North Atlantic

JOB PERFORMANCE MEASURE L0001I AP Rev. 00

LOCAL MANUAL RAPID BORATION

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: NO

PREPARED BY: _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: NSO

0040405504 Perform Rapid Manual Boration Of The RCS.

2.0 Conditions:

A. Plant is in MODE 5.
B. The last shift completed placing CS-DM-2B in service.
C. The operable boration flowpath is the 'A' BAT and CS-P-2A via CS-P-3A.
D. The Hi Flux at Shutdown Monitor Hi alarm came in 10 minutes ago.
E. The US has entered OS1202.04, Rapid Boration.
F. CS-V426 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.

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
024	AA1.20	Ability to operate and or monitor the manual boration valve and indicators.	3.2*/3.3

7.0 Setting:

Plant, PAB Boric Acid Tank Room.

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

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):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of the task.

Evaluator gives Tear-Off sheet to the student.
Evaluator reads the following to student (Optional for multiple JPMs):

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. Plant is in MODE 5.
2. The last shift completed placing CS-DM-2B in service.
3. The operable boration flowpath is the 'A' BAT and CS-P-2A via CS-P-3A.
4. The Hi Flux at Shutdown Monitor Hi alarm came in 10 minutes ago.
5. The US has entered OS1202.04, Rapid Boration.
6. CS-V426 will not open from the Main Control Board.

C. **(NA for NRC Exam)**
The performance must meet the following standard(s):

1. SIMULATE manually aligning a boration flow path.

D. **(NA for NRC Exam)**
Perform the task per US verbal cues from OS1202.04, Rapid Boration.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

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

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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 NSO, **"Primary NSO (or student's name), locally open CS-V426, the Emergency Borate Valve."**

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	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____

NOTE: If requested, provide a copy of OS1090.01.

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

*2.	S	OPEN CS-V426.	OPENS CS-V426.			_____
			*a. Depresses de-clutch lever	_____	____	
			*b. Rotates CS-V426 handwheel counterclockwise.	_____	____	
			c. REPORTS that CS-V426 has been OPENED.	_____	____	

CUE: US responds to NSO, **"I copy, CS-V426 is open. We will be starting CS-P-3A."**

CUE: After a short delay, US informs 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."**

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."**

Not Faulted

Since applicant is being directed

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	EVALUATION UNSAT	INITIALS/DATE
*3. S	ESTABLISH a gravity feed flow path.	ESTABLISHES a gravity feed flow path:			_____
		a. VERIFIES Open CS-V-410.	_____	_____	
		*b. OPENS CS-V437.	_____	_____	
		*c. OPENS CS-V439.	_____	_____	
		*d. OPENS CS-V442.	_____	_____	
4. P	REPORT to control room that gravity feed path is established.	REPORTS that a gravity feed path is established.	_____	_____	_____

CUE: US responds to NSO, **"I copy, CS-V-437, CS-V-439, and CS-V-442 have been opened."**

CUE: **"The JPM is complete."**

5.	Stop time _____ Evaluator calculates time to complete task.	Time to complete the task ≤ 15 minutes.			_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR JPM L0001I AP

Directions 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' BAT and CS-P-2A via CS-P-3A.
4. The Hi Flux at Shutdown Monitor Hi alarm came in 10 minutes ago.
5. The US has entered OS1202.04, Rapid Boration.
6. CS-V426 will not open from the MCB.

C. I will act as the US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to Primary NSO, **"Primary NSO (or student's name), locally open CS-V426, the Emergency Borate Valve."**

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

North Atlantic

JOB PERFORMANCE MEASURE L0002I Rev. 00

RECOVER A DROPPED ROD

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: NO

PREPARED BY: R. Kessens DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0010400301 Operate single full length control rod (misalignment).

2.0 Conditions:

A. The plant is at approximately 42% power following a dropped rod in Control Bank D (CBD), identified as H-2.
B. The plant has been stabilized using turbine load control, with rod control in Manual.
C. I&C has completed replacing a blown fuse on the stationary gripper.

3.0 Standards:

Align the dropped rod with its bank per OS1210.05, Dropped Rod.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Copy of OS1210.05, Dropped Rod, Rev. 8.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures:

- OS1210.05, Dropped Rod.

Detailed Systems:

- CP

Technical Specifications:

- 3.1.1.1, SDM T_{AVG} Greater Than 200°F.
- 3.1.3.1, Group Height.
- 3.1.3.5, Shutdown Rod Insertion Limits.
- 3.1.3.6, Control Rod Insertion Limits.
- 3.2.1, Axial Flux Difference.
- 3.2.4, Quadrant Power Tilt Ratio.

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

Drawings:

- Westinghouse Functional: 1-NHY-509049, Rod Control

Sys	KA	Description	Value RO/SRO
001	K4.09	Knowledge of CRDS design features and/or interlocks which provides for recovery of a dropped rod.	3.9/4.1

7.0 Setting:

Simulator:

A. Establish initial conditions for the JPM by initializing the simulator to approximately 50% power.
B. Insert DROPPED ROD H-2 malfunction IMF CP010.
C. Place the simulator in RUN and stabilize plant per OS1210.05
   1. Place rods in MANUAL
   2. Match T_{AVG}/T_{REF} by dropping turbine load
   3. Acknowledge alarms
D. Clear the H-2 dropped rod malfunction (DMF CP010). (If an IC is used, the above setup should be complete to this point.)
E. After simulator conditions are stabilized, verify Bank Demand Counters reflect expected conditions.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Directions To The Student(s):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of the task.

Evaluator gives Tear-Off sheet to the student.
Evaluator reads the following to student (Optional for multiple JPMs):

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

JOB PERFORMANCE WORKSHEET

A. You are the Primary Operator. You are going to recover a dropped rod.

B. The following information is provided to you:

1. The plant is at approximately 46% power following a dropped rod in control Bank C (CBC), identified as H-2.
2. The plant has been stabilized using turbine load control, with rod control in Manual.
3. I&C has completed replacing a blown fuse on the stationary gripper coil.

C. **(NA for NRC Exam)**
The performance must meet the following standard(s):

1. Align the dropped rod with its bank per OS1210.05, Dropped Rod.

D. **(NA for NRC Exam)**
Perform the task using OS1210.05, Dropped Rod.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I will act as the US or NSO in the field 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).

11.0 Initiating Cue:

US to Primary Operator, **"Primary Operator (or student's name), we are at step 4 of OS1210.05, Dropped Rod. Continue with the procedure and recover the rod."**

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

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
	* denotes a critical step	* denotes a critical step	SAT	UNSAT	
1.	P Start time _____	Initiating cue read.			_____

NOTE: The evaluator should verify the alarms are not overridden.

CUE: When the student requests the NSO to locally verify logic and power cabinet alarms, respond: **"There are currently no alarms on the logic or power cabinets."**

2.	P	Check rod control urgent failure alarm - RESET. • D7746 • local power cabinet • local logic cabinet	Checks urgent alarm is reset. • MPCS • Power cabinets • Logic cabinet	_____	_____	_____
*3.	P	Align rod control system for dropped rod recovery.	Aligns rod control for rod recovery:			_____
		a. Place the rod bank selector to - AFFECTED BANK POSITION	*a. Rotates switch to position CBC.	_____	_____	
		b. Except for the dropped rod, place all the lift coil disconnect switches for the affected bank to - ROD DISCONNECTED.	*b. Selects ROD DISCONNECTED for all rods in CBC except H-2.	_____	_____	
		c. Record the affected group step counter position.	c. Records CBC group 1 step counter position.	_____	_____	
		d. Reset the affected group step counter to zero.	*d. Resets CBC group 1 step counter to zero.	_____	_____	

CUE: When directed, NSO (or I&C tech) to Primary Operator, **"I copy, hold the P/A converter AUTO - MAN switch to MAN until rod withdrawal is complete."**

		e. Hold and Maintain the pulse to analog converter auto-man switch in MAN until rod withdrawal is complete.	*e. Directs NSO (or I&C tech) to hold P/A switch in MAN until withdrawal is complete.	_____	_____	

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

PERFORMANCE CHECKLIST

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

CUE: NSO (or I&C tech) to Primary Operator, **"The P/A converter AUTO-MAN switch is in MAN."**

*4.	P	Withdraw the dropped rod until the step counter reaches the previously recorded position.	Withdraws the dropped rod to the previously recorded position:			_____
		• Verify that the dropped rod is the only rod moving by DRPI.	• Verifies only rod H-2 is moving.	_____	_____	

NOTE: Recommendation from student to evaluator (US) is sufficient to meet the intent of maintaining program T_{avg}. When recommendation is made; US to primary operator, **"The Secondary Operator will maintain T_{avg} with the turbine while you withdraw the control rod."**

		• Maintain programmed T_{avg} using boration and/or turbine loading as recommended by RE.	• Ensures T_{avg} maintained on program with boration and/or turbine loading.	_____	_____	
			*a. Withdraws rod to previous position.	_____	_____	
*5.	P	Align rod control system for normal operation.	Aligns rod control for normal operation:			_____

CUE: NSO (I&C tech) to Primary Operator, **"I copy, return the P/A switch to AUTO."**

		a. Return the pulse to analog converter auto-man switch to - AUTO.	*a. Directs NSO (or I&C tech) to return P/A switch to AUTO.	_____	_____	

CUE: NSO (I&C tech) to Primary Operator, **"The P/A switch has been returned to AUTO."**

		b. Reset the rod control urgent failure alarm by DEPRESSING the rod control alarm reset	*b. Depresses the rod control alarm reset pushbutton.	_____	_____	

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

L0002I

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	pushbutton.				
	c. Place all lift coil disconnect switches for the affected bank to – ROD CONNECTED.	c. Selects ROD CONNECTED for rods placed in ROD DISCONNECTED.	_____	____	
	d. Return the rod bank selector switch to MAN.	d. Rotates switch to MAN.	_____	____	
	e. If necessary, reset the power range rate trip.	e. If necessary, resets the power range rate trip.	_____	____	

NOTE: The intent of the following step is met if the student withdrew the dropped rod to within the alignment tolerances of Tech Spec 3.1.3.1. (i.e., ± 12 steps of bank demand position)

*6.	P	Check the dropped rod - ALIGNED WITH THE AFFECTED BANK RODS.	Checks the dropped rod aligned:		_____
			*a. DRPI H-2 at group 1 rod height.	_____ ____	

CUE: **"The JPM is complete."**

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

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

L0002I

TEAR-OFF SHEET FOR JPM L0002I

Directions to the Student:

A. You are the Primary Operator. You are going to recover a dropped rod.

B. The following information is provided to you:

1. The plant is at approximately 42% power following a dropped rod in control Bank C (CBC), identified as H-2.
2. The plant has been stabilized using turbine load control, with rod control in Manual.
3. I&C completed replacing a blown fuse on the stationary gripper coil.

