



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

RESPOND TO LOSS OF RCP CONTROLLED BLEEDOFF AND FAILED RCP SEALS ON THE 2B1 RCP

NRC S-1

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: Respond to loss of RCP controlled bleedoff and failed RCP seals on the 2B1 RCP

Alternate Path JPM? Yes

Facility JPM #: N/A

K/A: 003 A2.01 / 3.5 Ability to (a) predict the impacts of the following malfunctions or operations on the RCPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:
Problems with RCP seals, especially rates of seal leak-off.

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is complete when RCP Bleedoff flow has been established to the QT, the Reactor has been tripped and the 2B1 RCP has been stopped.

Evaluation Location:

Simulator	In Plant	Lab	Other
X			

Performance Level:

Perform	Simulate	Discuss
X		

References:

- 2-0120034 Reactor Coolant Pump

Validation Time: 10 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 2-0120034 Reactor Coolant Pump

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Re-establish RCP bleedoff flow.
- The performance level to be used for this JPM is **PERFORM**.
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

SPECIFIC DIRECTIONS FOR SIMULATOR JPMs:

- All simulator JPM steps, including communications, shall be performed for this JPM.
- You are to operate any plant equipment that is necessary for the completion of this JPM.
- The simulator will provide the cues as you perform this JPM.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

The Unit is at 100%. RCP controlled bleedoff flow has been lost.

INITIATING CUES:

The US directs you to investigate the loss of RCP controlled bleedoff, in accordance with 2-0120034 Reactor Coolant Pump.

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

START TIME: _____

2-0120034 Reactor Coolant Pump	
<p><u>STEP 1: (6.3.5.A)</u> <u>IF</u> Controlled Bleedoff flow is Lost or Low, <u>Then</u> ENSURE: V2505 RCP Bleedoff Cntmt Isol. Is open.</p> <p><u>STANDARD:</u> ATTEMPT to <u>OPEN</u> V2505 RCP Bleedoff Cntmt Isol.</p> <p style="text-align: center;">EXAMINERS NOTE: V2505 will not open</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 2: (6.3.5.B)</u> <u>IF</u> Controlled Bleedoff flow is Lost or Low, <u>Then</u> ENSURE: V2524 RCP Bleedoff Cntmt Isol. Is open.</p> <p><u>STANDARD:</u> <u>VERIFIES</u> V2524 RCP Bleedoff Cntmt Isol is open.</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p>CONTINGENCY ACTION</p> <p><u>STEP 3 (6.3.5.1)</u> <u>IF</u> normal Controlled Bleedoff can NOT be VERIFIED, <u>Then</u> open V2507 RCP Bleedoff Relief Stop Vlv.</p> <p>STANDARD: <u>OPEN</u> V2507 RCP Bleedoff Relief Stop Vlv. Recognize multiple seal failures and cavity leakage rising / alarm.</p> <p>EXAMINERS NOTE: Upon opening V2507, three seals fail on 2B1 RCP. One minute later Reactor Cavity leakage increases and cavity leakage alarm annunciates.</p> <p>EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 4: (6.3.7)</u> <u>IF</u> three seals have failed <u>Then</u>:</p> <p style="padding-left: 40px;">A. TRIP the Reactor</p> <p>STANDARD: <u>TRIP</u> the Reactor</p> <p>EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5: (6.3.7)</u> <u>IF</u> three seals have failed <u>Then</u>:</p> <p style="padding-left: 40px;">B. <u>TRIP</u> the Turbine</p> <p>STANDARD: <u>TRIP</u> the Turbine</p> <p>EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 6: (6.3.7) Done</u> IF three seals have failed Then:</p> <p style="padding-left: 40px;">C. STOP the affected RCP(s)</p> <p><u>STANDARD:</u> STOP the 2B1 RCP</p> <p>EXAMINERS CUE: The JPM is complete when the 2B1 RCP has been stopped.</p> <p>EXAMINERS NOTE: The RCP oil lift pumps should be started prior to stopping the RCP.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

The Unit is at 100%. RCP controlled bleedoff flow has been lost.

