



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM01

STEAM HEADER PRESSURE PT-507 FAILS LOW

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

2.0 Conditions:

A. Plant is in MODE 1 at 100% power and all systems are normal.

3.0 Standards:

Identify and respond to the failed low Steam Header Pressure PT-507.

4.0 Student Materials:

Copy of the Tear-Off Sheet.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures:

ON1230.01, STEAM HEADER PRESSURE PT-507 INSTRUMENT FAILURE

Sys	KA	Description	Value RO/SRO
035	2.1.7	Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	3.7/4.4

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM01

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Simulator

- A. Simulator may be initialized to any 100% power condition, with all control systems in AUTOMATIC. For 2007 NRC exam use IC #30 or #205.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Secondary Operator.
- B. The following information is provided to you:
- 1) The plant is in MODE 1 at 100% RTP and all systems are normal.
- C. We will begin after the Initiating Cue is read.
- D. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Secondary Operator, **“Secondary Operator, perform a board walkdown and inform me when you are ready to assume the watch.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM01

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION SAT UNSAT	INITIALS/DATE
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Evaluator CUE: If the candidate has not diagnosed the associated instrument failure then ask the student to diagnose the failure.

Evaluator CUE: "The JPM is complete."

7	Stop time Evaluator calculates time to complete task.	Time to complete the task ≤ 10 minutes.	_____	_____	_____
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Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM01

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

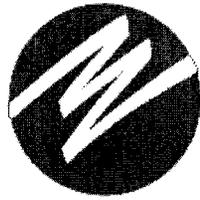
- A. You are the Secondary Operator.
- B. The following information is provided to you:
 - 1) The plant is in MODE 1 at 100% RTP and all systems are normal.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Secondary Operator, **“Secondary Operator, perform a board walkdown and inform me when you are ready to assume the watch.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM01



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM02

EMERGENCY TRIP OF DIESEL GENERATOR 1B

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0640402501 Restore off-site power to Bus E5/E6

2.0 Conditions:

- A. Bus E6 was being supplied by the RAT (Reserve Auxiliary Transformer) to support a scheduled UAT (Unit Auxiliary Transformer) breaker inspection.
- B. A loss of SF6 pressure in 345kv Zone 2 resulted in a loss of power to the RAT (Reserve Auxiliary Transformer).
- C. DG "B" started and restored power to bus E6.
- D. Plant conditions have stabilized. The Shift Manager has directed the Unit Supervisor to transfer bus E6 to the UAT (Unit Auxiliary Transformer) and shut down DG "B".
- E. The Shift Manager and Unit Supervisor have decided to use Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN, as guidance in restoring off-site power to bus E6.

3.0 Standards:

Attempt to restore off-site power to bus E6 and respond to degraded DG "B" condition as necessary.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures: Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN

Sys	KA	Description	Value RO/SRO
064	A4.07	Ability to manually operate and/or monitor in the control room: Transfer EDG with load to grid.	3.4/3.4

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM02

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Simulator

- A. Initialize the simulator to a 100% power IC or IC-206. Place the simulator in run.
- B. Transfer Bus E6 to the RAT (Reserve Auxiliary Transformer). Place the UAT (Unit Auxiliary Transformer) breaker in Normal After Stop.
- C. Remove CS-P-2B from service by placing Danger Tags and racking out the breaker. CS-P-2B is removed from service so it does not interfere with the JPM. The CCP's (Centrifugal Charging Pumps) start on a LOP.
 SELECT: Component Remote Functions
 SELECT: bkCS1P2B_52 RACKOUT
- D. Insert malfunction: mfED042, Loss of 345kv Bus 2(RAT Supply),
- E. Check for the following:
 - EPS (Emergency Power Sequencer) sequenced loads start, as applicable with the plant remaining at power.
 - SGBD isolated.
 - SW-V-5 closed.
- F. Clear RAT amber light and PLACE RAT breaker in PTL

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM02

JOB PERFORMANCE WORKSHEET

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

A. You are the Secondary Operator.

B. The following information is provided to you:

- 1) Bus E6 was being supplied by the RAT (Reserve Auxiliary Transformer) to support a scheduled UAT (Unit Auxiliary Transformer) breaker inspection. The tagging clearance for the UAT (Unit Auxiliary Transformer) breaker had not been started.
- 2) A loss of SF6 pressure in 345kv Zone 2 resulted in a loss of power to the RAT (Reserve Auxiliary Transformer).
- 3) DG "B" started and restored power to bus E6.
- 4) Plant conditions have stabilized. The Shift Manager has directed the Unit Supervisor to transfer bus E6 to the UAT (Unit Auxiliary Transformer) and shutdown DG "B".
- 5) The SM and US have decided to use Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN, as guidance in restoring off-site power to bus E6.

C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Secondary Operator, **"Restore offsite power to bus E6 using Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM02

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
				SAT	UNSAT	
1	P	Start time	Initiating cue read.			
Evaluator CUE: If the student asks if the grid is stable, say: “The grid is stable.”						
2	P	Raise DG frequency to 60.2 to 60.4 Hz.	Raises DG frequency to 60.2 to 60.4 Hz.			
3	P	Place the DG synch. Selector switch in the UAT (Unit Auxiliary Transformer or RAT (Reserve Auxiliary Transformer) position.	*Places the DG synch. Selector switch in the UAT or RAT position.			
*4	P	Reset RMO (Remote Manual Override).	*Resets RMO.			
5	P	Adjust EDG voltage to match INCOMING VOLTS with RUNNING VOLTS	Matches voltage \pm 10v			
*6	P	Adjust EDG frequency so that the synch meter is going slowly in the fast direction.	* Adjusts speed as required.			
*7	P	Close the RAT(Reserve Auxiliary Transformer) or UAT (Unit Auxiliary Transformer breaker when synchronized.	*Closes the RAT or UAT breaker when synchronized.			
8	P	Place the synch selector switch in OFF.	Places the synch selector switch in OFF.			

Instructor NOTE: The DB B Lube Oil Pressure Low and DG B Aux. Lube Oil Pump Running alarms should be initiated before the EDG can be unloaded.

Evaluator NOTE: Wait for the associated low lube oil pressure alarms to go into alarm prior to providing the following CUE.

Evaluator CUE: Before the student starts unloading the EDG, the NSO makes an urgent report to the Control Room via the radio, **“ Control Room this is the Rover NSO at the Bravo Emergency Diesel. There is a large amount of lube oil spraying from the Bravo diesel engine.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM02

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform			SAT	UNSAT
S=Simulate	* denotes a critical step	* denotes a critical step		

Instructor CUE: Run scenario: Len, DG Test

-or-

Insert malfunction: svo6608DGB f:1

Insert malfunction: svo6611DGB f:1

NOTE: On a low lube oil condition the emergency diesel engines should automatically trip. This scenario simulates failure of the automatic trip. Based on the VAS (Video Alarm System) alarm and report from the field, it is expected that the candidate will perform a manual emergency trip of the diesel generator.

9	P	Acknowledge the report from the field and the MPCV VAS (Video Alarm System) alarm condition.	Acknowledges the report from the field.	_____	_____
			Acknowledges the MPCV VAS alarm condition.	_____	_____

Evaluator NOTE: The intention of the JPM is for the student to identify and recommend/perform an emergency shutdown of EDG 1B.