C. I will act as the US or NSO in the field and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to Primary Operator, **"Primary Operator (or student's name), we are at step 4 of OS1210.05, Dropped Rod. Continue with the procedure and recover the rod."**

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

North Atlantic

JOB PERFORMANCE MEASURE L0063I Rev. 00

PLACE FAH IN FUEL HANDLING MODE

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: NO

PREPARED BY: _____ DATE: 1/20/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/20/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

1100100101 Shift Ventilation Lineups Between Normal And FAH

2.0 Conditions:

A Plant is in MODE 1, 100% power.
B. HP has set up a decontamination area just outside the door of the new fuel storage room. Decontamination efforts are underway in this area to decon materials (refueling shoehorn, refueling lights, etc.) that were stowed in the new fuel storage room.
C. Normal Fuel Storage Building ventilation is in service.
D. RM-6562, the FSB exhaust airborne radiation monitor is in high alarm.
E. The US is executing OS1252.02, High Airborne Radiation.

3.0 Standards:

Place FAH in the Fuel Handling mode per OS1023.63, Fuel Storage Building Ventilation System Operation.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Copy of OS1023.63, Fuel Storage Building Ventilation System Operation, Rev 7, Chg. 7.

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures:

OS1023.63, Fuel Storage Building Ventilation System Operation

Drawings:

1-NHY-FAH-310929
1-NHY-MAH-D20497

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

Sys	KA	Description	Value RO/SRO
2.2	2.2.30	Knowledge of RO duties in the control room during fuel handling and systems operated from the control room to support fuel handling operations.	3.5/3.3
2.4	2.4.11	Knowledge of abnormal condition procedures.	3.4/3.6

7.0 Setting:

Simulator:

A. 100% power IC.
B. FAH is in the normal line-up (i.e., FAH-FN-124 running).
C. Insert malfunction to FAH RM-6562 to alarm HIGH - IMF RM092

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
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Primary Operator. In response to a high radiation alarm on RM-6562, and in accordance with the High Airborne Radiation abnormal procedure, the US has directed you to place FAH in the Fuel Handling mode.

B. The following information is provided to you:

1. Plant is in MODE 1, 100% power.
2. HP has set up a decontamination area just outside the door of the new fuel storage room. Decontamination efforts are underway in this area to decon materials (refueling shoehorn, refueling lights, etc.) that were stowed in the new fuel storage room.
3. Normal Fuel Storage Building ventilation is in service.

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

4. RM-6562, the FSB exhaust airborne radiation monitor is in high alarm.
5. The US is executing OS1252.02, High Airborne Radiation.

C. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Shift the Fuel Storage Building Ventilation from Normal to the Fuel Handling mode.

D. **(NA for NRC Exam)**
Perform the task using OS1023.63, Fuel Storage Building Ventilation System Operation.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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, **"Primary Operator (or student's name), place Fuel Storage Building ventilation in the Fuel Handling mode in accordance with OS1023.63. All Prerequisites and Initial Conditions are complete."**

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1.	P	Start time _____	Initiating cue read.			_____
2.	P	Perform section 4.3 to shut down normal FSB ventilation.	Shuts down normal FSB ventilation.	____	____	_____
CUE:		When directed, NSO to Primary Operator, **"I copy, place PAH-DP-1003 in the Fuel Handling position."**				
*3	P	Locally place PAH-DP-1003, PAB/FSB balancing damper, to the Fuel Handling position.	Directs NSO to place PAH-DP-1003 to the Fuel Handling position.	____	____	
CUE:		NSO to Primary Operator, **"I have placed PAH-DP-1003 in the Fuel Handling position."**				
*4	P	Place the control switch for FAH-DP-14, FSB normal exhaust damper, to CLOSE. Exhaust fan FAH-FN-124 is interlocked with FAH-DP-14 and will stop when the damper reaches the full closed position.	Places the switch for FAH-DP-14 to close. (Observes FAH-FN-124 stop when FAH-DP-14 is full closed.)	____	____	
*5.	P	Place the control switches for FAH-DP-13A and FAH-DP-13B, FSB supply dampers, to CLOSE.	Places to close: • FAH-DP-13A and • FAH-DP-13B	____ ____	____ ____	
*6.	P	Place both train 'A' and train 'B' fuel storage building ventilation mode control switches to FUEL HANDLING.	Places to Fuel Handling: • Train 'A' mode switch and • Train 'B' mode switch	____ ____	____ ____	_____

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
7.	P	Verify FAH-DP-13A and FAH-DP-13B, FSB supply dampers, indicate CLOSED.	Verifies closed: • FAH-DP-13A and • FAH-DP-13B	____	____	_____
*8.	P	Verify FAH-DP-14, FSB normal exhaust damper, is fully closed. If not full closed, it must be closed manually at the damper (FSB 64 ft elevation).	Verifies ~~FAH-DP-14A~~ is closed. - Damper does not close - Dispatch Plant Op to close damper	____	____	_____

CUE: When asked, US to Primary Operator, **"Place the 'A' train air cleaning unit in service."**

NOTE: Placing FAH-DP-366 to START will start FAH-FN-11A when FAH-DP-366 starts to open.

*9.	P	If fan FAH-FN-11A and its associated air cleaning unit, 41, are to be placed in service, PERFORM the following:	Performs the following:			_____
		a. Place the control switch for FAH-DP-366, FSB cleaning unit exhaust damper, to START.	*a. Places FAH-DP-366 to start.	____	____	

NOTE: FAH-DP-13A will modulate to a mid-position.

		b. Place the control switch for FAH-DP-13A, FSB supply damper, to OPEN. The damper will open to a preset position to maintain FSB internal pressure at a negative value.	*b. Positions FAH-DP-13A control switch to open.	____	____	

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	c. At MCB, place the FAH-F-41, cleaning unit heater control switch to AUTO.	*c. Positions FAH-F-41 heater control switch to AUTO.	____	____	
CUE:	**"The JPM is complete."**				
10.	Stop time _____ Evaluator calculates the time to complete the task.	Start - Stop time is ≤ 20 minutes.			_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR JPM L0063I

Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Primary Operator. In response to a high radiation alarm on RM-6562, and in accordance with the High Airborne Radiation abnormal procedure, the US has directed you to place FAH in the Fuel Handling mode.

B. The following information is provided to you:

1. Plant is in MODE 1, 100% power.
2. HP has set up a decontamination area just outside the door of the new fuel storage room. Decontamination efforts are underway in this area to decon materials (refueling shoehorn, refueling lights, etc.) that were stowed in the new fuel storage room.
3. Normal Fuel Storage Building ventilation is in service.
4. RM-6562, the FSB exhaust airborne radiation monitor is in high alarm.
5. The US is executing OS1252.02, High Airborne Radiation.

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, **"Primary Operator (or student's name), place Fuel Storage Building ventilation in the Fuel Handling mode in accordance with OS1023.63. All Prerequisites and Initial Conditions are complete."**

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

North Atlantic

JOB PERFORMANCE MEASURE L0120I AP Rev. 00

DC START OF ELGAR UPS

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Specialist Signature: _____ Date: _____

SAT UNSAT

This JPM was administered for qualification: NO

PREPARED BY: S W Kenney DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: NSO

0620100304 Place In/Remove From Service a Static Inverter

2.0 Conditions:

UPS 1-EDE-I-1E (F) was shutdown during the previous shift to support an inspection performed by the Engineering Support staff. The UPS was shutdown using OS1047.01, Vital Inverter Operation and OS1047.02, Transferring Power Supplies To 120 VAC Vital Instrument Buses.

3.0 Standards:

Restart UPS 1-EDE-I-1E (F).

4.0 Student Materials:

Copy of the Tear-Off Sheet.
OS1047.01, Vital Inverter Operation, Rev. 7, Chg. 5.
Operator Aid 90-0019 Inverter 1E, PP-1E Power Supplies.
Operator Aid 90-0020 Inverter 1F, PP-1F Power Supplies.

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures:

OS1047.01, Vital Inverter Operation.
Os1047.02, Transferring P/S To 120 VAC Vital Instrument Buses.

Technical Specifications:

3.8.3.1, Onsite Power Distribution.

Drawings:

Operator Aid 90-0019 Inverter 1E, PP-1E Power Supplies.
Operator Aid 90-0020 Inverter 1F, PP-1F Power Supplies.

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

Sys	KA	Description	Value RO/SRO
062	K4.10	Knowledge of AC distribution system design features and/or interlocks which provide for uninterruptible AC power sources.	3.1/3.5
2.1	2.1.23	Ability to perform specific system and integrated plant procedures during all modes of operation.	3.9/4.0

7.0 Setting:

Plant, Essential SWGR room.

8.0 Safety Considerations:

DO NOT operate any equipment. This is a TRIP AVOIDANCE AREA.

9.0 Approximate Completion Time:

25 minutes

10.0 Directions to the Student(s):

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Secondary NSO. You are going to restart UPS 1-EDE-I-1E (F).

B. The following information is provided to you:

1. UPS 1-EDE-I-1E (F) was shutdown during the previous shift to support an inspection performed by the Engineering Support staff. The UPS was shutdown using OS1047.01, Vital Inverter Operation and OS1047.02, Transferring Power Supplies To 120 VAC Vital Instrument Buses.
2. Vital PP-1E (1F) is on its maintenance power supply IAW the inverter shutdown procedure.

C. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Restart UPS 1-EDE-I-1E (F).

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

D. **(NA for NRC Exam)**
Perform the task using OS1047.01, Vital Inverter Operation.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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 Secondary NSO, **"Secondary NSO (or student's name), simulate restarting UPS 1-EDE-I-1E (F) using OS1047.01, section 4.11 (12). All procedural prerequisites are complete."**

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____

CUE: When light is checked, **"The reverse transfer lamp is illuminated."**

2. S	VERIFY reverse transfer light on EDE-CP-1E (F) is energized.	VERIFIES reverse transfer light is energized.	____	____	_____

CUE: When the student locates the following breakers, **"The breaker is open."**

CUE: When manipulated, **"The breaker snaps closed."**

*3. S	CLOSE the supply breakers to the inverter.	Simulates closing breakers:			_____
		*a. UPS-1E (F) AC supply at node DD3 (DD5) on MCC-512 (612).	____	____	
		*b. UPS-1E (F) DC supply at node DM7 (DN0) on DC bus 11A (B).	____	____	

NOTE: When AC input breaker is shut, the rectifier and inverter sections begin startup. This JPM sets up conditions described in the NOTE prior to step 4.11.4 (4.12.4). Normally, when AC input breaker is shut, output voltage and frequency will rise. In this JPM, output voltage and frequency rise momentarily and return to the low peg. The UPS will again try to restart. Voltage and frequency rise then fall to the low peg a second time, then the UPS will "lock-out."

