-217 U/1 and Revision 18 of T-217 U/2. Initiating Cue was revised to include step number to be preformed to clearly define the task to be accomplished.

SIMULATOR SETUP INSTRUCTIONS:

None

TASK CONDITIONS:

1. Scram signal exists on Unit ___ and 15 Control Rods are at various withdrawn positions
2. T-217 has been completed up to and including step 4.1.10
3. T-215 and T-216 have not been performed

INITIATING CUES:

You are directed by Shift Supervision to drain the Unit ____ Scram Discharge Volume until the SDV level switches indicate less than 62% per step 4.1.11 of T-217.

TASK STANDARD(S):

Scram Discharge Volume Draining

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column. 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 and to document unsatisfactory performance relating to management expectations.

JOB PERFORMANCE MEASURE (JPM)

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.

JOB PERFORMANCE MEASURE (JPM)

TITLE: Scram Discharge Volume Draining (T-217)

Operator's Name: _____

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

JPM Title: Scram Discharge Volume Draining (T-217)
JPM Number: LLOJPM0211 Revision Number: 007

K/A Number and Importance: 295015AA.1.01 3.8/3.9

Suggested Testing Environment: Plant

Actual Testing Environment: Plant

Testing Method: Perform **Faulted:** No

Alternate Path: No

Time Critical: No

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

References: Unit 1, T-217, Rev. 19. Unit 2, Rev. 18

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

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

Comments:_____
_____
_____
_____
_____
_____

Evaluator's Name: _____(Print)

Evaluator's Signature: _____ Date: _____

JOB PERFORMANCE MEASURE (JPM)

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

JPM Start Time: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE: IF this JPM is the *first* of multiple T-200 series JPMs being performed by a single candidate THEN steps #1 and #2 apply. OTHERWISE mark steps #1 and #2 as N/A AND provide the following to the candidate : a. INITIATING CUE(S) b. CUE: " You are now in possession of the T-217 equipment container. It contains all tools and equipment required by the procedure. You are to simulate their use during performance of the procedure."				
1. Obtain current revision of T-217 Cue: Provide a copy of T-217.	Current revision of T-217 obtained.			
*2. The following tools, equipment obtained from Unit * T-200 Hose Storage Cabinet (506-R16-283) (580-R17-283)(Attachment 1) BL-840 key required: (2) 10' Hoses with Swagelok Fittings (1) Flashlight Cue: You have two hoses and a flashlight.	(2) 10' Hoses with Swagelok Fittings (1) Flashlight obtained from Unit * T-200 Hose Storage Cabinet (506-R16-283) (Attachment 1) Note: only 1 flashlight is needed			

JOB PERFORMANCE MEASURE (JPM)

ELEMENT		STANDARD	SAT	UNSAT	Comment Number
3.	PERFORM the following for 47-*F103A, Drain Valve (402B-R16-253) (475-R18-253),	N/A			
*3a.	UNLOCK AND ENSURE closed.	47-*F103A unlocked and closed			
Cue:	47-*F103A unlocked and closed.				
3b.	AND 47-*F103B, Drain Valve (402A-R15-253) (475-R17-253) (Attachment 6):				
*3.c	Unlock AND ENSURE closed.	47-*F103B unlocked and closed			
Cue:	47-*F103B unlocked and closed.				
*4.	CONNECT approx. 10 feet of drain hose to each	Approx. 10 feet of drain hose connected to 47-*F103B.			
Cue:	Hose connected at swagelock fitting.				
*5.	DIRECT other end of hose(s) to nearest clean radwaste cleanout with Swagelok fitting. (Attachment 6)	Other end of hoses connected to radwaste cleanout with Swagelock fittings.			
Cue:	Hose connected to swagelock fitting for CRW.				
6.	NOTIFY MCR AND	MCR notified that draining will commence.			
Cue:	I understand that you are ready to commence draining.				
*8.	slowly OPEN 47-*F103A AND	47-*F103A OPENED SLOWLY			
*8a.	47-*F103B to establish drain flow.	47-*F103B OPENED SLOWLY			
Cue:	Water is draining through the hoses				

JOB PERFORMANCE MEASURE (JPM)

9.	WHEN LISH-47-*N601A, B, C, D all indicate less than 62% at *0C609/*0C611 (Aux Equip Room), THEN GO TO Section 4.2. Cue: When contacted, report as the EO in the AER that LISH-47-*N601A, B, C, and D indicate 50% and are decreasing.	Contact the EO in the AER and request LISH-47-*N601A, B, C, and D indication.			
Cue:	You have met the termination criteria for the JPM. You may stop here.	N/A			

JPM Stop Time: _____

Job Performance Measure (JPM)

TASK CONDITIONS:

1. Scram signal exists on Unit ___ and 15 Control Rods are at various withdrawn positions
2. T-217 has been completed up to and including step 4.1.10
3. T-215 and T-216 have not been performed

INITIATING CUES:

You are directed by Shift Supervision to drain the Unit ____ Scram Discharge Volume until the SDV level switches indicate less than 62% per step 4.1.11 of T-217.