INITIATING CUES:

The US directs you to investigate the loss of RCP controlled bleedoff, in accordance with 2-0120034 Reactor Coolant Pump.

JOB PERFORMANCE MEASURE
SIMULATOR SETUP SHEET

1. Restore IC-1
2. Execute S-1 RCP.Isn

Step 2B1 RCP seals fail will auto trigger.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

**RESTORE POWER TO 2B3 4.16KV BUS
FROM OFFSITE – UNIT 2**

NRC

S-2

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: 07052015, RESTORE A 4160 V BUS NORMAL POWER SUPPLY
07052140, RESPOND TO A LOSS OF OFF-SITE POWER

Faulted JPM? No

Facility JPM #: 0821118

K/A: 062 A4.07 / 3.1 Ability to manually operate and/or monitor in the control room: synchronizing and paralleling of different ac supplies.

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is complete when offsite power has been restored to the 2B3 4.16KV bus.

Evaluation Location:

Simulator	In Plant	Lab	Other
X			

Performance Level:

Perform	Simulate	Discuss
X		

References:

- 2-EOP-99, Appendix D

Validation Time: 15 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 2-EOP-99, Appendix D

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Restore Power to 2B3 4.16KV Bus From Offsite – Unit 2
- The performance level to be used for this JPM is **Perform.**
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

SPECIFIC DIRECTIONS FOR SIMULATOR JPMs:

- All simulator JPM steps, including communications, shall be performed for this JPM.
- You are to operate any plant equipment that is necessary for the completion of this JPM.
- The simulator will provide the cues as you perform this JPM.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

A Loss of Offsite Power has occurred at Unit 2.

Both EDGs were supplying the vital buses when offsite power was restored.

Table 6, 2-EOP-99 has been completed.

INITIATING CUES:

You are the Desk RCO. The US has directed you to restore the 2B3 bus from offsite IAW 2-EOP-99, Appendix D. Offsite power is available.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

START TIME: _____

<p>STEP 1: 1. ENSURE Table 6, Vital Power Breaker Configuration (LOOP), has been completed for the electrical train(s) supplied by a Unit 2 EDG(s).</p> <p>STANDARD: Student may VERIFY that Table 6 is COMPLETE.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: The student may want to verify Table 6. That is acceptable.</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2: 2. INSERT sync plug <u>and</u> PLACE in the desired ST position.</p> <p>STANDARD: POSITION 2B S/U XFMR sync plug to ST-2B2.</p> <p>EXAMINER'S CUE:</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 3: 3. To ENERGIZE the non-vital 4.16 KV bus, CLOSE the associated Startup Transformer breaker.</p> <p>STANDARD: POSITION breaker 20302 to the CLOSED position.</p> <p>EXAMINER'S CUE:</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

*Cues are to be used only if JPM performance is being simulated in the plant.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 4:</u> 4. CLOSE breaker 4.16 KV bus tie 2A2 -2A3 (2B2 - 2B3).</p> <p><u>STANDARD:</u> POSITION breaker 20309 to the CLOSED position.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5:</u> 5. ENSURE that the amber light is lit on the EDG governor control.</p> <p><u>STANDARD:</u> ENSURE Diesel governor control amber light is ON.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 6:</u> 6. INSERT sync plug <u>and</u> PLACE in the Tie position.</p> <p><u>STANDARD:</u> 2B DG Breaker sync plug is POSITIONED to Tie-2B3.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 7:</u> 7. MATCH voltage using the EDG voltage control.</p> <p><u>STANDARD:</u> Adjusts Voltage control as necessary to ENSURE Voltage is POSITIONED to MATCH DG (running) to Grid (incoming) voltage.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 8:</u> 8. Using EDG governor control, ADJUST synchroscope to SLOW in the COUNTER CLOCKWISE direction.</p> <p><u>STANDARD:</u> Governor control POSITIONED until rotating SLOW in the COUNTER-CLOCKWISE direction.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 9:</u> 9. <u>When</u> the synchroscope is in the 12 O'CLOCK position, <u>CLOSE</u> breaker 4.16 KV bus tie 2A3-2A2 (2B3-2B2).</p> <p><u>STANDARD:</u> Breaker 20411 is in the CLOSED position at 12 O'clock.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