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE

CUE: When AC input breaker is closed, **"Output voltage and frequency rise toward normal, fall off, rise, and fall remaining at the low peg. Then, the following alarms are lit at the UPS:**

- **DC INPUT OVERVOLTAGE**
- **DC INPUT BREAKER OPEN**
- **INV OUTPUT UNDERVOLTAGE**
- **FREQUENCY OUT OF LIMITS"**

CUE: When manipulated: **"The breaker closes."**

*4.	S	CLOSE AC input breaker and RECOGNIZE inverter is "locked-out."	Recognizes inverter "lock-out."			_____
			*a. Closes AC input bkr.	_____	_____	
			*b. Checks output voltage and frequency.	_____	_____	

CUE: If control room is informed that the UPS has a "LOCK-OUT," acknowledge and respond, **"Continue with restart of the UPS using section 4.13 (14)."**

CUE: When student checks the UPS AC input breaker, **"The breaker is ON."**

*5	S	CHECK OPEN/OPEN the input breakers.	*a. Opens UPS-1E (F) AC input breaker	_____	_____	_____

CUE: When student checks the UPS battery input breaker, **"The breaker is OFF."**

			b. CHECKS OPEN battery input breaker	_____	_____	

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
CUE:	When student checks the DC supply breaker; **"The breaker is closed."**				
6.	S	ENSURE UPS-1E (F) DC supply, bus 11A (B) node DM7 (DN0), is CLOSED.	Checks closed UPS-1E (F) DC supply.	____	_____
CUE:	After the PRECHARGE pushbutton has been momentarily depressed, **"The PRECHARGED LED is brightly lit."**				
*7.	S	Momentarily DEPRESS the PRECHARGE pushbutton on the UPS control panel.	Pre-charge the UPS:		_____
			*a. Depresses the PRE-CHARGE pushbutton.	____	_____
	S	VERIFY the precharge LED on the UPS control panel is ENERGIZED.	VERIFIES the precharge LED on the UPS control panel is ENERGIZED.	____	_____
CUE:	When manipulated, **"The breaker closes."**				
*8.	S	After allowing the precharge circuit at least one minute to charge up the UPS prefilter capacitors, CLOSE the battery input breaker.	* Waits ≥ 1 minute for UPS DC bus to charge.Closes the battery input breaker.	____	_____
			* CLOSES the battery input breaker.	____	
CUE:	When checked, **"Output is 120 volts and 60 Hz."**				

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
9. S	CHECK UPS output voltage and frequency.	Checks output voltage and frequency: a. Observes UPS output voltage. b. OBSERVES UPS frequency meter.	____ ____	____ ____	_____
CUE:	When LEDs are checked **"Expected LEDs are energized."**				
10. S	VERIFY the UPS control panel LEDs associated with the following items are ENERGIZED: • AC INPUT BKR OPEN • INV FED FROM BATT • FREQ OUT OF LIM	Verifies expected LEDs are energized.	____	____	_____
CUE:	When manipulated; **"The breaker closes"**				
*11. S	CLOSE the UPS AC input breaker and allow the rectifier to start.	Closes the UPS AC input breaker.	____	____	_____
CUE:	When reset button depressed; **"All alarms clear."**				
12. S	DEPRESS the alarm RESET pushbutton and VERIFY that no alarm LEDs are ENERGIZED.	Depresses the alarm RESET pushbutton and verifies that no alarm LEDs are energized.	____	____	_____
CUE:	When manipulated **"The breaker closes."**				

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 critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
*13. S	CLOSE the AC output breaker.	*CLOSES the AC output breaker.	____ ____	_____
CUE:	**"The JPM is complete."**			
14.	Stop time _____ Evaluator calculates the time to complete the task.	Start - Stop time is ≤ 25 minutes.		_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR JPM L0120I AP

Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Secondary NSO. You are going to restart UPS 1-EDE-I-1E (F).

B. The following information is provided to you:

1. UPS 1-EDE-I-1E (F) was shutdown during the previous shift to support an inspection performed by Engineering Support staff. The UPS was shutdown using OS1047.01, Vital Inverter Operation and OS1047.02, Transferring Power Supplies TO 120 VAC Vital Instrument Buses.
2. Vital PP-1E (1F) is on its maintenance power supply IAW the inverter shutdown procedure.

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 Secondary NSO, **"Secondary NSO (or student's name), simulate restarting UPS 1-EDE-I-1E (F) using OS1047.01, section 4.11 (12). All procedural prerequisites are complete."**

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

North Atlantic

JOB PERFORMANCE MEASURE L0130I Rev. 01

Manual Operations of RHR TCV For Mid-Loop Operations

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature: _____ Date: _____

SAT UNSAT

This JPM was administered for qualification: NO

PREPARED BY: _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: NSO

1150101004 Position Any Valve
0020100504 Drain the Reactor Coolant System

2.0 Conditions:

A. The Plant is in MODE 6 with fuel in the vessel.

B. In preparation for installing SG nozzle dams, Complex Procedure OS1000.12, OPERATION WITH THE RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS, is being used to drain the RCS to mid-loop.

C. The US has completed all Prerequisites of OS1000.12 and RHR Train 'A' is in service.

D. OS1000.12 is completed through step 6.1.10.2.

3.0 Standards:

Simulate manually blocking RH-HCV-606 per OS1000.12, OPERATION WITH RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS.

4.0 Student Materials:

- Copy of the tear-off sheet
- Copy of OS1000.12, OPERATION WITH RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS, Rev. 03 Chg. 07.
- Wrench to operate the 1 1/4 inch jam nut. (This can be obtained from the Tool Crib)
- Flashlight

5.0 Limitations on performance:

Simulate all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures

OS1000.12, OPERATION WITH THE RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS.

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

Detailed Systems

RHR

Sys	KA	Description	Value RO/SRO
	2.1.20	Ability to execute procedural steps	4.3 / 4.2
005	K3.01	RCS	3.9 / 4.0

7.0 Setting:

-25 ft elevation, 'A' RHR vault stairwell

8.0 Safety Considerations:

- Ensure both student and evaluator have the proper PPE for entry into the plant.
- ALARA - The RHR vaults are typically RADIATION AREAS, but may be HIGH RADIATION AREAS. CHECK the postings at the HP Control Point. **DO NOT** enter a HIGH RADIATION AREA to perform this JPM.

9.0 Approximate Completion Time:

15 minutes

10.0 Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Primary NSO.

B. The following information is provided to you:

1. The Plant is in MODE 6 with fuel in the vessel.
2. In preparation for installing SG nozzle dams, Complex Procedure OS1000.12, OPERATION WITH THE RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS, is being used to drain the RCS to mid-loop.

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

3. The US has completed all Prerequisites of OS1000.12 and RHR Train 'A' is in service.
4. Train 'A' RHR flow has been stabilized at 3500 gpm in accordance with OS1000.12, step 6.1.10.2.

C. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Simulate manually blocking RH-HCV-606 per OS1000.12, OPERATION WITH THE RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS.

D. **(NA for NRC Exam)**

Perform the task using OS1000.12, OPERATION WITH THE RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS.

E. **(NA for NRC Exam)**

To perform the task successfully, you must simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**

During the course of the walk-through examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**

Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**

I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**

We will begin after the Initiating Cue is read.

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

11.0 Initiating Cue:

US to primary NSO, **"Primary NSO (or students name) SIMULATE completing section 6.1.10 of OS1000.12 starting at step 6.1.10.3.1 and report when required actions are complete."**

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____

NOTE: OS1000.12 is a designated as a COMPLEX PROCEDURE. Prior to performing this procedure all parties involved will have participated in a briefing. Part of the briefing is to identify equipment needed during the performance of the procedure. If the operator does not take action to get the wrench required to perform this task, AS A MINIMUM, the operator should be able to tell the evaluator where the wrench can be found.

Evaluator CUE: If the student contacts the control room for permission to unlock the handjack, respond: **"You have permission to unlock RH-HCV-606."**

Evaluator CUE: When student simulates unlocking the lock, respond: **"The lock unlocks."**

*2	S	6.1.3.10.1 UNLOCK handjack on RH-HCV-606, RHR Train 'A' temperature control.	* Using Best key from NSO key ring, SIMULATES unlocking the handjack for RH-HCV-606	____	____	_____

NOTE: The jam nut may be finger tight which would eliminate the requirement for using a wrench in the next step.

Evaluator CUE: When student simulates turning the jam nut in the counter clockwise direction, cue: **"The nut backs off."**

*3	S	6.1.3.10.2 BACK OFF jam nut on RH-HCV-606, RHR Train 'A' temperature control.	* SIMULATES turning the jam nut counter-clockwise.	____	____	_____

NOTE: When the operator informs the control room that step 6.1.10.3.2 has been completed, the control room will perform step 6.1.10.4. In the interest of ALARA, inform the student that time is being compressed and immediately provide the following cue.

Evaluator CUE: Control room to primary NSO, **"RH-FCV-618 is full closed and flow indicates 3500 gpm, continue with step 6.1.10.5."**

Evaluator CUE: After the student has simulated rotating the handwheel a few turns in the closed direction, cue: **"You start to feel resistance."**

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
*4. S	6.1.10.5 Locally ROTATE RH-HCV-606 handjack in the CLOSED direction until resistance is felt.	* SIMULATES rotating RH-HCV-606 in the closed direction until resistance is felt.	____	____	_____

Evaluator CUE: When the student simulates turning the jam nut in the clockwise direction, cue: **"The nut rotates several turns and then tightens."**

*5.	S	6.1.10.6 Locally ENGAGE RH-HCV-606 jam nut to prevent inadvertent stem rotation (snug tight).	* SIMULATES rotating the jam nut in the clockwise direction until snug tight.	____	____	_____
6.	S	Inform the control room that the handjack is set per procedure.	Informs the control room that the handjack for RH-HCV-606 is set.	____	____	_____

CUE: The JPM is complete.

7.	Stop Time _____ Evaluator calculates the time to complete the task.	Time to complete the task ≤ 15 minutes.	____	____	_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR JPM L0130I

Directions to the Student:

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Primary NSO.

B. The following information is provided to you:

1. The Plant is in MODE 6 with fuel in the vessel.
2. In preparation for installing SG nozzle dams, Complex Procedure OS1000.12, OPERATION WITH THE RCS AT REDUCED INVENTORY/MIDLOOP CONDITIONS, is being used to drain the RCS to mid-loop.
3. The US has completed all Prerequisites of OS1000.12 and RHR Train 'A' is in service.
4. Train 'A' RHR flow has been stabilized at 3500 gpm in accordance with OS1000.12, step 6.1.10.2.

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

Initiating Cue:

US to primary NSO, **"Primary NSO** (or students name) **SIMULATE completing section 6.1.10 of OS1000.12 starting at step 6.1.10.3.1 and report when required actions are complete."**

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

North Atlantic

JOB PERFORMANCE MEASURE LOUT 02 Rev. 00

START A REACTOR COOLANT PUMP (ES-0.1)

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: NO

PREPARED BY: R W Kerninger DATE: 01/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 01/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0030100101 Start a reactor coolant pump

2.0 Conditions:

A. A reactor trip occurred when Off-Site power was lost.
B. The control room crew performed the Immediate Actions of E-0, REACTOR TRIP OR SAFETY INJECTION. SI was not required and the crew transitioned to ES-0.1.
C. RCS temperature is being controlled using the ASDVs.
D. Off-Site power was restored shortly after the plant tripped. Emergency busses E5 and E6 are being powered from the UATs. The emergency diesel generators have been shut down and reset.
E. An evaluation of the loss of seal injection to the RCPs has been completed. Station staff recommends restarting RCPs as directed by the EOPs.