Evaluator CUE: If the student recommends stopping the diesel generator, say: **“Perform an emergency shutdown of EDG 1B.”**

*10	P	Perform emergency shutdown of DG-1B by simultaneously pressing BOTH Emergency Stop pushbuttons.	*Performs an emergency shutdown of DG-1B by simultaneously pressing BOTH Emergency Stop pushbuttons.	_____	_____
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Evaluator CUE: **“The JPM is complete.”**

11		Stop time _____ Evaluator calculates the time to complete the task.	Start-Stop is \leq 20 minutes.	_____	_____
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Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM02

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

A. You are the Secondary Operator.

B. The following information is provided to you:

- 1) Bus E6 was being supplied by the RAT to support a scheduled UAT breaker inspection.
- 2) A loss of SF6 pressure in 345kv Zone 2 resulted in a loss of power to the RAT.
- 3) DG "B" started and restored power to bus E6.
- 4) Plant conditions have stabilized. The Shift Manager has directed the Unit Supervisor to transfer bus E6 to the UAT and shutdown DG "B".
- 5) The SM and US have decided to use Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN, as guidance in restoring off-site power to bus E6.

C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Secondary Operator, "**Restore offsite power to bus E6 using Attachment H of OS1246.01, LOSS OF OFFSITE POWER-PLANT SHUTDOWN.**"

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM02



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM03

POWER RANGE NI CHANNEL FAILURE

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0150402101 ELECTRONICALLY REMOVE A FAILED NI DETECTOR

2.0 Conditions:

A. Plant is in Mode 1 at 100% power

3.0 Standards:

Place rod control in MANUAL in response to the channel failure and Remove NI channel N41 from service per OS1211.04.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
OS1211.04, POWER RANGE NI INSTRUMENT FAILURE

5.0 Limitations On Performance:

Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures: OS1211.04, POWER RANGE NI INSTRUMENT FAILURE

Sys	KA	Description	Value RO/SRO
015	A2.02	Ability to predict the impacts of the following malfunctions or operations on the NIS, and based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: faulty or erratic operation of detectors or compensating components.	3.1/3.5

7.0 Setting:

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM03

JOB PERFORMANCE WORKSHEET

Simulator

A. Initialize the simulator to a 100% power IC.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

15 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

A. You are the Primary Operator. You are going to take actions for a power range instrument failure.

B. The following information is provided to you:

1) The plant is in Mode 1 at 100% power.

C. **(For RO candidate only)** The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Primary Operator, **“Walk the board down and let me know when you are ready to take the watch.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM03

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

NOTE: The RO candidates will have the procedure read to them from an evaluator or instructor serving as the Unit Supervisor. The SROI and SROU candidates must utilize the procedure on their own to perform the task after terminating rod insertion.

NOTE: Candidate will likely take rod control to manual to stop inward rod motion after diagnosis of instrument failure and prior to entering and reading steps from Abnormal procedure. This is allowed as a 'skill of the operator' task.

CUE: When directed by examiner insert malfunction mfNI001 with Final Value: 120, Ramp:0

1	P	Start time	Initiating cue read.			
2	P	Check Power Range Channel- Failed High	YES- N41			
3	P	Place rod control in MANUAL	Verifies rod control is in MANUAL.	_____	_____	_____
*4	P	Select Rod Stop Bypass Switch-TO FAILED CHANNEL	* Selects Rod Stop Bypass Switch to N41	_____	_____	_____
5	P	Check Tavg-Within 1°F of Tref.	If temp > 1°F of Tref- restores temperature.	_____	_____	_____

EVALUATOR CUE: If Tavg is less than 1°F from Tref cue the candidate that temperature will be restored later in the procedure. Continue bypassing the channel.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM03

PERFORMANCE CHECKLIST

		ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
				SAT	UNSAT	
D=Discuss P=Perform S=Simulate		* denotes a critical step	* denotes a critical step			
*6	P	Bypass the failed power range channel.				
		Select UPPER SECTION DETECTOR CURRENT COMPARATOR switch to PRN41	*UPPER SECTION DETECTOR CURRENT COMPARATOR switch selected to PRN41	_____	_____	_____
		Select LOWER SECTION DETECTOR CURRENT COMPARATOR switch to PRN41	*LOWER SECTION DETECTOR CURRENT COMPARATOR switch selected to PRN41	_____	_____	_____
		Select POWER MISMATCH BYPASS switch to N41	*POWER MISMATCH BYPASS switch selected to N41	_____	_____	_____
		If <u>NOT</u> selected previously, select ROD STOP BYPASS switch to N41.	Was previously selected.	_____	_____	_____
		Select COMPARATOR CHANNEL DEFEAT switch to N41.	*COMPARATOR CHANNEL DEFEAT switch selected to N41.	_____	_____	_____
*7	P	Trip affected channels bistables:				
		Verify redundant channel bistables-NOT TRIPPED: <ul style="list-style-type: none"> • RCS Loop OTΔT (UL-6) • PR High Trip (UL-6) • PR High Rate Trip (UL-6) 	Verifies UL lamps for channels N42, N43, and N44 not lit. <ul style="list-style-type: none"> • RCS Loop OTΔT (UL-6) • PR High Trip (UL-6) • PR High Rate Trip (UL-6) 	_____	_____	_____
		Remove control power fuses from affected power range channel.	* Removes control power fuses from power range channel N41.	_____	_____	_____

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM03

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION SAT UNSAT	INITIALS/DATE
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Evaluator CUE: "The JPM is complete."

8 Stop time _____ Start-Stop is \leq 15 minutes. _____

 Evaluator calculates the time to
 complete the task.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM03

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

A. You are the Primary Operator.

B. The following information is provided to you:

1) The plant is in Mode 1 at 100% power.

C. **(For RO candidate only)** The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Primary Operator, **“Walk the board down and let me know when you are ready to take the watch.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM03



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM04

PLACING THE CONTAINMENT ON-LINE PURGE (COP) SYSTEM IN SERVICE

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
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REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
Signature on File
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0290100201 Startup the COP System

2.0 Conditions:

- A. Plant is in Mode 1 at 100% power
- B. Maintenance is preparing for a long duration job in containment and has requested the COP system be placed in service to improve air quality.

3.0 Standards:

Place the COP System in service per OS1023.69, Containment On-Line Purge System Operation, Section 4.2, starting at step 4.2.8.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
OS1023.69, Containment On-Line Purge System Operation

5.0 Limitations On Performance:

Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures: OS1023.69, Containment On-Line Purge System Operation

Sys	KA	Description	Value RO/SRO
029	2.1.31	Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup.	4.2/3.9

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM04

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Simulator

- A. Reset the simulator to IC 30.
- B. Using REMOTE FUNCTIONS – Containment Online Purge, Rack In the breakers for COP-V1 and V4 and COP-V2 and V3.

-OR-

- C. Use a presnapped IC
- D. Fail Closed COP-8, COP Exhaust Coarse Throttle Valve:
 - a. Malfunctions List
 - b. Containment Online Purge- Component Malfunctions
 - c. Select mvCOP1V8, right click
 - d. Select FAIL CLOSED, click INSERT

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

15 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to place the COP System in service per OS1023.69, Containment On-Line Purge System Operation.
- B. The following information is provided to you:
 - 1) The plant is in Mode 1 at 100% power.
 - 2) Maintenance is preparing for a long duration job in containment and has requested the COP system be placed in service to improve air quality.
 - 3) All procedure prerequisites of OS1023.69 are complete and section 4.2 has been completed through step 4.2.7.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM04

JOB PERFORMANCE WORKSHEET

11.0 Initiating Cue:

Unit Supervisor to Primary Operator, **"Continue placing COP in service per OS1023.69, Containment On-Line Purge System Operation, at step 4.2.8.**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM04

PERFORMANCE CHECKLIST

		ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

1	P	Start time	Initiating cue read.			
2.	P	Reviews CAUTION for alarm point when starting COP-FN-73	Reviews CAUTION.	_____	_____	_____
*3.	P	*Step 4.2.8 START COP-FN-73, containment on-line purge supply fan.	Starts fan and observes status lights change state.	_____	_____	_____
4.	P	Reviews the NOTE: Steps 4.2.9.1 through 4.2.9.4 must be performed in order specified.	Reviews NOTE	_____	_____	_____

NOTE: Alarm F7262, COP FN 73 RUN WITH ISOL VALVE CLOSED will likely actuate 60 seconds after the fan is started. The candidate should acknowledge the alarm.