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**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 10:</u> 10. PLACE EDG governor control to RAISE position UNTIL load is greater than 100 KW (50 amps) to avoid reverse power trip.</p> <p><u>STANDARD:</u> Governor control is HELD until load is >100 KW (50 amps) and then released.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 11:</u> 11. ENSURE 2A (2B) EDG load is 100 KW (50 amps) <u>and</u> OPEN breaker DG 4.16 KV BREAKER.</p> <p><u>STANDARD:</u> ENSURE Governor control is POSITIONED to UNLOAD DG to 100 KW (50 amps), THEN open breaker 20401.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p style="text-align: center;">EXAMINERS NOTE: If Applicant lowers load and receives reverse power trip of the Diesel (-58 KW for 2.5 sec.) this step is UNSAT.</p> <p style="text-align: center;">EXAMINERS NOTE: The KW meter on the Control Board will not indicate load below -1 KW.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 12:</u> 12. REMOVE the sync plug.</p> <p><u>STANDARD:</u> Sync plug is REMOVED.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

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**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 13:</u> 13. ENSURE proper restart conditions by amber light indication on BOTH voltage regulator and governor controls.</p> <p><u>STANDARD:</u> OBSERVES amber light illuminated on voltage regulator and governor controls.</p> <p>EXAMINER'S CUE: EXAMINERS NOTE: Applicant may have to raise governor control to obtain Amber light.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP (done):</u> 14. If no ESFAS start signal is present, <u>Then</u> STOP the EDG(s). (The EDG will cooldown at 450 rpm for 10 minutes and then stop)</p> <p><u>STANDARD:</u> PLACES 2B EDG start / stop switch to the STOP position.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p> <p align="center">END OF TASK</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

***Cues are to be used only if JPM performance is being simulated in the plant.**

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

1. **RESTORE** JPM IC-33.
2. **NO** lesson is needed for this JPM.
3. **UNFREEZE** the Simulator when the student is ready.

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

A Loss of Offsite Power has occurred at Unit 2.

Both EDGs were supplying the vital buses when offsite power was restored.

Table 6 of 2-EOP-99 has been completed.

INITIATING CUES:

You are the Desk RCO. The US has directed you to restore the 2B3 bus from offsite IAW 2-EOP-99, Appendix D. Offsite power is available.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

**RESPOND TO HIGH RADIATION ALARM ON
SPENT FUEL MONITORS - UNIT 2**

NRC S-3

Simulator

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: 07025090, Align SFP Ventilation Trains
07067430, Respond To Fuel Handling Accident (Dropped/Damaged Fuel)

Faulted JPM? Yes

Facility JPM #: 0821117A

K/A: 072 A3.01 / 2.9 Ability to monitor automatic operation of the ARM system, including :
Changes in ventilation alignment.

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is complete when the US has been notified that the Fuel Handling Building ventilation line-up has been verified including contingency actions in accordance with 2-AOP-26.02.

Evaluation Location:

Simulator In Plant Lab Other
 X

Performance Level:

Perform Simulate Discuss
 X

References:

2-AOP-26.02, Area Radiation Monitors

Validation Time: 10 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 2-AOP-26.02, “Area Radiation Monitors”

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Respond to High Radiation Alarm on Spent Fuel Monitors – Unit 2
- The performance level to be used for this JPM is **Perform.**
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

SPECIFIC DIRECTIONS FOR SIMULATOR JPMs:

- All simulator JPM steps, including communications, shall be performed for this JPM.
- You are to operate any plant equipment that is necessary for the completion of this JPM.
- The simulator will provide the cues as you perform this JPM.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

Unit 2 is at 100% power.