3.0 Standards:

Start a RCP in accordance with ES-0.1, REACTOR TRIP RESPONSE.

4.0 Student Materials:

Copy of tear-off sheet.

ES-0.1, REACTOR TRIP RESPONSE Rev 21.

5.0 Limitations On Performance:

PERFORM all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures:

ES-0.1, REACTOR TRIP RESPONSE.

Sys-Mode	KA	Description	Value RO/SRO
000007	EA1.04	Ability to operate and monitor the following as they apply to a reactor trip: RCP operation and flow rates.	3.6 / 3.7

7.0 Setting:

Simulator:

Setup
If a pre-written simulator IC exists:

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

1. Initialize to the IC created for this JPM and go to RUN

If a pre-written IC does not exist:

1. Initialize the simulator to a 100% power IC and go to RUN.
2. Insert malfunction SY001, LOSS OF ALL OFF-SITE POWER:
   - **IMF SY001 <CR>**
3. Delete the malfunction as soon as the reactor has tripped:
   - **DMF SY001<CR>.**
4. Walk-through E-0, steps 1 – 4 and go to ES-0.1:
   - **Reduce the setpoints on the ASDVs as necessary to reduce RCS temperature to no-load Tavg.**
   - **Close the MFP discharge valves.**
   - **Verify that RCS inventory and pressure control systems are operating properly.**
   - **Control EFW to maintain SG level at 25% to 50%.**
   - **Reset RMO, return busses E5 and E6 to the UATs, shutdown the DGs and reset for auto start.**
5. Adjust RCP seal injection flow as necessary to maintain 6 –13 gpm.
6. Place the simulator in FREEZE.

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.
Evaluator reads the following to student (Optional for multiple JPMs):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of task.

A. You are the Primary operator. You are going to start a Reactor Coolant Pump. The evaluator or another reader will act as the US and read the procedure steps to you. The procedure reader will execute the procedure based on your feedback and will provide no cues to you.

B. The following information is provided to you:

1. A reactor trip occurred when Off-Site power was lost.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

2. The control room crew performed the Immediate Actions of E-0, REACTOR TRIP OR SAFETY INJECTION. SI was not required and the crew transitioned to ES-0.1.
3. RCS temperature is being controlled using the ASDVs.
4. Off-Site power was restored shortly after the plant tripped. Emergency busses E5 and E6 are being powered from the UATs. The emergency diesel generators have been shut down and reset.
5. An evaluation of the loss of seal injection to the RCPs has been completed. Station staff recommends restarting RCPs as directed by the EOPs.

C. **(NA for NRC Exam)**

The performance must meet the following standard:

Start the a Reactor Coolant Pump per ES-0.1, REACTOR TRIP RESPONSE.

D. **(NA for NRC Exam)**

Perform the task using ES-0.1, starting at step 9.

E. **(NA for NRC Exam)**

To perform the task successfully, you must perform all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of this task.

F. **(NA for NRC Exam)**

During the course of the walk-through examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**

Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**

I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**

We will begin after the "Initiating Cue" is read.

J. I will act as the US and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Evaluator to student, **"(Student's Name), Walk-down the board. When you are ready, we will continue with ES-0.1 starting at step 9 to start Reactor Coolant Pump 1C."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1.	Start time _____	Initiating cue read			_____
CUE:	When the student is ready, place the simulator in RUN.				
CUE:	The procedure reader should read the CAUTION and NOTES prior to Step 9.				
*2. P	Check RCP Status – AT LEAST ONE RUNNING.	*RESPONDS that no RCPs are running.	____	____	_____
	a. Verify power available for running an RCP: 1) Lift Pump – POWER AVAILABLE 2) 13.8 KV Bus - ENERGIZED	*a. VERIFIES that power is available to the lift pumps and 13.8 KV busses are energized	____	____	_____
	b) Establish conditions for starting one RCP. IF conditions can NOT be established , then go to Step 9d.				_____
	1) PCCW pumps – RUNNING ONE PUMP PER LOOP.	*1) VERIFIES CC-P-11A and CC-P-11B are running.	____	____	
	2) PCCW containment isolation valves to RCP motors – OPEN: PCCW loop A Valves: • CC-V168 • CC-V57 • CC-V121 • CC-V122	*2) VERIFIES that all valves are open.	____	____	

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	PCCW Loop B Valves: • CC-V175 • CC-V176 • CC-V256 • CC-V257	Cont'd *2) VERIFIES that all valves are open.			
	2) PCCW containment isolation valves to thermal barrier cooling system – OPEN LOOP A CC-V1101 CC-V1109	*3) VERIFIES CC-V1101 and CC-V1109 are open.			
	LOOP B CC-V1092 CC-V1095	*3) VERIFIES CC-V1042 and CC-V1095 are open.			
	4) One thermal barrier cooling water pump - RUNNING	*4) VERIFIES one thermal barrier pump running.			
	5) Seal injection - > 6 GPM TO EACH PUMP	*5) VERIFIES / ADJUSTS seal injection flow to RCPs > 6 gpm.			
	6) No. 1 Seal ΔP – > 220 PSID	*6) VERIFIES ΔP > 220 PSID.			
	7) Pressurizer spray Valves - CLOSED	*7) VERIFIES PZR spray valves closed.			

CUE: US to PSO, **"We will be starting the 'C' RCP."**

c. Start one RCP

	1) Start selected RCP lift pump.	*1) STARTS RCP-1C lift pump.			

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
CUE:	IF the candidate recommends making a plant announcement that the RCP is being started, then make the following announcement over the GAITRONICS: "**Attention in the plant, starting RCP – 1C**"				
	2) After 2 minutes, start selected RCP.	*2) After 2 minutes, STARTS RCP-1C.	____	____	
	3) Stop lift pump.	3) STOPS RCP-1C lift pump.	____	____	
CUE:	**"The JPM is complete."**				
3.	Stop time Evaluator calculates the time to complete task.	Time to complete the task $\leq$ 20 minutes.	____	____	_____

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

TEAR-OFF SHEET FOR JPM LOUT 02

START A REACTOR COOLANT PUMP (ES-0.1)

Directions to the Student(s):

Evaluator gives Tear-Off sheet to the student.
Evaluator reads the following to student (Optional for multiple JPMs):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of task.

A. You are the Primary operator. You are going to start a Reactor Coolant Pump. The evaluator or another reader will act as the US and read the procedure steps to you. The procedure reader will execute the procedure based on your feedback and will provide no cues to you.

B. The following information is provided to you:

1. A reactor trip occurred when Off-Site power was lost.
2. The control room crew performed the Immediate Actions of E-0, REACTOR TRIP OR SAFETY INJECTION. SI was not required and the crew transitioned to ES-0.1.
3. RCS temperature is being controlled using the ASDVs.
4. Off-Site power was restored shortly after the plant tripped. Emergency busses E5 and E6 are being powered from the UATs. The emergency diesel generators have been shut down and reset.
5. An evaluation of the loss of seal injection to the RCPs has been completed. Station staff recommends restarting RCPs as directed by the EOPs.

C. I will act as the US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Evaluator to student, **"(Student's Name), Walk-down the board. When you are ready, we will continue with ES-0.1 starting at step 9 to start Reactor Coolant Pump 1C."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

North Atlantic

JPM was changed to be faulted

JOB PERFORMANCE MEASURE LOUT 03 Rev. 00

RESTORATION OF OFF-SITE POWER TO BUS E6

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature: _____ Date: _____

SAT UNSAT

This JPM was administered for qualification: NO

PREPARED BY: _____ DATE: 1/20/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/20/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0640402501 Restore off-site power to E5 / E6

2.0 Conditions:

A. Bus E6 was being supplied by the RAT to support a scheduled UAT breaker inspection.
B. A loss of SF6 pressure in 345kV zone 2 resulted in the loss of power to the RAT.
C. DG 'B' started and restored power to bus E6.
D. Plant conditions have been stabilized. The SM has directed the US to transfer bus E6 to the UAT and shutdown DG 'B'.
E. The SM and US have decided to use Attachment C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN, as guidance in restoring off-site power to bus E6.

3.0 Standards:

Restore off-site power to bus E6 using ATTACHMENT C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
ATTACHMENT C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN, Rev. 07, change 01.

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures

OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN

Sys	KA	Description	Value RO/SRO
064	A4.07	Synchronizing and paralleling of different ac supplies	3.1 / 3.1

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

7.0 Setting:

A. Initialize the simulator to a 100% power IC. Place the simulator in RUN.
B. Transfer bus E6 to the RAT. Place the UAT breaker in N-A-STOP (Removed form service so it does not interfere with JPM. CCPs started on LOP).
C. Remove CS-P-2B from service by placing tags and racking out the breaker.
D. Insert malfunction **SY002**, Loss of 345kV bus 2.
E. Check for the following:
EPS sequenced loads start, as applicable with the plant remaining at power.
SGBD isolated
SW-V5 Closed

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
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the BOP 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 the loss of power to the RAT.
3. DG 'B' started and restored power to bus E6.
4. Plant conditions have been stabilized. The SM has directed the US to transfer bus E6 to the UAT and shutdown DG 'B'.
5. The SM and US have decided to use Attachment C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN, as guidance in restoring off-site power to bus E6.

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

C. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Restore off-site power to Bus E6 using ATTACHMENT C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN.

D. **(NA for NRC Exam)**
Perform the task using ATTACHMENT C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walk-through examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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 BOP operator, **"Restore offsite power to bus E6 using ATTACHMENT C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN."**

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1.	P	Start time _____	Initiating cue read.			_____
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 DG synch. selector switch in the UAT or RAT position.	Places synch selector switch to UAT position.	____	____	_____
*4.	P	Reset RMO	* Resets RMO.	____	____	_____
5.	P	Adjust DG voltage to match INCOMING VOLTS with RUNNING VOLTS	Matches Voltage ± 10v	____	____	_____
*6.	P	Adjust DG frequency so that the sync. meter is going slowly in the fast direction.	* Adjusts speed as required	____	____	_____
7.	P	Close the RAT or UAT breaker when synchronized.	* Closes the UAT breaker.	____	____	_____
8.	P	Place the sync. selector switch in OFF.	Turns the synch switch off.	____	____	_____

NOTE: The evaluator should observe that the operator maintains control over the generator VARs while unloading. It is expected that leading VAR loading will be observed.