*5.	P	*Step 4.2.9 At MCB-CR, OPEN the following valves: 4.2.9.1 COP-V1 online purge supply ORC Isolation	Locates and opens valves: COP-V1 online purge supply ORC Isolation			
		4.2.9.2 COP-V4 online purge exhaust ORC isolation	COP-V4 online purge exhaust ORC isolation			
		4.2.9.3 COP-V2 online purge supply IRC isolation	COP-V2 online purge supply IRC isolation			
		4.2.9.4 COP-V3 online purge exhaust IRC isolation	COP-V3 online purge exhaust IRC isolation	_____	_____	_____

CUE: If asked for a pressure, reply "Control pressure at 15.2 psia."

*6.	P	*4.2.10 Throttle OPEN COP-V8, COP exhaust throttle valve (coarse control), to obtain a containment pressure between 15.2 and 15.3 psia, or as directed by the US, as read on COP-PI-1787, containment pressure.	* Attempts to throttle open COP-V-8. Determines that COP-V8 is NOT opening. Notifies US of valve failure and seeks direction.	_____	_____	_____
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Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM04

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform				
S=Simulate	* denotes a critical step	* denotes a critical step	SAT UNSAT	

Evaluator CUE: "The JPM is complete."

7. Stop time _____ Start-Stop is \leq 15 minutes. _____
Evaluator calculates the time to complete the task.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM04

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to Place the COP System in service per OS1023.69, Containment On-Line Purge System Operation.
- B. The following information is provided to you:
- 1) The plant is in Mode 1 at 100% power.
 - 2) Maintenance is preparing for a long duration job in containment and has requested the COP system be placed in service to improve air quality.
 - 3) All procedure prerequisites of OS1023.69 are complete and section 4.2 has been completed through step 4.2.7.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Primary Operator, **“Continue placing COP in service per OS1023.69, Containment On-Line Purge System Operation, at step 4.2.8.**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM04



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM05

DEPRESSURIZE THE RCS USING AUXILIARY SPRAY

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0390500601 Isolate Ruptured Steam Generator-RCS Depressurization

2.0 Conditions:

- A. A manual SI was initiated due to a SG tube rupture.
- B. The crew transitioned to E-3 from E-0.
- C. The "C" steam generator has been identified as the ruptured steam generator and has been isolated. The RCS has been cooled down to a target temperature of 495°F.
- D. Due to an operator error, the RCP's were inadvertently secured in E-0.
- E. The "B" pressurizer PORV is out of service due to a control circuit failure.

3.0 Standards:

Depressurize the ruptured SG under the direction of the Unit Supervisor in accordance with E-3, step 18.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
E-3, STEAM GENERATOR TUBE RUPTURE

5.0 Limitations On Performance:

Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures: E-3, STEAM GENERATOR TUBE RUPTURE

Sys	KA	Description	Value RO/SRO
002	A2.01	Ability to predict the impacts of the following malfunctions or operations on the RCS, and based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of Coolant Inventory.	4.3/4.4

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Simulator

If a pre-written simulator IC exists:

- 1) Initialize to the IC created for this JPM (IC 366)
- 2) Place the "B" pressurizer PORV switch to CLOSE position and hang a danger tag on the switch.
- 3) Using I/O override, de-energize the position indicating lights for the "B" PORV.
- 4) Use Reactor Coolant Malfunctions, Components, avRCPCv456A, RC-1-PCV-456A.
SELECT: FAIL CLOSED, to fail the 'A' PORV

If a pre-written IC does not exist:

- 5) Initialize the simulator to a 100% IC (IC 30)
- 6) Place the "B" pressurizer PORV switch to CLOSE position and hang a danger tag on the switch.
- 7) Using I/O override, de-energize the position indicating lights for the "B" PORV.
- 8) Use Reactor Coolant Malfunctions, Components, avRCPCv456A, RC-1-PCV-456A.
SELECT: FAIL CLOSED, to fail the 'A' PORV
- 9) Activate malfunction MFI,SG,SG001 "C" SG Tube Rupture
SEVERITY: 450 gpm
RAMP:0
INITIAL SEVERITY: 0
- 10) Manually actuate Safety Injection and perform the steps of E-0 to step 19.
- 11) At step 1 of E-3, trip all RCP's.
- 12) Continue with the steps of E-3 SGTR up to step 18, including isolating the "C" SG and cooling down the RCS to below 495°F.
- 13) Place the simulator in FREEZE.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

25 minutes

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05

JOB PERFORMANCE WORKSHEET

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to depressurize the RCS per E-3, STEAM GENERATOR TUBE RUPTURE.
- B. The following information is provided to you:
 - 1. A manual SI was initiated due to a SG tube rupture.
 - 2. The crew transitioned to E-3 from E-0.
 - 3. The "C" steam generator has been identified as the ruptured steam generator and has been isolated. The RCS has been cooled down to the required target temperature of 495°F.
 - 4. Due to an operator error, the RCP's were inadvertently secured in E-0.
 - 5. The "B" pressurizer PORV is out of service due to a control circuit failure.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Evaluator to student, "**Continue with step 18 of E-3 and depressurize the RCS**".

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

1 P Start time Initiating cue read.

Instructor Cue: When the student is ready, place the simulator in RUN.

Evaluator NOTE: When the student has established an RCS depressurization rate with Aux. Spray at step 17b. the JPM is complete.

Evaluator NOTE: Candidate will probably check Reactor Coolant System depressurization termination criteria at procedure step 18b.

*2	P	E-3, Step 18: Depressurize the RCS using PZR PORV to minimize break flow and refill the pressurizer.	Depressurize the RCS.			
		a. PZR PORV-At least one available.	*'B' PORV is OOS. 'A' PORV will not open when switch is manipulated.	_____	_____	_____
		a. RNO-Perform the following to establish auxiliary spray:				
		1) Verify at least one SI pump is running.	Determines that both SI pumps are running.	_____	_____	
		2) Verify at least one CCP is running.	Determines that both CCP's are running.	_____	_____	
		3) Establish Aux. Spray using Attachment C and return to step 17b.				
		a. Verify normal spray valves are closed.	a. Verifies normal spray valves are closed.	_____	_____	
		b. Open the following valves: CS-V-142 CS-V-143 CS-V-185	*b. Opens the following valves: CS-V-142 CS-V-143 CS-V-185	_____	_____	

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	
	c. Close CCP to RCS cold leg isolation valves: SI-V-138 SI-V-139	*c. Closes CCP to RCS cold leg isolation valves: SI-V-138 SI-V-139	_____	_____	
	d. Close normal charging loop isolation valves: CS-V-177 CS-V-180	*d. Closes normal charging loop isolation valves: CS-V-177 CS-V-180	_____	_____	
	e. Place CS-FK-121 in manual and charge at maximum rate.	*e. Places CS-FK-121 in manual and charge at maximum rate.	_____	_____	
	f. Adjust seal injection flow as necessary using CS-HCV-182.	f. Adjusts seal injection flow as necessary using CS-HCV-182.	_____	_____	
	g. Go to step 17b.	*g. Returns to step 17b.	_____	_____	

Evaluator NOTE: When the student established an RCS depressurization rate with Aux. Spray at step 17b. the JPM is complete.