Refueling preparations are being made in the Fuel Handling Building with spent fuel movement in the spent fuel pool. Spent Fuel Pool Radiation Monitors, GAG007, GAG008, GAG009, GAG010, GAG011, and GAG012 are in High Alarm.

2-AOP-26.02 is being implemented. The alarms have been verified valid. The fuel movement has been suspended and the FHB has been evacuated.

INITIATING CUES:

You are the Desk RCO.

The US has directed you to verify proper Fuel Handling Building ventilation line-up in accordance with 2-AOP-26.02, "Area Radiation Monitors", section 4.2.4, step 4.

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

START TIME: _____

<p>4.2.4 Fuel Handling Building Radiation Monitor Alarm</p> <p>4. IF more than one HIGH Alarm in a train actuated, THEN VERIFY FHB ventilation transfer to SBVS as follows:</p>	
<p><u>STEP 1(4.2.4.4):</u> A. VERIFY the following fans STOPPED:</p> <ul style="list-style-type: none"> • HVS-6, Fuel Pool Supply Fan. • HVS-7, Fuel Handling Bldg Supply Fan. • HVE-15, Fuel Handling Bldg Exhaust Fan. • HVE-16A, Fuel Pool Exhaust Fan • HVE-16B, Fuel Pool Exhaust Fan • HVE-17, Fuel BLDG H&V Room Exhaust Fan (FHB/52/FH6/E-RAC) <p><u>STANDARD:</u> ENSURES Fans are OFF.</p> <p style="text-align: center;">EXAMINERS NOTE: Applicant must call SNPO to verify HVE-17 is OFF EXAMINER'S CUE: SNPO reports HVE-17 is STOPPED</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 2 (4.2.4.4):</u> B. VERIFY the following FHB dampers CLOSED:</p> <ul style="list-style-type: none"> • D-33, Fuel Hdlg Bldg Inlet Damper • D-35, Fuel Hdlg Bldg Outlet Damper • D-29, Fuel Pool Inlet Damper • D-31, Fuel Pool Outlet Damper • D-34, Fuel Hdlg Bldg Inlet Damper • D-36, Fuel Hdlg Bldg Outlet Damper • D-30, Fuel Pool Inlet Damper • D-32, Fuel Pool Outlet Damper <p><u>STANDARD:</u> VERIFY Dampers D-29 through D-36 are CLOSED by observation of Red light off, Green light on.</p> <p style="text-align: center;">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 3 (4.2.4.4):</u> C. VERIFY FCV-25-30, Fuel Handling Emerg Vent Vlv, OPEN.</p> <p><u>STANDARD:</u> OBSERVE FCV-25-30 CLOSED.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: Faulted Step FCV-25-30 failed to auto OPEN.</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>CONTINGENCY ACTION:</p> <p><u>STEP 4 (4.2.4.4):</u> C.1 OPEN FCV-25-30, Fuel Handling Emerg Vent Vlv.</p> <p><u>STANDARD:</u> POSITION FCV-25-30 control switch to OPEN.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5 (4.2.4.4):</u> D. VERIFY FCV-25-32, SBVS Isolation Valve, is CLOSED.</p> <p><u>STANDARD:</u> OBSERVE FCV-25-32 OPEN.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: Faulted Step FCV-25-32 failed to auto CLOSE.</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