*9.	P	Shutdown DG by performing the following:	Shutdowns DG by performing the following:			_____
		a. Over a 10 minute period lower KVARS to less than 200 lagging and lower load to 75 to 125 KW.	a. Over a 10 minute period lower KVARS to: • less than 200 lagging and • lower load to 75 to 125 KW.	____	____	
		b. Open DG breaker.	*b. Opens DG breaker.	____	____	

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	c. Adjust DG voltage to 4160 volts.	c. Adjusts DG voltage to 4160 volts.	____	____	

Evaluator CUE: When the above step is completed, inform the student: **"For the purpose of this JPM, ten minutes have elapsed and the DG is cooled sufficiently to shutdown the engine."**

	d. After running DG unloaded for 10 minutes to cool the engine, shutdown the diesel by depressing both emergency stop buttons simultaneously.	*d. Shuts down the diesel by depressing both emergency stop buttons simultaneously.	____	____	

Evaluator CUE: When the above step is completed, inform the student: **"For the purpose of this JPM, two minutes have elapsed and the DG has stopped rolling."**

	e. After waiting two minutes to allow time for diesel to stop, reset the DG.	*e. Resets the DG.	____	____	
	f. Close SW-V18 for DG 'B'.	f. Closes SW-V18.	____	____	

CUE: The JPM is complete.

10.	Stop time _____ Evaluator calculates the time to complete the task.	Start - Stop time is $\leq$ 20 minutes.	____	____	_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR OFF SHEET

Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the BOP 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 the loss of power to the RAT.
   3. DG 'B' started and restored power to bus E6.
   4. Plant conditions have been stabilized. The SM has directed the US to transfer bus E6 to the UAT and shutdown DG 'B'.
   5. The SM and US have decided to use Attachment C 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 US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to BOP operator, **"Restore offsite power to bus E6 using ATTACHMENT C of OS1246.01, LOSS OF OFFSITE POWER - PLANT SHUTDOWN."**

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

North Atlantic

JOB PERFORMANCE MEASURE LOUT 04 AP Rev. 00

POWER RANGE NI FAILURE

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature: _____ Date: _____

SAT UNSAT

This JPM was administered for qualification: NO

PREPARED BY: J W Kessing _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0150101403 DETERMINE OPERABILITY OF NUCLEAR INSTRUMENTATION
0150402101 ELECTRONICALLY REMOVE A FAILED NI DETECTOR

2.0 Conditions:

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

3.0 Standards:

Identify failed NI channel and remove from service per OS1211.04.

4.0 Student Materials:

A. Copy of Tear-Off sheet
B. OS1211.04, POWER RANGE NI INSTRUMENT FAILURE, Rev. 08 Chg 01

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures

OS1211.04, POWER RANGE NI INSTRUMENT FAILURE

Technical Specifications

3.3.1 RX Trip System Instrumentation
3.2.4 QPTR

Drawings

1-NHY-509043, 509044 NI FUNCTIONAL DIAGRAMS

Sys	KA	Description	Value RO/SRO
015	A2.01	Power supply loss or erratic operation	3.5 / 3.9
015	A2.02	Faulty operation	3.1 / 3.5
015	A4.01	Selection of controlling NIS channel	3.6 / 3.6

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

7.0 Setting:

Simulator

A. Simulator may be initialized to any 100% power condition, with rod control in AUTOMATIC.
B. **IOR DININ50RSR OPERATE <CR>**. (This override prevents ROD STOP BYPASS)

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
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Primary 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. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Identify the failed instrument channel and respond per the appropriate abnormal procedure.

D. **(NA for NRC Exam)**
Perform the task using the appropriate abnormal procedure, OR using verbal direction from the US (instructor as US) reading from the procedure.

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

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walk-through examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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, **"Primary Operator** (or student's name) **perform a board walk-down 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).

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.		_____

Instructor CUE: Insert malfunction **NI002** to cause NI channel 42 to fail high.

Evaluator NOTE: **IF the student is an SROI candidate;** the evaluator will inform the student that he must identify the applicable abnormal procedure. AFTER the student has identifed the procedure, the evaluator must determine if the student prefers an instructor to act as the procedure reader, or if the student prefers to read the procedure while performing the task.

IF the student is an RO candidate; AFTER the student has identified the failure, a simulator instructor will enter the applicable abnormal procedure, and acting as US, read the procedure as the student performs the task.

*2.	P	IDENTIFY event as a NI channel failure.	* IDENTIFIES event as a NI channel failure.	____ ____	_____
*3.	P	PLACE rod control in MANUAL.	* PLACES rod control in MANUAL.	____ ____	_____

NOTE: The operator should inform the US that the rod insertion was due to NI channel failure. **IF** the operator does not announce the failure, prompt the operator to determine the cause of the transient.

NOTE: OS1211.04, POWER RANGE NI INSTRUMENT FAILURE is the applicable abnormal operating procedure.

*4.	P	Check Power Range Channel – FAILED HIGH.	* Responds, NI-42 failed high.	____ ____	_____
		a. Place rod control in – MANUAL.	a. Verifies rods in Manual.	____ ____	

NOTE: **(JPM FAULT)** The I/O override inserted during setup will prevent proper operation of the ROD STOP BYPASS. Using VAS alarm status and UL-6 (MCB-DF) status lamps, the operator should recognize that the rod stop is NOT bypassed.
UL-6 B-6 **C-2 RWB** remains ON
UL-6 A-9 **NI-42L OP RWB BYPASSED** remains OFF

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

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	b. Select rod stop bypass switch - TO FAILED CHANNEL	*b. Selects Rod stop bypass to NI-42	____	____	
	DETERMINE that rod stop bypass has NOT occurred.	* DETERMINES that rod stop bypass has NOT occurred.	____	____	

CUE: When the operator announces that the rod stop bypass did not occur, US to primary operator, "I **understand that the rod stop bypass did not occur. We will use turbine load control as necessary to control Tavg and inform I&C of the failure. We are continuing with the procedure.**

*5.	P	Bypass The Failed Power Range Channel:	Bypasses the failed channel:		____
		a. Select the following NI cabinet switches to the failed channel:	a. Positions switches as follows:		
		• UPPER SECTION DETECTOR CURRENT COMPARATOR switch to N42.	• * UPPER SECTION DETECTOR CURRENT COMPARATOR switch selected to N42.	____	____
		• LOWER SECTION DETECTOR CURRENT COMPARATOR switch to N42.	• * LOWER SECTION DETECTOR CURRENT COMPARATOR switch selected to N42.	____	____
		• POWER MISMATCH BYPASS switch to N42.	• * POWER MISMATCH BYPASS switch selected to N42.	____	____
		• IF NOT Selected previously, Rod Stop Bypass switch to N42.	• Verifies/selects ROD STOP BYPASS switch to N42.	____	____

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	• COMPARATOR CHANNEL DEFEAT switch to N42.	• * COMPARATOR CHANNEL DEFEAT switch to N42.	____	____	
	b. Trip affected channel's bistables: 1) Verify redundant channel's bistables - NOT TRIPPED.	* 1) Verifies and reports redundant channel's bistables - NOT TRIPPED for N41, N43, N44	____	____	
	UL-6 - RCS Loop OTΔT RCS Loop OPΔT PR High TRIP PR HIGH RATE TRIP If power is less than P-10: POWER RANGE LOW TRIP	• RCS Loop OTΔT • RCS Loop OPΔT • PR High TRIP • PR HIGH RATE TRIP			
	2) Remove control power fuses for affected power range.	* 2) Removes N42 control power fuses.	____	____	
CUE:	**"The JPM is complete."**				
6.	Stop time _____ Evaluator calculates the time to complete the task.	Time to complete the task ≤ 15 minutes.	____	____	_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR LOUT 04 AP

Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the Primary 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 US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to Primary Operator, **"Primary Operator** (or student's name) **perform a board walk-down 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).

North Atlantic

JOB PERFORMANCE MEASURE L0083I AP Rev. 00

TRIP ALL RCPs

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: NO

PREPARED BY: Steven Kesserg DATE: 1/20/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/20/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: CRO

0030401501 MONITOR RCP TRIP CRITERIA
0030400401 PERFORM AN EMERGENCY RCP SHUTDOWN
0030400403 PERFORM AN EMERGENCY RCP SHUTDOWN

2.0 Conditions:

A. Pressurizer pressure channel P-455 failed low 12 hours ago. All required bistables are tripped per OS1201.06, PT455-458 PZR PRESSURE INSTRUMENT FAILURE. I&C is replacing a faulty 7300 NLP card.
B. An automatic reactor trip and safety injection occurred due to a failure of the P-456 low low pressurizer pressure SI bistable.
C. The US transitioned to ES-1.1 SI TERMINATION at step 21 of E-0. The US has just completed step 6 of ES-1.1.

3.0 Standards:

Manually operate ECCS and reactor coolant pumps per EOPs.

4.0 Student Materials:

Copy of the Tear-Off Sheet
ES-1.1, SI Termination, Rev. 21
E-1, Loss Of Reactor Or Secondary Coolant, Rev. 22

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures

E-0, REACTOR TRIP OR SAFETY INJECTION
ES-1.1, SI TERMINATION
E-1, LOSS OF REACTOR OR SECONDARY COOLANT

Manuals
UFSAR
ERG BACK GROUND DOCUMENT, EXECUTIVE VOLUME

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

Sys	KA	Description	Value RO/SRO
006	A4.01	Ability to manually operate ECCS pumps.	4.1-3.9
003	A2.02	Conditions which exist for an abnormal shutdown of an RCP in comparison to a normal shutdown.	3.7-3.9

7.0 Setting:

Simulator

NOTE: The simulator setup may be saved as an initial condition. Verify proper setup of the IC as outlined below.

A. Initialize the simulator to 100% power.
B. Select PT - 457/456 Pressure Control
C. Select PT - 457 Pressure Recorder
D. Select PT - 455 Malfunction failure to 1600 psig. Remember to set the AS IS pressure to 2245 psig.
E. Trip pressure bistables 455A, 455D, 455C, 455D, TB 411C
F. To actuate the SI Trip PB 456D, Low Pressure SI Bistable
G. Manually initiate SI (if not actuated already)
H. Verify equipment operation per E-0, steps 1-12.
I. Throttle EFW flow to minimize cooldown per E-0 step 15.
J. Close/check closed CS-V-145.
K. Verify ECCS termination criteria per E-0 step 21.
L. Reset SI signal.
M. Stop CS-P-2B.
N. Open CS-V-142 and 143.
O. Shut CS-V-138 and 139
P. Establish charging and seal injection flow of approximately 60 GPM total flow.
Q. Verify RCS pressure is greater than 1650 and stable, adjust charging as necessary.
R. Place the simulator in FREEZE.

NOTE: The simulator operator should insert a PZR safety valve leak after the second SI pump is stopped, located in MFI RC.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes

10.0 Directions to the Student(s):

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

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the primary operator. You are going to terminate Safety Injection per ES-1.1, SI TERMINATION.

B. The following information is provided to you:

1. Pressurizer pressure channel P-455 failed low 12 hours ago. All required bistables are tripped per OS1201.06 PT455-458 PZR PRESSURE INSTRUMENT FAILURE. I&C is replacing a faulty 7300 NLP card.
2. An automatic reactor trip and safety injection occurred due to a failure of the P-456 low low pressurizer pressure SI bistable.
3. The US transitioned to ES-1.1 SI TERMINATION at step 21 of E-0. The US has just completed step 6 of ES-1.1.

C. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Operate ECCS and reactor coolant pumps per EOPs.

D. **(NA for NRC Exam)**
Perform the task per EOPs.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

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

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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, **"Primary operator** (or student's name) **we have stabilized pressurizer level at step 6 in ES-1.1. I want you to continue in the procedure to stop ECCS pumps and verify ECCS flow not required."**

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____
CUE:	If student provides pump status to US for any steps, acknowledge information with a repeat back.				
*2. P	Check If SI Pumps Should Be Stopped.				_____
	a. Check RCS pressure: • Pressure – GREATER THAN 1650 PSIG and • Pressure - STABLE OR INCREASING BY PRESSURE RECORDER	a. Checks AND reports RCS pressure greater than 1650 PSIG and stable or increasing.	____	____	
	b. Stop SI pumps and place in standby.	*b. Stops SI pumps and places both in standby	____	____	
CUE:	After the second SI pump is stopped and before RCS subcooling is verified in ES-1.1 step 9.a, insert malfunction to fail open a PZR safety valve; **IMF RC014 1.0 0 0<CR>.**				
*3. P	Stop RHR Pumps And Place In Standby.	*Stops both RHR pumps.	____	____	_____
NOTE:	Student may restart charging, SI and/or RHR pumps before ES-1.1 step 9.a per the OAS page.				
CUE:	If student informs US of required transition or requests assistance, **"Primary operator** (or student's name), **I want you to continue with performance of the EOPs, keep me informed of plant status."**				
NOTE:	Student may trip RCPs in ES-1.1 prior to the E-1 transition based on RCP trip criteria applicability. Mark step 4b N/A and 5 SAT for this situation, provided a check is made for at least one high head pump running and RCS subcooling less than 40°F.				
*4. P	Verify ECCS Flow Not Required:				_____
	a. RCS subcooling - GREATER THAN 40°F.	*a. Verifies and reports RCS subcooling <u>NOT</u> greater than 40°F.	____	____	

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	b. Manually start ECCS pumps as necessary. Go to E-1, LOSS OF REACTOR OR SECONDARY COOLANT, STEP 1.	*b. Manually restarts at least one ECCS pump.	____	____	
CUE:	US to student: **"We have entered E-1 at step 1"**				
*5.	P Check If RCPs Should Be Stopped:				____
	a. ECCS pumps - AT LEAST ONE RUNNING • CCP or • SI pump	*a. Verifies and reports one SIP or CCP running.	____	____	
	b. RCS subcooling - LESS THAN 40°F.	*b. Verifies and reports RCS subcooling is less than 40°F.	____	____	
	c. Stop all RCPs.	*c. Stops all RCPs.	____	____	
CUE:	**"The JPM is complete."**				
6.	Stop time _____	Start - Stop time is ≤ 10 minutes.	____	____	_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR JPM L0083I

Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

A. You are the primary operator. You are going to terminate Safety Injection per ES-1.1 SI TERMINATION.

B. The following information is provided to you:

1. Pressurizer pressure channel P-455 failed low 12 hours ago. All required bistables are tripped per OS1201.06 PT455-458 PZR PRESSURE INSTRUMENT FAILURE. I&C is replacing a faulty 7300 NLP card.
2. An automatic reactor trip and safety injection occurred due to a failure of the P-456 low low pressurizer pressure SI bistable.
3. The US transitioned to ES-1.1 SI TERMINATION at step 21 of E-0. The US has just completed step 6 of ES-1.1.

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

Initiating Cue:

US to primary operator, **Primary operator** (or student's name) **we have stabilized pressurizer level at step 6 in ES-1.1. I want you to continue in the procedure to stop ECCS pumps and verify ECCS flow not required."**

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

North Atlantic

JOB PERFORMANCE MEASURE L0084I Rev. 00

START HYDROGEN RECOMBINERS

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: NO

PREPARED BY: _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0280500201 Start 'A' H_2 Recombiner From The Main Control Room.

2.0 Conditions:

A. The reactor is tripped with a loss of all AC power and with SI required. Power was restored to Bus E5, and the crew transitioned from ECA-0.0 to ECA-0.2.
B. The crew determined that inadequate core cooling conditions exist; therefore, they transitioned to FR-C.1, Response To Inadequate Core Cooling.

3.0 Standards:

Place a hydrogen recombiner in service.

4.0 Student Materials:

Copy of the Tear-Off Sheet.
Copy of OS1023.40, Hydrogen Recombiner Operation, Rev. 7, Chg. 1.
Calculator.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures:

- FR-C.1, Response To Inadequate Core Cooling.
- OS1023.40, Hydrogen Recombiner Operation.

Technical Specifications:

- 3.6.4.2, Combustible Gas Control - Electric Hydrogen Recombiners

---

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

Sys	KA	Description	Value RO/SRO
028	A2.02	LOCA condition and concern over hydrogen.	3.5/3.9
028	A2.03	The hydrogen/air concentration in excess of limit flame propagation or detonation with resulting equipment damage in containment.	3.4/4.0
2.1	2.1.23	Ability to perform specific system and integrated plant procedures during all modes of operation.	3.9/4.0
2.1	2.1.21	Ability to obtain and verify controlled procedure copy.	3.1/3.2
2.1	2.1.20	Ability to execute procedure steps.	4.3/4.2
2.1	2.1.17	Ability to make accurate, clear, and concise verbal reports.	3.5/3.6
2.1	2.1.8	Ability to coordinate personnel activities outside the control room.	3.8/3.6
2.1	2.1.31	Ability to locate control room switches, controls, and indications, and determine that they are correctly reflecting the desired plant lineup.	4.2/3.9

7.0 Setting:

Simulator: The simulator setup is irrelevant. Simulate this JPM on the back of the MCB at the recombiner control panel.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Directions To The Student(s):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of the task.

Evaluator gives Tear-Off sheet to the student.
Evaluator reads the following to student (Optional for multiple JPMs):

A. You are the Secondary Operator. You are going to simulate placing Hydrogen Recombiner 'A' in service.

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

B. The following information is provided to you:

1. The reactor is tripped with a loss of all AC power and with SI required. Power was restored to Bus E5, and the crew transitioned from ECA-0.0 to ECA-0.2.
2. The crew entered FR-C.1 due to inadequate core cooling conditions, and they completed recovery actions up to and including checking containment H_2 concentration, which is 3.4 %.

C. **(NA for NRC Exam)**
The performance must meet the following standard(s):

1. Place Hydrogen Recombiner 'A' in service.

D. **(NA for NRC Exam)**
Perform the task using OS1023.40, Hydrogen Recombiner Operation.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I will act as the US 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).

11.0 Initiating Cue:

US to Secondary Operator, **"Secondary Operator (or student's name), we are in FR-C.1, and containment hydrogen concentration is presently 3.4%. Place Hydrogen Recombiner 'A' in service per OS1023.40, Hydrogen Recombiner Operation. Report to me when the recombiner is in service."**

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	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____

NOTE: If asked by the student, the electrical lineup has been completed.

NOTE: JPM is simulated (vs. performed) on the simulator since the H_2 recombiners do not work.

CUE: When student checks light, evaluator to student, **"The light is energized."**

2.	S	Verify the white PWR. IN AVAIL. light is energized.	Verifies the PWR. IN AVAIL. light is energized.	____	____ _____
3.	P	Set the PWR. ADJ. potentiometer to zero.	Turns PWR ADJ pot to 000.	____	____ _____
*4.	P	Place the PWR. OUT SW. switch to the ON position and VERIFY that the red light on the switch plate comes on.	* • Moves switch to ON position.	____	____ _____
			• Verifies the red light is on.	____	____

CUE: AT EACH POWER LEVEL, INFORM THE OPERATOR THE STATED TIME HAS ELAPSED.

*5.		Energize the Hydrogen Recombiner heater by PERFORMING the following:	Energizes the recombiner:		_____
	P	a. TURN the PWR. ADJ. Potentiometer clockwise until 5 kW is indicated on the PWR. OUT meter. MAINTAIN the 5 kW value for at least 10 minutes.	*a. Turns the PWR ADJ pot clockwise until 5 kW is indicated. Maintain 5 kW for 10 minutes.	____	____

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	EVALUATION UNSAT	INITIALS/DATE
P	b. TURN the PWR. ADJ. Potentiometer clockwise until 10 kW is indicated on the PWR. OUT meter. MAINTAIN the 10 kW value for at least 10 minutes.	*b. Turns the PWR ADJ pot clockwise until 10 kW is indicated. Maintain 10 kW for 10 minutes.	____	____	
P	c. TURN the PWR. ADJ. Potentiometer clockwise until 20 kW is indicated on the PWR. OUT meter. MAINTAIN the 20 kW value for at least 5 minutes.	*c. Turns the PWR ADJ pot clockwise until 20 kW is indicated. Maintain 20 kW for 5 minutes.	____	____	
P	d. DETERMINE the recombiner power setting per OS1023.40A, Power Out Setpoint Calculation.	*d. Refers to OS1023.40A.	____	____	
P	e. Calculate the H_2 recombiner power setpoint by performing the following:	e. Determines power setting:			

CUE: When the student locates any of the required pressure instruments, cue the student: **"Containment pressure is 4 psig."**

•	DETERMINE the current containment pressure from SI-PI-934 or SI-PI-935, MCB containment pressure indicators.	• Determines the current cntmnt pressure from SI-PI-934 or 935.	____	____
•	Current Containment Pressure + 14.7 psi = psia	* • Converts cntmnt pressure to psia and records on data sheet (= 18.7 psia).	____	____
•	Pre-accident Containment Average Temperature is 120°F.	• No action required.		