E-3, Step 17b: Spray PZR with maximum available spray until ANY of the following conditions are satisfied:

* Commences depressurization and MONITORS RCS conditions for depressurization termination criteria.

- BOTH of the following:
- RCS Pressure: LESS THAN RUPTURED SG PRESSURE, AND
 - PZR LEVEL: GREATER THAN 7% (28% FOR ADVERSE CONTAINMENT

-OR-

PZR LEVEL-GREATER THAN

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

75% (65% FOR ADVERSE CONTAINMENT)

-OR-

RCS SUBCOOLING: LESS THAN 40°F

Evaluator CUE: "The JPM is complete."

3	Stop time _____ Evaluator calculates the time to complete the task.	Start-Stop is \leq 25 minutes. _____
---	------------------------------------------------------------------------	----------------------------------------

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05

TEAR-OFF SHEET FOR SIMJPM05

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to depressurize the RCS per E-3, STEAM GENERATOR TUBE RUPTURE.
- B. The following information is provided to you:
 - 1) A manual SI was initiated due to a SG tube rupture.
 - 2) The crew transitioned to E-3 from E-0.
 - 3) The "C" steam generator has been identified as the ruptured steam generator and has been isolated. The RCS has been cooled down to a target temperature of 495°F.
 - 4) Due to an operator error, the RCP's were inadvertently secured in E-0.
 - 5) The "B" pressurizer PORV is out of service due to a control circuit failure.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Evaluator to student, **"Continue with step 18 of E-3 and depressurize the RCS"**.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM05



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM06

PERFORM SI TERMINATION/REDUCTION (STOP RHR PUMPS)

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

This JPM was administered for qualification: YES NO

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
Signature/Date On File
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0060500101 Perform SI Termination/Reduction.

0050101701 Place In Service/Remove From The RHR System.

2.0 Conditions:

- A. A LOCA occurred inside containment resulting in a reactor trip and SI.
- B. The crew entered E-0, then transitioned to E-1, Loss Of Reactor Or Secondary Coolant.
- C. The US determined that ECCS flow must be maintained and wants an evaluation on continued RHR pump operation.

3.0 Standards:

Stop RHR pumps and place them in standby.

4.0 Student Materials:

Copy of the Tear-Off Sheet.

Copy of E-1, Loss of Reactor or Secondary Coolant.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no Peer Checks will be provided during the JPM.

6.0 References:

Procedures:

- E-1, Loss of Reactor Or Secondary Coolant

Sys	KA	Description	Value RO/SRO
006	A4.07	Ability to manually operate and/or monitor in the control room: ECCS pumps and valves.	4.4/4.4

7.0 Setting:

The simulator setup may be saved as a Snapshot (**IC-242**). The intent is to ensure RCS pressure is stable or increasing. **It may be necessary to allow a few minutes for SI pump flow to stabilize pressure (or Modify mfRC049A as necessary).**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM06

JOB PERFORMANCE WORKSHEET

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to continue with procedure E-1 actions at Step 7.
- B. The following information is provided to you:
 - 1. A LOCA occurred inside containment resulting in a reactor trip and SI.
 - 2. The crew entered E-0, then transitioned to E-1, Loss Of Reactor Or Secondary Coolant.
- C. The evaluator will act as the US and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

US to Primary Operator, **“Procedure E-1, LOSS OF REACTOR OR SECONDARY COOLANT IS IN PROGRESS. Continue with actions starting at Step 7.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM06

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

1.	P	Start time	Initiating cue read.			
CUE: If the student requests a Peer Check at any time during the JPM, respond: “No one is available to peer check your actions. Please continue with the task” .						
*2.	P	RHR Pumps – any running with suction aligned to RWST.	Verifies both running.			
*3.	P	Check RCS pressure:				
		a. Pressure - GREATER THAN 260 PSIG	*a. Verifies and reports RCS pressure >260 psig.			
		b. Pressure - STABLE OR INCREASING	*b. Verifies and reports RCS pressure is stable or increasing.			
*4.	P	Reset SI.	Rotates SI reset switches for each train and verifies SI actuation alarms reset.			
*5.	P	Stop RHR pumps and place in standby		*a. Selects STOP on both RHR pump control switches.		
				*b. Verifies RHR pumps stop.		
				*c. Places both RHR pump control switches in NA STOP.		
6.	P	Report to US	Reports that both RHR pumps are in standby.			

Evaluator NOTE: After the RHR pumps are secured the RCS LOCA size will increase such that RCS pressure drops to less than 300 psig. The student should continue to monitor RCS pressure and ultimately determine that the RHR pumps must be restarted. Performance of the JPM critical task of restarting the RHR pumps will occur when the student identifies RCS pressure is decreasing below 300 psig.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM06

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

7.	Check RCS and Steam Generator Pressures: • Pressures in all Steam Generators-STABLE OR INCREASING. • RCS pressure-STABLE OR DECREASING	Verifies YES	_____	_____	
----	------------------------------------------------------------------------------------------------------------------------------------------------------	--------------	-------	-------	--

INSTRUCTOR CUE: Increase RCS break size to 20,000 GPM.

8.	Check if Diesel Generators should be stopped.	Resets SI and stops Diesel Generators.	_____	_____	
9.	Initiate evaluation of plant status.	Performs verification of cold leg recirculation capability.	_____	_____	
*10.	Restart RHR pumps based on RCS pressure decreasing to less than 300 psig in an uncontrolled manner.	*Restarts RHR pumps.	_____	_____	_____

Evaluator CUE: "The JPM is complete."

11.	Stop time _____ Evaluator calculates the time to complete the task.	Start-Stop is \leq 10 minutes.			
-----	------------------------------------------------------------------------	----------------------------------	--	--	--

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

TEAR-OFF SHEET FOR SIMJPM06

Directions to the Student:

- A. You are the Primary Operator. You are going to continue with procedure E-1 actions at Step 7.
- B. The following information is provided to you:
 - 1. A LOCA occurred inside containment resulting in a reactor trip and SI.
 - 2. The crew entered E-0, then transitioned to E-1, Loss of Reactor or Secondary Coolant.
- C. The evaluator will act as the US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to Primary Operator, "**Procedure E-1, LOSS OF REACTOR OR SECONDARY COOLANT IS IN PROGRESS. Continue with actions at Step 7.**"

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM06



FPL Energy

Seabrook Station

*Note: JPM #7
Student from
Exam*

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM08

SHIFTING FROM CCP TO PDP

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0040103801 Shift Between the Positive Displacement Charging pump and the Centrifugal Charging Pumps

2.0 Conditions:

- A. Plant is at 100% power.
- B. Tech. Support needs the PDP in service to evaluate long term operation capabilities.
- C. OS1002.02, Operation Of The Letdown, Charging, and Seal Injection prerequisites are complete.
- D. All PDP pump pre-start checks are complete.