*Cues are to be used only if JPM performance is being simulated in the plant.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p>CONTINGENCY ACTION:</p> <p><u>STEP 6 (4.2.4.4):</u> D.1 CLOSE FCV-25-32, SBVS Isolation Valve.</p> <p><u>STANDARD:</u> <u>POSITION</u> FCV-25-32 control switch to CLOSE.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7 (4.2.4.4):</u> E. VERIFY HVE-6A, SBVS Exhaust Fan, is ON.</p> <p><u>STANDARD:</u> <u>ENSURE</u> HVE-6A is ON.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 8 (4.2.4.4):</u> F. VERIFY FCV-25-31, Fuel Handling Emerg Vent Vlv, OPEN.</p> <p><u>STANDARD:</u> <u>OBSERVE</u> FCV-25-31 CLOSED.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: Faulted Step FCV-25-31 failed to auto OPEN.</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p>CONTINGENCY ACTION:</p> <p><u>STEP 9 (4.2.4.4):</u> F.1 OPEN FCV-25-31, Fuel Handling Emerg Vent Vlv.</p> <p><u>STANDARD:</u> POSITION FCV-25-31 control switch to OPEN.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 10 (4.2.4.4):</u> G. VERIFY FCV-25-33, SBVS Isolation Valve, is CLOSED.</p> <p><u>STANDARD:</u> OBSERVE FCV-25-33 OPEN.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: Faulted Step FCV-25-33 failed to auto CLOSE.</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>CONTINGENCY ACTION:</p> <p><u>STEP 11 (4.2.4.4):</u> G.1 CLOSE FCV-25-33, SBVS Isolation Valve.</p> <p><u>STANDARD:</u> POSITION FCV-25-33 control switch to CLOSE.</p> <p>EXAMINER'S CUE: EXAMNERS NOTE: Annunciator V-21, B SBVS INLET ISOL FCV-25-33 OVRLD/CLOSED Alarms.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 12 (4.2.4.4):</u> H. VERIFY HVE-6B, SBVS Exhaust Fan, is ON.</p> <p><u>STANDARD:</u> ENSURE HVE-6B is ON.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

*Cues are to be used only if JPM performance is being simulated in the plant.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP (done):</u> NOTIFY the US that the Fuel Handling Building ventilation line-up has been verified in accordance with 2-AOP-26.02, section 4.2.4, step 4. FCV-25-30 and FCV-25-31 had to be manually opened, FCV-25-32 and FCV-25-33 had to be manually closed.</p> <p><u>STANDARD:</u> NOTIFY the US that the Fuel Handling Building ventilation line-up has been VERIFIED and FCV-25-30 and FCV-25-31 had to be manually OPENED and FCV-25-32 and FCV-25-33 had to be manually CLOSED.</p> <p style="text-align: center;">EXAMINER'S CUE: US ACKNOWLEDGES.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p style="text-align: center;">_____ SAT</p> <p style="text-align: center;">_____ UNSAT</p>
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STOP TIME: _____

***Cues are to be used only if JPM performance is being simulated in the plant.**

JOB PERFORMANCE MEASURE
SIMULATOR JPM SETUP

1. **RESTORE** IC-1.
2. **UNFREEZE** the Simulator.
3. **SELECT** the JPM Lesson File Folder.
4. **OPEN** and **EXECUTE** the lesson for S-3 SFP Rm.Lsn.
5. **FREEZE** the Simulator.
6. **STORE** a Temporary IC set if more than one student will be performing the JPM.
7. The lesson will **NOT** need to be stopped and re-executed for each student after restoring the IC.
8. **UNFREEZE** the Simulator when the student is ready to begin.

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

Unit 2 is at 100% power.

Refueling preparations are being made in the Fuel Handling Building with spent fuel movement in the spent fuel pool. Spent Fuel Pool Radiation Monitors, GAG007, GAG008, GAG009, GAG010, GAG011, and GAG012 are in High Alarm.

2-AOP-26.02 is being implemented. The alarms have been verified valid. The fuel movement has been suspended and the FHB has been evacuated.

INITIATING CUES:

You are the Desk RCO.

The US has directed you to verify proper Fuel Handling Building ventilation line-up in accordance with 2-AOP-26.02, "Area Radiation Monitors", section 4.2.4, step 4.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

TRANSFER LETDOWN LEVEL CONTROL TO THE ALTERNATE LCV - UNIT 2

NRC S-4

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: Transfer Letdown Level Control to Alternate LCV

Faulted JPM? No

Facility JPM #: 0821040

K/A: 004 A2.22 / 3.2 Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Mismatch of letdown and changing flows.

Duty Area(s): N/A

Task Information: N/A

Task Standard: This JPM is complete when Letdown Level Control is transferred to the Alternate Level Control valve.