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	EVALUATION UNSAT	INITIALS/DATE
	• Using containment absolute pressure, pre-accident containment average temperature and Figure 7.1, Recombiner Power Correction Factor Curve determine the Pressure Factor (C_p).	* • Determines C_p and Records on data sheet - (C_p = 1.17 - 1.19). Enter student C_p value: C_p =_____	____	____	
	• MULTIPLY the Pressure Factor (C_p) by Reference Power (45.24 kW). (C_p) x 45.24 = Power Setting kW	* • Multiplies C_p by the reference power. Records on data sheet - (52.93 – 53.84 kW). Enter student kW value: KW =_____	____	____	

CUE: If the student requests a second person verification, respond: **"For the purpose of this evaluation, a second verification will not be performed. Please continue with the JPM."**

	• Have a second person VERIFY the power setting calculation.	• Requests second person verification.	____	____	
P	f. Turn the PWR. ADJ. potentiometer clockwise until the power setpoint, as calculated in Step 4.2.4.4, is indicated on the PWR OUT meter.	*f. Turns the PWR ADJ pot clockwise until the power setpoint is indicated on the PWR OUT meter.	____	____	

CUE: When student mentions that conference with the TSC is necessary to determine recombiner effectiveness, inform the student, **"The STED is aware of this and in contact with the TSC on this matter. Continue with the procedure to determine the present recombiner temperature(s)."**

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	EVALUATION UNSAT	INITIALS/DATE
P	g. CONFER with the TSC to determine recombiner effectiveness and the need to make adjustments to recombiner power.	g. Attempts to confer with the TSC.	____	____	

CUE: If the student inquires about the need to take thermocouple temps, cue, **"Thermocouple temperatures are desired."**

P	h. If recombiner thermocouple temperatures are desired, PERFORM the following:	h. Determines thermocouple temperatures:			____

CUE: When student selects a channel, report: **"The white indicating light in top right corner is ON and the red indicator is pointing in the 9 O'CLOCK direction."**

	• Place the TEMP. CH. SEL. switch to the desired channel (1, 2 or 3).	• Places the TEMP. CH. SEL. switch to the desired CH (1, 2, or 3).	____	____

CUE: If the student moves the dial in the clockwise direction, report, **"The indicator is moving toward the red triangle and is aligned with the black mark when 400°F is also aligned with the black mark."** If the student moves the dial CCW, report, **"The indicator is moving toward the low peg."**

	• ROTATE the outer ring of the TEMP. OUT dial so that the thin red indicator is aligned with the black mark in the red triangle.	• Rotates the outer ring of the TEMP. OUT dial so that the thin red indicator is aligned with the black mark in the red triangle.	____	____
	• Take the thermocouple temperature reading.	• Determines temperature to be 400°F.	____	____

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

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP	STANDARD	EVALUATION		INITIALS/DATE
	* denotes a critical step	* denotes a critical step	SAT	UNSAT	
CUE:	**"The JPM is complete."**				
6.	Stop time _____ Evaluator calculates time to complete task.	Time to complete the task ≤ 20 minutes.			_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

L0084I

TEAR-OFF SHEET FOR JPM L0084I

Directions to the Student:

A. You are the Secondary Operator. You are going to simulate placing Hydrogen Recombiner 'A' in service.

B. The following information is provided to you:

1. The reactor is tripped with a loss of all AC power and with SI required. Power was restored to Bus E5, and the crew transitioned from ECA-0.0 to ECA-0.2.
2. The crew entered FR-C.1 due to inadequate core cooling conditions, and they completed recovery actions up to and including checking containment H_2 concentration, which is 3.4 %.

C. I will act as the US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to Secondary Operator, **"Secondary Operator (or student's name), we are in FR-C.1, and containment hydrogen concentration is presently 3.4%. Place Hydrogen Recombiner 'A' in service per OS1023.40, Hydrogen Recombiner Operation. Report to me when the recombiner is in service."**

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

North Atlantic

JOB PERFORMANCE MEASURE LOUT 01 AP Rev. 00

DEPRESSURIZE THE RCS USING AUXILIARY SPRAY (E-3)

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: NO

PREPARED BY: _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
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 control room executed E-0 and, at step 19, transitioned to E-3.
C. The 'C' SG has been identified as the ruptured SG and isolated, the RCS has been cooled down to a target temperature of 495°F.
D. Due to an operator error, the RCPs were inadvertently secured at step 1 of E-3.
E. The 'B' PZR PORV is out of service due to a control circuit failure.

3.0 Standards:

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

4.0 Student Materials:

Copy of tear-off sheet.

E-3, SG TUBE RUPTURE, Rev. 22.

5.0 Limitations On Performance:

PERFORM all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures:

E-3, STEAM GENERATOR TUBE RUPTURE.

Sys-Mode	KA	Description	Value RO/SRO
000038	EA1.32	Ability to Isolate a Ruptured SG	4.6/4.7

7.0 Setting:

Simulator:

Setup

If a pre-written simulator IC exists:

1. Initialize to the IC created for this JPM and go to RUN

If a pre-written IC does not exist:

1. Initialize the simulator to a 100% power IC and go to RUN.
2. Place 'B' PZR PORV switch in CLOSE position.
3. Using I/O override, de-energize position indication lights for the 'B' PZR PORV.
4. Using I/O override, PLACE the 'A' PZR PORV control switch in CLOSE (sets up alternate path scenario for the JPM).

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

5. Insert malfunction DRC217S to suppress the MPCS alarm (D7465 PORV PCV-456A MCB SEL SWCH IN CLOSE) that would alert the operator that the 'A' PORV control switch is overridden to the CLOSE position.
6. Activate malfunction MFI, SG, SG001 'C' SG TUBE RUPTURE, severity of 600 gpm, no ramp, initial severity 0.
7. Manually activate SI and perform the steps of E-0 REACTOR TRIP OR SAFETY INJECTION to step 19.
8. At step 1 of E-3, trip all the RCPs.
9. 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.
10. Place the simulator in FREEZE.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

25 minutes

10.0 Directions to the Student(s):

Evaluator gives Tear-Off sheet to the student.

Evaluator reads the following to student (Optional for multiple JPMs):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of task.

A. You are the Primary operator. You are going to depressurize the RCS per E-3, SGTR. The evaluator or another reader will act as the US and read the procedure steps to you. The procedure reader will execute the procedure based on your feedback and will provide no cues to you.

B. The following information is provided to you:
   1. A manual SI was initiated due to a SG tube rupture.
   2. The control room executed E-0 and, at step 19, transitioned to E-3.
   3. The 'C' SG has been identified as the ruptured SG and isolated.
   4. The RCS has been cooled down in preparation for the RCS depressurization.
   5. Due to control circuit failure, the 'B' PZR PORV is unavailable.
   6. Due to operator error, all RCPs were tripped at step 1 of E-3.

C. **(NA for NRC Exam)**

The performance must meet the following standard:

Depressurize the RCS using the 'A' PORV in accordance with E-3 step 18.

D. **(NA for NRC Exam)**

Perform the task using E-3, starting at step 18.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

E. **(NA for NRC Exam)**

To perform the task successfully, you must perform all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of this task.

F. **(NA for NRC Exam)**

During the course of the walk-through examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**

Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**

I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**

We will begin after the "Initiating Cue" is read.

J. I will act as the US and provide the cues and communications for this JPM. Do you have any questions?

11.0 Initiating Cue:

Evaluator to student, **"(Student's Name), Walk-down the board. When you are ready, we will continue with E-3 starting at step 18 to depressurize the RCS using the 'A' PZR PORV."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1.	Start time _____	Initiating cue read			_____
CUE:	When the student is ready, place the simulator in RUN.				
*2. P	E-3 step 18 Depressurize RCS Using PZR PORV to Min. Break Flow and Refill PZR.	Depressurize the RCS			_____
	a. PZR PORV -At least One Available	*a. NOTES that the 'A' PORV will not OPEN.	____	____	_____
	a. RNO Perform the following to establish auxiliary spray:				_____
	1) Verify at least one SI pump running.	1) DETERMINES that both SI pumps are running	____	____	
	2) Verify at least one CCP is running.	2) DETERMINES that both CCPs are running.	____	____	
	3) Establish Aux. Spray using Attachment. `D' and return to step 17b.				_____
	a. Verify normal spray valves are closed.	a. VERIFIES valves are CLOSED.	____	____	
	b. Record normal charging loop isolation valve positions for CS-V177 and V180	*b. DETERMINES and records positions.	____	____	
	c. Open the following valves: • CS-V142, CHG TO REGEN ISO • CS-V143, CHG TO REGEN ISO • CS-V185, PZR AUX SPRAY.	*c) OPENS CS-V142, V143, and V185.	____	____	

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	d. Close CCP to RCS cold leg isolation valves: • SI-V138 • SI-VV139.	*d) CLOSES CCP injection valves SI-V138 & V139.	____	____	
	e. Close normal charging loop isolation valves: • CS-V177 • CS-V180	*e. CLOSES / verifies closed CS-V177 & V180.	____	____	
	f. Place FK-121 in manual and charge at maximum rate.	*f. PLACES FCV-121 in manual and charges at maximum rate.	____	____	
	g. Adjust seal injection flow as necessary using CS-HCV-182.	g. ADJUSTS to maintain 6 to 13 gpm (to the extent possible).	____	____	
	h. Go to step 17b	*h. RETURNS to step 17b.	____	____	
	E-3 Step 17b.				_____

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
	Spray PZR with maximum available spray until ANY of the following conditions satisfied: • BOTH of the following: 1) RCS pressure: LESS THAN RUPTURED SG PRESSURE AND 2) PZR level -GREATER THAN 5% [35% FOR ADVERSE CONTAINMENT] - OR - • PZR level -GREATER THAN 75% [60% FOR ADVERSE CONTAINMENT] - OR - • RCS subcooling: LESS THAN 40°F	* MONITORS conditions until one of the termination criteria are met.	____ ____	
	Stop RCS Depressurization: refer to Attachment `D'.	* REFERS to ATTACHMENT `D' to remove auxiliary spray from service.	____ ____	_____
	Attachment `D'		____ ____	_____
	a. Open CCP to RCS Cold Leg isolation valves: • SI-V138 • SI-V139	*a. OPENS SI-V138 and V139.	____ ____	

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
	b. Close the following valves: • CS-V185 PZR AUX SPRAY VALVE • CS-V142 CHG TO REGEN HX ISO • CS-V143. CHG TO REGEN HX ISO	*b. CLOSES the following valves: • CS-V185 PZR AUX SPRAY VALVE • CS-V142 CHG TO REGEN HX ISO • CS-V143. CHG TO REGEN HX ISO	____ ____	
	c. Place CS-FK-121 in auto.	*c. PLACES FK-121 in auto	____ ____	
	d. Open normal charging loop isolation valve which was recorded as open in step 1b: • CS-V177 • CS-V180	*d. REOPENS appropriate valve recorded in step 1b.	____ ____	
CUE:	**"The JPM is complete."**			
3.	Stop time Evaluator calculates the time to complete task.	Time to complete the task ≤ 25 minutes.	____ ____	_____

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

TEAR-OFF SHEET FOR JPM LOUT 01 AP

DEPRESSURIZE THE RCS USING AUXILIARY SPRAY (E-3)

Directions to the Student:

A. You are the Primary operator. You are going to depressurize the RCS per E-3, SGTR. The evaluator or another reader will act as the US and read the procedure steps to you. The procedure reader will execute the procedure based on your feedback and will provide no cues to you.

B. The following information is provided to you:

1. A manual SI was initiated due to a SG tube rupture.
2. The control room executed E-0 and, at step 19, transitioned to E-3.
3. The 'C' SG has been identified as the ruptured SG and isolated.
4. The RCS has been cooled down in preparation for the RCS depressurization.
5. Due to control circuit failure, the 'B' PZR PORV is unavailable.
6. Due to operator error, all RCPs were tripped at step 1 of E-3.

C. I will provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

Evaluator to student, **"(Student's Name), Walk-down the board. When you are ready, we will continue with E-3 starting at step 18 to depressurize the RCS using the 'A' PZR PORV."**

Note to Evaluator - Obtain Tear Off Sheets from student following JPM completion.