3.0 Standards:

Shift from the centrifugal charging pump to the positive displacement charging pump per OS1002.02, Operation Of The Letdown, Charging, and Seal Injection.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Copy of OS1002.02, Operation Of The Letdown, Charging, and Seal Injection

5.0 Limitations On Performance:

Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures: OS1002.02, Operation Of The Letdown, Charging, and Seal Injection

Sys	KA	Description	Value RO/SRO
004	A4.08	Ability to operate and/or monitor in the control room: Charging	3.8/3.4

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM08

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Simulator

- 1) Reset the simulator to **IC 205**.
- 2) Adjust letdown flow to 75 gpm.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to shift from the centrifugal charging pump to the positive displacement charging pump.
- B. The following information is provided to you:
 - 1) The plant is in MODE 1 at 100% power.
 - 2) Tech. Support needs the PDP in service to evaluate long term operation capabilities.
 - 3) OS1002.02, Operation Of The Letdown, Charging, and Seal Injection prerequisites are complete.
 - 4) All PDP pump pre-start checks are complete and satisfactory.
 - 5) Heater HTR-369-A, PDP Stabilizer/Separator Heater has been energized for 1 hour.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Primary Operator, **“Shift charging from the running centrifugal charging pump to the positive displacement charging pump.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM08

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

1	P	Start time	Initiating cue read.			
---	---	------------	----------------------	--	--	--

Evaluator CUE: If student asks for boron sample results say: **“The boron sample was taken and boron concentration is within 5 ppm of the Reactor Coolant System concentration.”**

2	P	VERIFY RC-SK-459A, PDP speed controller is in MANUAL and set to MINIMUM.	Verifies RC-SK-459A, PDP speed controller is in MANUAL and set to MINIMUM.			
---	---	--------------------------------------------------------------------------	----------------------------------------------------------------------------	--	--	--

NOTE: •Student may mention step 4.10.4, which states contingency actions in the event of a Safety Injection.
•Student may mention need to enter applicable Tech. Spec. per step 4.10.5.

Evaluator CUE: If the student mentions addressing Tech. Specs., say: **“I will address the Tech. Specs., continue with the evolution.”**

3	P	PLACE the control switch for the standby centrifugal charging pump in PULL-TO-LOCK.	Places the control switch for the standby centrifugal charging pump in PULL-TO-LOCK.			
---	---	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	--	--	--

*4	P	OPEN CS-V-205, PDP minimum flow valve.	*Opens CS-V-205, PDP minimum flow valve.			
----	---	----------------------------------------	------------------------------------------	--	--	--

5	P	PERFORM pump prestarts.	Verifies that pump prestarts had already been completed.			
---	---	-------------------------	----------------------------------------------------------	--	--	--

*6	P	START CS-P-128, Positive Displacement Charging Pump.	*Starts CS-P-128, Positive Displacement Charging Pump.			
----	---	------------------------------------------------------	--------------------------------------------------------	--	--	--

*7	P	INCREASE speed of CS-P-128 to 30%.	Increases speed of CS-P-128 to 30%.			
----	---	------------------------------------	-------------------------------------	--	--	--

*8	P	CHECK or PLACE CS-FCV-121, charging flow controller in MANUAL.	* Places CS-FCV-121, charging flow controller in MANUAL.			
----	---	----------------------------------------------------------------	----------------------------------------------------------	--	--	--

9	P	ADJUST seal injection flow to between 6 to 8 gpm.	Adjusts seal injection flow to between 6 to 8 gpm.			
---	---	---------------------------------------------------	----------------------------------------------------	--	--	--

10	P	ADJUST total charging flow to between 65 and 75 gpm.	Adjusts total charging flow to between 65 and 75 gpm.			
----	---	------------------------------------------------------	-------------------------------------------------------	--	--	--

Evaluator CUE: When the student verbalizes that the PDP must be run for 12 minutes, provide the cue, **“For the purpose of the JPM, the pump has been operating for 12 minutes.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM08

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

*11	P	After the PDP has been running for at least 12 minutes, PLACE the control switch for CS-V-205 to THROTTLE CLOSE.	* Places the control switch for CS-V-205 to THROTTLE CLOSE.	_____	_____	_____
12	P	ADJUST the following to maintain the desired charging and seal injection flows until CS-V-205 is full closed: CS-FCV-121, charging flow control. CS-HCV-182, RCP seal flow control	Adjusts valves as necessary.	_____	_____	_____
*13	P	Simultaneously THROTTLE CLOSED CS-FCV-121, charging flow control valve, and INCREASE speed of CS-P-128, positive disp. charging pump, until letdown and charging flows are matched.	*Simultaneously throttles closed CS-FCV-121, charging flow control valve, and INCREASE speed of CS-P-128, positive disp. charging pump, until letdown and charging flows are matched.	_____	_____	_____
*14	P	PLACE RC-LK-459, master level controller, in MANUAL.	*Places RC-LK-459, master level controller, in MANUAL.	_____	_____	_____
*15	P	MATCH the output of RC-LK-459, master level controller, with then output of RC-SK-459A, PDP speed controller.	*Matches the output of RC-LK-459, master level controller, with then output of RC-SK-459A, PDP speed controller.	_____	_____	_____
*16	P	PLACE RC-SK-459A, PDP speed controller, in AUTO.	*Places RC-SK-459A, PDP speed controller, in AUTO.	_____	_____	_____
*17	P	PLACE RC-LK-459, master level controller, in AUTO.	*Places RC-LK-459, master level controller, in AUTO.	_____	_____	_____

Evaluator CUE: IF the student requests Unit Supervisor direction to stop the centrifugal charging pump, respond, **“Stop the centrifugal charging pump.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM08

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

*18	P	As directed by the Unit Supervisor, STOP the running centrifugal charging pump and PLACE the control switch in NORMAL AFTER STOP.	*Stops STOP the running centrifugal charging pump and PLACE the control switch in NORMAL AFTER STOP.	_____	_____	_____
-----	---	-----------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	-------	-------	-------

Evaluator CUE: If the student asks, say: **“The aux. Lube oil pump is running.”**

19	P	PLACE the control switch for CS-V-205, PDP minimum flow valve, to AUTO.	Places the control switch for CS-V-205, PDP minimum flow valve, to AUTO.	_____	_____	_____
----	---	-------------------------------------------------------------------------	--------------------------------------------------------------------------	-------	-------	-------

Evaluator CUE: **“The JPM is complete.”**

20		Stop time _____ Evaluator calculates the time to complete the task.	Start-Stop is \leq 25 minutes.	_____	_____	_____
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Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM08

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary Operator. You are going to shift from the centrifugal charging pump to the positive displacement charging pump.
- B. The following information is provided to you:
 - 1) The plant is in MODE 1 at 100% power.
 - 2) Tech. Support needs the PDP in service to evaluate long term operation capabilities.
 - 3) OS1002.02, Operation Of The Letdown, Charging, and Seal Injection prerequisites are complete.
 - 4) All PDP pump pre-start checks are complete and satisfactory.
 - 5) Heater HTR-369-A, PDP Stabilizer/Separator Heater has been energized for 1 hour.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Primary Operator, **“Shift charging from the running centrifugal charging pump to the positive displacement charging pump.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM08



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM SIMJPM09

TRANSFER TO COLD LEG RECIRCULATION (LOSS OF RECIRCULATION)

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

0050500601 Align RH For SI Recirculation, Cold Leg
0060500301 Transfer SI To Cold Leg Recirculation

2.0 Conditions:

- A. A reactor trip with SI occurred from 100% power.
- B. The Unit Supervisor has transitioned from E-0 to E-1, and is ready to transfer to ES-1.3, TRANSFER TO COLD LEG RECIRCULATION.
- C. RWST level is decreasing toward the RWST LEVEL LO-LO setpoint.