Evaluation Location:

Simulator	In Plant	Lab	Other
X			

Performance Level:

Perform	Simulate	Discuss
X		

References:

- 2-NOP-02.02 "Charging and Letdown"

Validation Time: 15 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 2-NOP-02.02 "Charging and Letdown"

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Transfer Letdown Level Control to the Alternate Level Control Valve – Unit 2
- The performance level to be used for this JPM is **Perform**.
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

SPECIFIC DIRECTIONS FOR SIMULATOR JPMs:

- All simulator JPM steps, including communications, shall be performed for this JPM.
- You are to operate any plant equipment that is necessary for the completion of this JPM.
- The simulator will provide the cues as you perform this JPM.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

Unit 2 is operating at 100% power, steady state, MOL conditions. The in-service letdown level control valve (LCV-2110P) has begun to operate erratically, indicating a problem with the valve control circuitry.

INITIATING CUES:

The US has directed you to place the alternate level control valve in service IAW 2-NOP-02.02, “Charging and Letdown.” IAW section 4.8.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

START TIME: _____

2-NOP-02.02 Charging and Letdown Section 4.8 Swap Level control valves	
<p><u>STEP 1 (4.8.1):</u> IF in MODE 1 or 2, THEN PLACE V2520 ION EXCHANGER BYPASS VALVE, in BYPASS RESET to minimize reactivity effects of changing letdown temperature.</p> <p><u>STANDARD:</u> PLACE V2520 to Bypass Reset.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 2 (4.8.2):</u> Slowly REDUCE PIC-2201, LTDN PRESSURE, controller setpoint to 250 psig.</p> <p><u>STANDARD:</u> Slowly ADJUST PIC-2201 to LOWER pressure to 250 psig.</p> <p>EXAMINER'S CUE: EXAMINERS NOTE: Annunciator M-5 "Letdown Pressure High/Low" is an expected alarm.</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 3 (4.8.3):</u> If in AUTO, Then PLACE HIC-1110, LEVEL controller in MANUAL as follows:</p> <p>A. Using the lower Manual controller knob, MATCH HIC-1110, LEVEL, manual and auto controller output signals. .</p> <p><u>STANDARD:</u> PREVIEW signal by DEPRESSING the Green 'B' pushbutton and ADJUST HIC-1110 manual signal to MATCH auto by using the lower Manual control knob.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 4 (4.8.3):</u> If in AUTO, Then PLACE HIC-1110, LEVEL controller in MANUAL as follows:</p> <p>B. SHIFT HIC-1110, LEVEL, controller to MANUAL.</p> <p><u>STANDARD:</u> PLACE HIC-1110 to MANUAL by DEPRESSING the Yellow 'M' pushbutton</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p align="center">NOTE</p> <p>With only one Charging Pump running, dual indication may not be received on both Letdown Level Control valves</p> </div> <p><u>STEP 5 (4.8.4):</u> PLACE LEVEL CONTROL VALVE switch to BOTH.</p> <p><u>STANDARD:</u> POSITION the Letdown Level selector switch to the BOTH position.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 6 (4.8.5):</u> VERIFY a rise in letdown flow, as indicated on FIA-2202, FLOW.</p> <p><u>STANDARD:</u> VERIFY increasing flow on FIA-2202</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7 (4.8.6):</u> POSITION LEVEL CONTROL VALVE switch to <u>one</u> of the following positions: (circle one)</p> <p align="center">LCV-2110P LCV-2110Q</p> <p><u>STANDARD:</u> POSITION Letdown Level Control valve selector switch to LCV-2110Q</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 8 (4.8.7):</u> PERFORM the following:</p> <p align="center">A. ADJUST HIC-1110, LEVEL, controller for minimum flow.</p> <p><u>STANDARD:</u> ADJUST to MINIMUM letdown flow as observed on FIA-2202</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 9 (4.8.7):</u> PERFORM the following:</p> <p>B. IF letdown flow is NOT 28-30 gpm, THEN REQUEST I&C to adjust LY-1110, Signal Limiter for Pressurizer Level control, per Section 5.8, Letdown Limiter Adjustment.</p> <p><u>STANDARD:</u> Informs I&C of the current minimum letdown flow value and directs them to adjust LY1110, Pressurizer Level control signal limiter.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: On the Simulator the letdown flow MAY not be exactly 28-30 gpm. If out of range inform the student to continue with the task after I&C is contacted. The procedure does not require waiting for I&C to complete the task.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 10 (4.8.8):</u> PLACE HIC-1110, LEVEL controller in AUTO by performing the following:</p> <p>A. Using upper BIAS control knob and previewing auto signal BALANCE HIC-1110, LEVEL, controller auto and manual output signals.</p> <p><u>STANDARD:</u> <u>PREVIEW</u> signal by <u>DEPRESSING</u> the Green 'B' pushbutton and <u>ADJUST</u> HIC-1110 auto signal to MATCH manual using the upper BIAS knob.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 11 (4.8.8):</u> PLACE HIC-1110, LEVEL controller in AUTO by performing the following:</p> <p>B. SHIFT HIC-1110, LEVEL controller to AUTO.</p> <p><u>STANDARD:</u> PLACE HIC-1110 in AUTO by DEPRESSING the White 'A' pushbutton</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 12 (4.8.9):</u> Slowly RAISE PIC-2201, PRESSURE, setpoint to 430 psig.</p> <p><u>STANDARD:</u> Slowly Adjust PIC-2201 setpoint to RAISE pressure to 430 psig and ENSURE that red needle follows and MATCHES the black needle</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>Critical Step</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 13 (4.8.10):</u> ADJUST HIC-1110, LEVEL, controller for a flow consistent with current plant conditions.</p> <p><u>STANDARD:</u> ADJUST HIC-1110 to current plant conditions with the BIAS knob.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: Adjustment is not needed if pressurizer level is at setpoint.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 14 (4.8.11):</u> When temperature on TIC-2224, BYPASS TEMPERATURE, returns to normal, THEN ENSURE V2520, ION EXCHANGER BYPASS VALVE is in AUTO.</p> <p><u>STANDARD:</u> PLACES V2520 to AUTO.</p> <p align="center">EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p align="center">Critical Step</p> <p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p><u>STEP (done):</u> NOTIFY the US that the Letdown Level Control has been transferred to the Alternate Level Control valve, LCV-2110Q and that I&C Department has been notified to adjust LY1110, Pressurizer Level control signal limiter.</p> <p><u>STANDARD:</u> NOTIFY the US that the Letdown Level Control has been TRANSFERRED to LCV-2110Q.</p> <p align="center">EXAMINER'S CUE: US Acknowledges.</p> <p><u>COMMENTS:</u></p> <p align="center">END OF TASK</p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>