North Atlantic

JOB PERFORMANCE MEASURE LOUT 05 AP Rev. 00

STEAM GENERATOR LEVEL CHANNEL FAILURE

Student Name: _____ Badge #: _____

Evaluator Name: _____ Badge #: _____

Student Signature: _____ Date: _____
(optional)

Evaluator Signature: _____ Date: _____

Training Coordinator Signature: _____ Date: _____

SAT UNSAT

This JPM was administered for qualification: NO

PREPARED BY: _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: RO

0590400501 RESPOND TO SG LOW LEVEL

2.0 Conditions:

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

3.0 Standards:

Identify failed SG level channel and respond using OS1235.03.

4.0 Student Materials:

A. Copy of Tear-Off sheet
B. OS1235.03, SG LEVEL INSTRUMENT FAILURE, Rev. 07

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

6.0 References:

Procedures

OS1235.03, SG LEVEL INSTRUMENT FAILURE

Sys	KA	Description	Value RO/SRO
059	A2.1	Ability to (a) predict the impacts of the following malfunctions or operations on the MFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of feedwater control system	3.0 / 3.3

7.0 Setting:

Simulator

A. Simulator may be initialized to any 100% power condition, with rod control in AUTOMATIC.

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

B. **IOR DIFWSS549C01 RELEASE <CR>.** (This override prevents selecting an alternate channel for automatic control)

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
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

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. **(NA for NRC Exam)**
The performance must meet the following standard:

1. Identify the failed instrument channel and respond per the appropriate abnormal procedure.

D. **(NA for NRC Exam)**
Perform the task using the appropriate abnormal procedure, OR using verbal direction from the US (instructor as US) reading from the procedure.

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walk-through examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method

---

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

directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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 Secondary Operator, **"Secondary Operator** (or student's name) **perform a board walk-down and inform me when you are ready to assume the watch."**

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____

Instructor CUE: Insert malfunction **FW045** to cause SG D level channel L549 to fail LOW.

Evaluator NOTE: **IF the student is an SROI candidate;** the evaluator will inform the student that he must identify the applicable abnormal procedure. AFTER the student has identified the procedure, the evaluator must determine if the student prefers an instructor to act as the procedure reader, or if the student prefers to read the procedure while performing the task.

IF the student is an RO candidate; AFTER the student has identified the failure, a simulator instructor will enter the applicable abnormal procedure, and acting as US, read the procedure as the student performs the task.

*2.	P	IDENTIFY event as a SG level channel failure.	* IDENTIFIES event as a SG level failure.	____	____	_____

CUE: IF the candidate recommends placing SG D FRV in MANUAL to restore feed flow to normal; US to BOP, **"Place SG D FRV in manual and control SG D level as necessary."**

*3.	P	PLACE affected steam generator feed control valve in MANUAL.	* PLACES SG D FRV in MANUAL.	____	____	_____

NOTE: OS1235.03, SG LEVEL INSTRUMENT FAILURE is the applicable abnormal operating procedure.

*4.	P	a. IDENTIFY failed instrument – CONTROLLING CHANNEL FAILED.	*a IDENTIFIES failed channel as L-549 (channel 2).	____	____	_____
		b. PLACE affected steam generator feed control valve in MANUAL.	b. PLACES / VERIFIES SG D FRV in MANUAL.	____	____	

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 critical standard	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
	c. Control feed flow to maintain narrow range level – 50% to 70%	*b. CONTROLS SG D FRV in MANUAL to maintain SG level 50% to 70%	____	____	

NOTE: **(JPM FAULT)** The I/O override inserted during setup will prevent selecting an alternate channel for automatic level control.

CUE: When the candidate reports that the alternate channel cannot be selected, US to Secondary Operator, **"I understand that the alternate channel cannot be selected. We will continue with the procedure and call I&C as soon as possible".**

*5.	P	Realign Steam Generator Level Instruments:				____
		a. Monitor feedwater system response and select an alternate channel for control.	a. ATTEMPTS to select the alternate channel and announces that the channel will not change.		____	____

NOTE: **The procedure reader should read the NOTE prior to step 3 to the operator.**

6		Align Steam Generator Water Level Control:				____
		a. Check the following: • Steam flow / feed flow signals MATCHED. • Steam generator level – AT PROGRAMMED LEVEL (50% to 70%)	a VERIFIES: • Steam flow / feed flow signals MATCHED. • Steam generator level – AT PROGRAMMED LEVEL (50% to 70%).		____	____

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 critical standard	EVALUATION SAT UNSAT	INITIALS/DATE

CUE: When the candidate informs the US that SG level cannot be returned to AUTO, US to BOP, **"manually control feed to maintain steam generator narrow range level – 50% to 70%."**

	b. Verify proper feed regulating valve controller setpoint and place controller - AUTO	*b. BOP notifies US that SG 'D' FRV cannot be returned to AUTO	____ ____	

CUE: **"The JPM is complete."**

6.	Stop time _____ Evaluator calculates the time to complete the task.	Time to complete the task ≤ 15 minutes.	____ ____	_____

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

PERFORMANCE SUMMARY

Provide comments on unsatisfactory performance of an element/step or for deviation from performance as stated. Record interruptions in performance such as retraining, shift change, and processing of procedure changes. Recommend remedial training, if necessary.

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

TEAR-OFF SHEET FOR LOUT 05 AP

Directions to the Student:

Evaluator gives Tear-Off sheet to the student
Evaluator reads the following to the student (Optional for multiple JPMs)

Student:

1. Ensures task is done correctly.
2. May be asked follow-up questions to confirm knowledge of task.

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 US and provide the cues and communications for this JPM. Do you have any questions?

Initiating Cue:

US to Primary Operator, **"Secondary Operator** (or student's name) **perform a board walk-down 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).

North Atlantic

JOB PERFORMANCE MEASURE LOUT 06 Rev. 00

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)

SAT UNSAT

This JPM was administered for qualification: NO

PREPARED BY: _____ DATE: 1/17/00
INSTRUCTOR

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

APPROVED BY: _____ DATE: 1/19/00
TRAINING SUPERVISOR

JOB PERFORMANCE WORKSHEET

1.0 Task Number and Description:

Position: NSO

0080102804 Adjust PCCW Flows through components

2.0 Conditions:

A. Plant is in MODE 3.
B. CS-P-2A is not available.
C. TRN 'B' PCCW has been lost.
D. The US 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 Rev 12 Chg. 22.

5.0 Limitations On Performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.

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	A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the CCWS, and (b) 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).

7.0 Setting:

Plant, PAB 25'.

8.0 Safety Considerations:

HP postings and ALARA.
PPE.

9.0 Approximate Completion Time:

15 minutes

10.0 Directions To The Student(s):

1. Ensure task is done correctly.
2. You may be asked follow-up questions to confirm knowledge of the task.

Evaluator gives Tear-Off sheet to the student.
Evaluator reads the following to student (Optional for multiple JPMs):

A. You are the Primary NSO. You are going to simulate locally aligning fire protection (FP) water as alternate cooling to CS-P-2B lube oil cooler.

B. The following information is provided to you:

1. Plant is in MODE 3.
2. CS-P-2A is not available.
3. TRN 'B' PCCW has been lost.
4. The US has entered OS1212.01, PCCW SYSTEM MALFUNCTION.
5. Step 1 RNO of OS1212.01 instructs the crew to align alternate cooling to 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 Fire Fighter have been dispatched to connect the drain hose from the charging pump lube oil coolers outlet to a storm drain (OS1002.02 step 4.22.2).
8. CS-P-2B is in PULL TO LOCK.

C. **(NA for NRC Exam)**
The performance must meet the following standard(s):

1. SIMULATE manually aligning FP water as alternate cooling to CS-P-2B lube oil cooler.

D. **(NA for NRC Exam)**
Perform the task per OS1002.02, OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION.

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

E. **(NA for NRC Exam)**
To perform the task successfully, you must perform/simulate all critical steps correctly and verbalize all your actions to the evaluator. Practicing STAR techniques and using the station communication standard will safeguard successful completion of the task.

F. **(NA for NRC Exam)**
During the course of the walkthrough examination, there may be some tasks you will be asked to perform that may require you to implement an alternative method directed by plant procedures in order to complete the assigned task. You are expected to make decisions and take actions based on the facility's procedural guidance and the indications available.

G. **(NA for NRC Exam)**
Failure to perform or simulate a critical element within the prescribed standard will result in a failure of the task.

H. **(NA for NRC Exam)**
I will inform you when the JPM is complete.

I. **(NA for NRC Exam)**
We will begin after the Initiating Cue is read.

J. I 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 NSO, **"Primary NSO (or student's name), align Fire Protection (FP) water as alternate cooling to CS-P-2B lube oil cooler using OS1002.02 starting at step 4.22.5. 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).

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP * denotes a critical step	STANDARD * denotes a critical step	EVALUATION SAT	EVALUATION UNSAT	INITIALS/DATE
1. P	Start time _____	Initiating cue read.			_____

NOTE: The candidate should demonstrate that he 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 of the degasifier room in the main passage way of the 25" PAB across from the sampling room. FP-V-1129 is in the South Stairwell of the 25' PAB ~ 7' above the floor facing North.

*2.	S	4.22.5 UNLOCK and CLOSE:	UNLOCKS and CLOSES:			_____
		• CC-V-318, PCCW return from CS-P-2B oil cooler	* CC-V-318, PCCW return from CS-P-2B oil cooler	_____	_____	
		• CC-V-315, supply to CS-P-2B oil cooler	* CC-V-315, supply to CS-P-2B oil cooler	_____	_____	
3	S	4.22.6 If DM water is to be aligned to the CS-P-2B lube oil cooler, PERFORM the following:	SKIPS this step and continues to Step 4.22.7	_____	_____	_____
*4.	S	4.22.7 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:	Aligns FP water as to CS-P-2B lube oil cooler:			_____
		• CLOSE CC-V-1297, FP alternate CCP cooling tell tail drain.	* CLOSES CC-V-1297.	_____	_____	
		• OPEN FP-V-1129, charging pump oil coolers alternate supply.	* OPENS FP-V-1129.	_____	_____	

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	EVALUATION UNSAT	INITIALS/DATE
	• OPEN CC-V-1290, fire water alternate cooling supply to CS-P-2B oil cooler	* OPENS CC-V-1290.	_____	____	

CUE: If the candidate contacts the control room OR the Roving NSO concerning the status the drain hose outside the PAB, **"The drain hose has been connected and is in place."**

	•				
	• 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' located near RMW pumps in MM-IR-19B).	* THROTTLES OPEN CC-V-1294.	_____	_____	_____

CUE: When the candidate checks flow at CC-FISL-2218, **"The indicator shows 18 gpm"**

		* CHECKS flow as indicated on CC-FISL-2218.	_____	____	
5.	P REPORT to control room that FP water has been aligned to CS-P-2B lube oil cooler.	REPORTS that FP water has been aligned to CS-P-2B lube oil cooler.	_____	____	_____

CUE: US responds to NSO, **"I copy, FP water has been aligned to CS-P-2B lube oil cooler."**

CUE: **"The JPM is complete."**

5.	Stop time _____ Evaluator calculates time to complete task.	Time to complete the task ≤ 15 minutes.	_____	_____	_____

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