3.0 Standards:

While aligning ECCS equipment to Cold Leg Recirculation, identify a loss of ECCS recirculation condition.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Copy of ES-1.3, TRANSFER TO COLD LEG RECIRCULATION.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures:

ES-1.3, TRANSFER TO COLD LEG RECIRCULATION

Sys	KA	Description	Value RO/SRO
026	A2.02	Ability to predict the impact of the following malfunctions or operations on the CSS, and based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of automatic recirculation transfer.	4.2/4.4

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM09

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Simulator

A. Reset simulator to IC 389.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

A. You are the Primary Operator. You are going to transfer ECCS to the Cold Leg Recirculation Mode when the RWST LO-LO level alarm is received.

B. The following information is provided to you:

- 1) A reactor trip with SI occurred from 100% power.
- 2) The Unit Supervisor has transitioned from E-0 to E-1, and is ready to transition to ES-1.3, TRANSFER TO COLD LEG RECIRCULATION.
- 3) The RWST level has decreased to approximately 135,000 gallons.

C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Primary Operator, **“Primary Operator, let me know when we receive the RWST LEVEL LO-LO alarm.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM09

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

Evaluator NOTE: This JPM is an "Alternate Path" JPM. CBS-V-2 will fail to close, resulting in a loss of Train "A" ECCS recirculation, later RH-P-8B will trip, resulting in a complete loss of ECCS recirculation capability.

Instructor NOTE: VERIFY that the control switch for CBS-V-2 is in the AUTO position.

1	P	Start time	Initiating cue read.			
---	---	------------	----------------------	--	--	--

Evaluator CUE: If the student asks for a peer check at any time during the JPM, respond: **"No one is available to peer check your actions. Please continue with the task."**

NOTE: JPM actions will commence with actuation of the RWST LEVEL LO-LO alarm.

2	P	ACKNOWLEDGE RWST LO-LO alarm.	Acknowledges RWST LO-LO alarm.			
3	P	RESET SI	Resets SI			
4	P	VERIFY Containment Sump Recirculation Valves-FULL OPEN:				
		TRAIN A: CBS-V-8	Verifies CBS-V-8 open.			
		TRAIN B: CBS-V-14	Verifies CBS-V-14 open.			
*5	P	SIMULTANEOUSLY CLOSE RWST Suction Valves:				
		Train A: CBS-V-2	*Attempts to close CBS-V-2. Valve will not close.			
		Train B: CBS-V-5	*Closes CBS-V-5.			
*6	P	IDENTIFY that CBS-V-2 will not close and notify Unit Supervisor.	*Identifies that CBS-V-2 will not close and notifies Unit Supervisor.			

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PERFORMANCE CHECKLIST

	ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

D=Discuss
P=Perform
S=Simulate

* denotes a critical step

* denotes a critical step

SAT UNSAT

*7	P	If a valve can NOT be fully closed, THEN place the corresponding RHR and CBS pumps in Pull-To-Lock:			
		RH-P-8A	*Places switch in Pull-To-Lock.	_____	_____
		CBS-P-9A	*Places switch in Pull-To-Lock.	_____	_____

Evaluator NOTE: The student should identify the B RHR pump trip and that there are no RHR pumps running. The student may attempt to start the B RHR pump but it will not start.

Instructor CUE: Insert **MALFUNCTION** for overcurrent trip of RH-P-8B:

- SELECT: Malfunctions**
- SELECT: Residual Heat Removal**
- SELECT: mfrH004, RHR Pump P-8B OC Trip**
- SELECT: INSERT**

*8	P	ALIGN ECCS for Cold Leg Recirculation:			
		VERIFY at least one RHR pump running.	Identifies that there are no RHR pumps running and recommends transition to ECA-1.1, per Step 4, RNO.	_____	_____

Evaluator CUE: "The JPM is complete."

9		Stop time	Time to complete the task ≤ 20 minutes.	_____	_____
		Evaluator calculates time to complete task.		_____	_____

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM09

TEAR-OFF SHEET FOR SIMJPM09

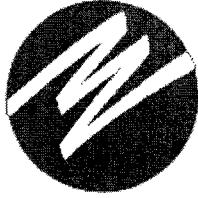
Directions to the Student:

- A. You are the Primary Operator. You are going to transfer ECCS to the Cold Leg Recirculation Mode when the RWST LO-LO level alarm is received.
- B. The following information is provided to you:
 - 1) A reactor trip with SI occurred from 100% power.
 - 2) The Unit Supervisor has transitioned from E-0 to E-1, and is ready to transition to ES-1.3, TRANSFER TO COLD LEG RECIRCULATION.
 - 3) The RWST level has decreased to approximately 135,000 gallons.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue: Unit Supervisor to Primary Operator, **“Primary Operator, let me know when we receive the RWST LEVEL LO-LO alarm.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

SIMJPM09



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM PLANTJPM01

TRANSFER VITAL INSTRUMENT BUS 1A to ITS MAINTENANCE SUPPLY

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

SAT UNSAT

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

0620201504 Transfer A Vital (120 vac) Instrument Bus Power Supply

2.0 Conditions:

- A. The plant is in MODE 5.
- B. UPS EDE-I-1A is being removed from service for inspection.

3.0 Standards:

Energize vital power panel EDE-PP-1A from it's maintenance supply per OS1047.02, Transferring Power Supplies To 120 VAC Vital Instrument Buses.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
OS1047.02, Transferring Power Supplies To 120 VAC Vital Instrument Buses.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures:

OS1047.02, Transferring Power Supplies To 120 VAC Vital Instrument Buses.

Sys	KA	Description	Value RO/SRO
062	A2.10	Ability to predict the impact of the following malfunctions or operations on the AC distribution system, and based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Effects of switching power supplies on instruments and controls.	3.0/3.3

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM01

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Plant-Essential Switchgear Room

8.0 Safety Considerations:

Ensure proper PPE for evaluator and student.
Energized electrical equipment.

9.0 Approximate Completion Time:

10 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Secondary NSO. You are going to simulate transferring an instrument power panel to it's maintenance supply.
- B. The following information is provided to you:
 - 1) The plant is in MODE 5.
 - 2) UPS EDE-I-1A is being removed from service for inspection.
 - 3) Procedure Prerequisites for OS1047.02 are complete.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Secondary NSO, "**Secondary NSO, simulate transferring power panel PP-1A to it's maintenance supply per OS1047.02.**"

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM01

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform			SAT	UNSAT
S=Simulate	* denotes a critical step	* denotes a critical step		

1 P Start time Initiating cue read.

Evaluator CUE: When the student looks for or asks for OS1047.02, provide it.

Evaluator CUE: IF the student simulates contacting the Control Room regarding the caution prior to step 4.1.1 then say: **“Unit Supervisor to NSO, I understand PP-1A will be momentarily de-energized. We have entered Tech. Spec. 3.8.3.2. You may continue.”**

Evaluator CUE: When the student asks about LTOP, say: **“Unit Supervisor to NSO, LTOP is not armed, We have entered Tech. Spec. 3.4.9.3 and placed the control switch for RC-PCV-456A (B) in CLOSE.”**

Evaluator CUE: When the student looks at the breaker, say: **“The breaker at NODE D29 is in the ON position.”**

2 S CHECK CLOSED/CLOSE the MCC maintenance supply feeder breaker to PP-1A . Simulates Checking CLOSED the MCC maintenance supply feeder breaker to PP-1A.

Evaluator CUE: When the student simulates loosening the nuts, say **“The nuts loosen”**.

*3 S LOOSEN the nuts on the PP-1A mechanical interlock device. * Simulates loosening the nuts on the PP-1A mechanical interlock device.

Evaluator CUE: When the student reads the step about making a gaitronics announcement say: **“The announcement has been made by the Unit Supervisor.”**

4 S MAKE an announcement that the containment evacuation alarm will sound. Announcement made by Unit Supervisor per cue above.