STOP TIME: _____

***Cues are to be used only if JPM performance is being simulated in the plant.**

JOB PERFORMANCE MEASURE
SIMULATOR JPM SETUP

1. **RESTORE** IC-1.
2. **UNFREEZE** the Simulator.
3. No Lesson is needed for this JPM.

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

Unit 2 is operating at 100% power, steady state, MOL conditions. The in-service letdown level control valve (LCV-2110P) has begun to operate erratically, indicating a problem with the valve control circuitry.

INITIATING CUES:

The US has directed you to place the alternate level control valve in service IAW 2-NOP-02.02, "Charging and Letdown." IAW section 4.8.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

RESTORE AFW FLOW TO THE 2A AND 2B SG USING 2C AFW PUMP

NRC S-5

NOTE TO EXAMINER: Do not hand out 2-AOP-09.02, 'Auxiliary Feedwater' until Applicant has recognized 2C AFW overspeed condition and identifies the appropriate procedure.

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: Start the 2C AFW pump and feed the 2A and 2B SG.

Alternate Path JPM? Yes

Facility JPM #: N/A

K/A: 061 A2.04 / 3.4 Ability to (a) predict the impacts of the following malfunctions or operations on the AFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: pump failure or improper operation

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is completed when the 2C AFW pump mechanical overspeed trip is reset and the 2C AFW pump is feeding the 2A and 2B SG at 200-220 gpm.