Evaluator Cue: When the student simulates opening the normal supply breaker, say: **“The breaker opens.”**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM01

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

*5	S	OPEN circuit 15, PP-1A normal supply breaker.	*Simulates opening circuit 15, PP-1A normal supply breaker.	_____	_____	_____
----	---	-----------------------------------------------	-------------------------------------------------------------	-------	-------	-------

Evaluator CUE: When the student simulates closing the maintenance supply breaker, say: **“The breaker closes.”**

*6	S	CLOSE circuit 16, PP-1A maintenance supply breaker.	*Simulates closing circuit 16, PP-1A maintenance supply breaker.	_____	_____	_____
----	---	-----------------------------------------------------	------------------------------------------------------------------	-------	-------	-------

Evaluator CUE: When the student tightening the nuts, say: **“The nuts tighten.”**

7	S	TIGHTEN the nuts on the PP-1A mechanical interlock device.	Simulates tightening the nuts on the PP-1A mechanical interlock device.	_____	_____	_____
---	---	------------------------------------------------------------	-------------------------------------------------------------------------	-------	-------	-------

Evaluator CUE: **“The JPM is complete.”**

7		Stop time Evaluator calculates time to complete task.	Time to complete the task ≤ 10 minutes.	_____	_____	_____
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Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM01

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

- A. You are the Secondary NSO. You are going to simulate transferring an instrument power panel to it's maintenance supply.
- B. The following information is provided to you:
 - 1) The plant is in MODE 5.
 - 2) UPS EDE-1-A is being removed from service for inspection.
 - 3) All procedure prerequisites for OS1047.02 are complete.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Secondary NSO, **"Secondary NSO, simulate transferring power panel PP-1A to it's maintenance supply per OS1047.02."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM01



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM PLANTJPM02

ALIGN ALTERNATE COOLING TO CCP LUBE OIL COOLER

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform				
S=Simulate	* denotes a critical step	* denotes a critical step	SAT UNSAT	

1.0 Task Number and Description:

0080102804 Adjust PCCW Flows Through Components

2.0 Conditions:

- A. The plant is in MODE 3.
- B. CS-P-2A is not available.
- C. Train "B" PCCW has been lost.
- D. The Unit Supervisor has entered OS1212.01, PCCW SYSTEM MALFUNCTION.

3.0 Standards:

Manually align alternate cooling to CS-P-2B lube oil cooler per OS1002.02, OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Student should have a flashlight.
OS1002.02, OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures:

OS1212.01, PCCW SYSTEM MALFUNCTION.
OS1002.02, OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION.

Sys	KA	Description	Value RO/SRO
008	2.1.30	Ability to predict the impact of the following malfunctions or operations on the CCWS, and based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of CCW Pump.	3.3/3.6

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION SAT UNSAT	INITIALS/DATE
--------------------------------------	-------------------------------------------	---------------------------------------	-------------------------	---------------

7.0 Setting:

Plant-RCA, PAB 25 ft. level

8.0 Safety Considerations:

Ensure proper PPE for evaluator and student.
HP postings and ALARA.

9.0 Approximate Completion Time:

15 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary NSO. You are going to simulate locally aligning Fire Protection (FP) water as alternate cooling to the CS-P-2B ("B" Centrifugal Charging Pump) lube oil cooler.
- B. The following information is provided to you:
 - 1) The plant is in MODE 3.
 - 2) CS-P-2A is not available.
 - 3) Train "B" PCCW has been lost.
 - 4) The Unit Supervisor has entered OS1212.01, PCCW SYSTEM MALFUNCTION.
 - 5) Step 1 RNO of OS1212.01 instructs the crew to align alternate cooling to the charging pump lube oil cooler per OS1002.02, OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION.
 - 6) The Control Room has contacted Chemistry for the required Non Rad Release Permit.
 - 7) The Roving NSO and a Firefighter have been dispatched to connect the drain hose from the charging pump lube oil coolers outlet to a storm drain (OS1002.02, step 4.21.2).
 - 8) The control switch for CS-P-2B is in Pull-To-Lock.
 - 9) All prerequisites have been completed.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Primary NSO, **"Primary NSO, simulate aligning Fire Protection (FP) water as alternate cooling to CS-P-2B lube oil cooler using OS1002.02, starting at step 4.21.5. Inform the Control Room as soon as cooling flow has been established."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM02.doc

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

1 P Start time Initiating cue read.

NOTE: The student should demonstrate that they could locate a copy of the procedure in the PAB remote satellite. Provide a copy of OS1002.02.

NOTE: Valves CC-V-315, CC-V-318, CC-V-1297, CC-V-1290, and CC-V-1294 are all located along the wall, outside the degasifier room in the main passage way of the 25 ft level PAB, across from the sampling room. FP-V-1129 is in the South Stairwell of the 25 ft level PAB, approx. 7 ft above the floor.

CC-FISL-2218 is located on the instrument rack on the PAB 7 ft. level, near RMW pumps, on MM-IR-19B.

Evaluator CUE: IF the student states that Chemistry must be notified to issue a Non Rad Release Permit say: **“The Non Rad Release Permit has been issued.”**

Evaluator Cue: If the student states that a drain hose must be connected, say: **“The drain hose has been connected and is in place”.**

Evaluator Cue: If the student states that the Control Room should refer to the applicable Tech. Specs. say: **“The Control Room has addressed the Tech. Specs.”**

*2	S	UNLOCK and CLOSE:	Simulates unlocking and closing:			
		a. CC-V-318, PCCW return from CS-P-2B oil cooler.	*a. CC-V-318, PCCW return from CS-P-2B oil cooler.			
		b. CC-V-315, Supply to CS-P-2B oil cooler.	*b. CC-V-315, Supply to CS-P-2B oil cooler.			
3	S	If DM water is to be aligned to the CS-P-2B cooler, perform the following.....	N/A			
*4	S	IF FP water is to be aligned to the CS-P-2B lube oil cooler in response to a loss of PCCW, PERFORM the following:	Alignes FP water to CS-P-2B lube oil cooler:			
		a. CLOSE CC-V-1297, FP alternate cooling tell tale drain.	*Simulates closing CC-V-1297, FP alternate cooling tell tale drain.			

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

	b. OPEN FP-V-1129, Charging Pump oil coolers alternate supply.	* Simulates opening FP-V-1129, Charging Pump oil coolers alternate supply.	_____	_____	
--	----------------------------------------------------------------	----------------------------------------------------------------------------	-------	-------	--

	c. OPEN CC-V-1290, Fire Water alternate cooling supply to CS-P-2B lube oil cooler.	* Simulates opening CC-V-1290, Fire Water alternate cooling supply to CS-P-2B lube oil cooler.	_____	_____	
--	------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------	-------	-------	--

*5	S	THROTTLE CC-V-1294, CS-P-2B oil cooler alternate cooling outlet as necessary to maintain 10 to 30 gpm as read on CC-FISL-2218 (PAB 7 ft. level near RMW pumps, on MM-IR-19B).	*Throttles open CC-V-1294, CS-P-2B oil cooler alternate cooling outlet.	_____	_____	_____
----	---	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------	-------	-------	-------

Evaluator CUE: When the student checks flow at CC-FISL-2218, say: **“The indicator shows 18 gpm.”**

6*	S	Check flow as indicated on CC-FISL-2218.	* Checks flow as indicated on CC-FISL-2218.	_____	_____	_____
----	---	------------------------------------------	---------------------------------------------	-------	-------	-------

7	S	REPORT to the Control Room that FP water has been aligned to CS-P-2B lube oil cooler.	Reports to the Control Room that FP water has been aligned to CS-P-2B lube oil cooler.	_____	_____	_____
---	---	---------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------	-------	-------	-------

Evaluator CUE: Unit Supervisor responds to NSO: **“I copy, Fire Protection water has been aligned to the CS-P-2B lube oil cooler”**

Evaluator CUE: **“The JPM is complete.”**

8		Stop time _____	Time to complete the task ≤ 15 minutes.	_____	_____	_____
---	--	-----------------	-----------------------------------------	-------	-------	-------

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary NSO. You are going to simulate locally aligning Fire Protection (FP) water as alternate cooling to the CS-P-2B ("B" Centrifugal Charging Pump) lube oil cooler.
- B. The following information is provided to you:
- 1) The plant is in MODE 3.
 - 2) CS-P-2A is not available.
 - 3) Train "B" PCCW has been lost.
 - 4) The Unit Supervisor has entered OS1212.01, PCCW SYSTEM MALFUNCTION.
 - 5) Step 1 RNO of OS1212.01 instructs the crew to align alternate cooling to the charging pump lube oil cooler per OS1002.02, OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION.
 - 6) The Control Room has contacted Chemistry for the required Non Rad Release Permit.
 - 7) The Roving NSO and a Firefighter have been dispatched to connect the drain hose from the charging pump lube oil coolers outlet to a storm drain (OS1002.02, step 4.21.2).
 - 8) The control switch for CS-P-2B is in Pull-To-Lock.
 - 9) All prerequisites have been completed.
- C. The evaluator will act as the Shift Manager and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Primary NSO, **"Primary NSO, simulate aligning Fire Protection (FP) water as alternate cooling to CS-P-2B lube oil cooler using OS1002.02, starting at step 4.21.5. Inform the Control Room as soon as cooling flow has been established."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).



FPL Energy

Seabrook Station

JOB PERFORMANCE MEASURE 2007 NRC EXAM PLANTJPM03

LOCAL RAPID MANUAL BORATION

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature _____ Date: _____
(optional)

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PREPARED BY: _____ DATE: _____
INSTRUCTOR

REVIEWED BY: _____ DATE: _____
SUBJECT MATTER EXPERT (OPTIONAL)

APPROVED BY: _____ DATE: _____
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

0040405504 Perform Rapid Manual Boration Of The RCS

2.0 Conditions:

- A. The plant is in MODE 5.
- B. The last shift completed placing CS-DM-2B in service.
- C. The operable boration flowpath is the "A" Boric Acid Tank and the "B" Centrifugal Charging Pump (CS-P-2A) via the "A" Boric Acid Pump (CS-P-3A).
- D. The Hi Flux at Shutdown Monitor Hi alarm came in 10 minutes ago.
- E. The Unit Supervisor has entered OS1202.04, Rapid Boration.
- F. CS-V-426 will not open from the main control board.

3.0 Standards:

Manually align a boration flow path.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Student should have a flashlight.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no peer checks will be provided during the JPM.

6.0 References:

Procedures:

OS1202.04, RAPID BORATION.
OS1090.01, Manual Operation of Remote Operated Valves.
OX1408.02, Boration Flow Path Monthly Valve Alignment Check

Sys	KA	Description	Value RO/SRO
004	2.1.30	Ability to locate and operate components, including local controls.	3.9/3.4

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM03

JOB PERFORMANCE WORKSHEET

7.0 Setting:

Plant-RCA

PAB Boric Acid Tank Room

8.0 Safety Considerations:

Ensure proper PPE for evaluator and student.
HP postings and ALARA.
Trip hazards in BAT room.

9.0 Approximate Completion Time:

15 minutes

10.0 Directions To The Student(s):

Evaluator gives Tear-Off sheet to the student.

A. You are the Primary NSO. You are going to simulate locally aligning a boration flow path.

B. The following information is provided to you:

- 1) The plant is in MODE 5.
- 2) The last shift completed placing CS-DM-2B in service.
- 3) The operable boration flowpath is the "A" Boric Acid Tank and the "B" Centrifugal Charging Pump (CS-P-2A) via the "A" Boric Acid Pump (CS-P-3A).
- 4) The Hi Flux at Shutdown Monitor Hi alarm came in 10 minutes ago.
- 5) The Unit Supervisor has entered OS1202.04, Rapid Boration.
- 6) CS-V-426 will not open from the main control board.

C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Unit Supervisor to Primary NSO, "**Primary NSO, simulate locally opening CS-V426, the Emergency Borate Valve.**"

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM03

PERFORMANCE CHECKLIST

	D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
				SAT	UNSAT	

1	P	Start time	Initiating cue read.			
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NOTE: If requested, provide a copy of OS1090.01, Manual Operation of Remote Operated Valves.

Evaluator CUE: If the clutch is operated correctly, then provide the cue: **“The valve stem rises”**, if not then **“The handwheel free-wheels”**.

*2	S	OPEN CS-V-426.	Opens CS-V-426.			
			*a. Depresses the de-clutch lever			
			*b. Rotates CS-V-426 handwheel counter clockwise.			
			*c. REPORTS that CS-V-426 has been opened.			

Evaluator CUE: The Unit Supervisor responds, **“I copy, CS-V-426 is open. We will be starting CS-P-3A”**.

Evaluator CUE: After a short delay, the Unit Supervisor informs the NSO, **“CS-P-3A will not start. To line up for gravity feed from the “A” Boric Acid Tank, we will shut CS-LCV-112B. I want you to verify OPEN CS-V-410, and OPEN CS-V-437, CS-V-439, and CS-V-442”**.”

Evaluator CUE: If student simulates turning handwheels counterclockwise, then provide the cue for each valve operated: **“ The stem rises”**. When the last valve begins opening: **“Flow noise is heard”**.

*3	S	ESTABLISH a gravity feed flow path.	Establishes a gravity feed flow path:			
			a. Verifies OPEN CS-V-410.			
			*b. Opens CS-V-437.			
			*c. Opens CS-V-439.			
			*d. Opens CS-V-442.			

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM03

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION		INITIALS/DATE
			SAT	UNSAT	

4	P	REPORT to the Control Room that the gravity feed path has been established.	Reports to the Control Room that the gravity feed path has been established.	_____	_____	_____
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Evaluator Cue: Unit Supervisor responds to NSO: "I copy, CS-V-437, CS-V-439, and CS-V-442 have been opened".

Evaluator CUE: "The JPM is complete."

7		Stop time Evaluator calculates time to complete task.	Time to complete the task ≤ 15 minutes.	_____	_____	_____
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Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM03

TEAR-OFF SHEET FOR JPM

Directions to the Student:

Evaluator gives Tear-Off sheet to the student.

- A. You are the Primary NSO. You are going to simulate locally aligning a boration flow path.
- B. The following information is provided to you:
 - 1) The plant is in MODE 5.
 - 2) The last shift completed placing CS-DM-2B in service.
 - 3) The operable boration flowpath is the "A" Boric Acid Tank and the "B" Centrifugal Charging Pump (CS-P-2A) via the "A" Boric Acid Pump (CS-P-3A).
 - 4) The Hi Flux at Shutdown Monitor Hi alarm came in 10 minutes ago.
 - 5) The Unit Supervisor has entered OS1202.04, Rapid Boration.
 - 6) CS-V-426 will not open from the main control board.
- C. The evaluator will act as the Unit Supervisor and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Unit Supervisor to Primary NSO, **"Primary NSO, simulate locally opening CS-V426, the Emergency Borate Valve."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion (Ops only).

PLANTJPM03