Evaluation Location:

Simulator	In Plant	Lab	Other
X			

Performance Level:

Perform	Simulate	Discuss
X		

References:

- 2-AOP-09.02 AUXILIARY FEEDWATER
- 2-NOP-09.02 AUXILIARY FEEDWATER
- Annunciator G-46

Validation Time: 15 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 2-AOP-09.02 AUXILIARY FEEDWATER.
- 2-NOP-09.02 AUXILIARY FEEDWATER
- Annunciator G-46

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Start the 2C AFW Pump and feed the 2A and 2B SG.
- The performance level to be used for this JPM is **PERFORM**.
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

SPECIFIC DIRECTIONS FOR SIMULATOR JPMs:

- All simulator JPM steps, including communications, shall be performed for this JPM.
- You are to operate any plant equipment that is necessary for the completion of this JPM.
- The simulator will provide the cues as you perform this JPM.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

The Unit is in Mode 3 NOP/NOT. 2B AFW pump throttle valve MV-09-10 breaker tripped. The 2A AFW pump motor tripped when started. The 2C AFW pump is ready to be started to feed the 2A and 2B SG.

INITIATING CUES:

The US directs you to start the 2C AFW using 2-NOP-09.02 Auxiliary Feedwater step 4.3.6 and feed the 2A and 2B SG.

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

START TIME: _____

2-NOP-09.02 Auxiliary Feedwater	
<p><u>STEP 1: (4.3.6)</u> START the 2C Auxiliary Feedwater Pump</p> <p><u>STANDARD:</u> <u>OPEN</u> MV-08-12, SG 2B STM To AFW PP 2C. <u>AND/OR</u> <u>OPEN</u> MV-08-13, SG 2A STM To AFW PP 2C.</p> <p align="center">EXAMINERS NOTE: 2C AFW will trip on mechanical overspeed</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p><u>STEP 2: (4.3.7)</u> VERIFY turbine speed is stable between 3700 and 3800 rpm AND the governor is NOT hunting / oscillating.</p> <p><u>STANDARD:</u> <u>RECOGNIZE</u> 2C AFW pump has tripped on mechanical overspeed. Refers to Annunciator summary for G-46</p> <p align="center">EXAMINERS NOTE: Applicant should recognize mechanical overspeed by: MV-08-3 in closed position AND annunciator G-46 LOCKED IN. (If this was a electrical overspeed, annunciator G-46 would have come in and then cleared).</p> <p align="center">NPO CUE (if called): Turbine speed is 3200 rpm and slowing down.</p> <p align="center">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p align="center">FAULTED STEP</p> <p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 3:</u> Refer to Annunciator summary for G-46, 2C AFW Pump Turbine Failure/Trip/OVRLD/SS Isol.</p> <p><u>STANDARD:</u> RECOGNIZE directions from Annunciator summary <u>If</u> 2C AFW Pump Tripped, <u>Then</u> GO TO 2-AOP-09.02 AUXILIARY FEEDWATER</p> <p>EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p align="center">2-AOP-09.02 AUXILIARY FEEDWATER</p> <p><u>STEP 4: (4.2.5.1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM Attachment 1, Resetting 2C AFW Pump Following Overspeed Trip.</p> <p><u>STANDARD:</u> REFERS to Attachment 1 of 2-AOP-09.02 AUXILIARY FEEDWATER</p> <p>EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p align="center">2-AOP-09.02 AUXILIARY FEEDWATER ATTACHMENT 1</p> <p><u>STEP 5: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p align="center">A. CLOSE MV-08-12, SG 2B STM TO AFW PP 2C (RTGB-202)</p> <p><u>STANDARD:</u> CLOSE MV-08-12 SG 2B Steam to AFW PP 2C.</p> <p>EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p align="center">CRITICAL STEP</p> <p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 6: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">B. CLOSE MV-08-13, SG 2A STM TO AFW PP 2C (RTGB-202)</p> <p><u>STANDARD:</u> CLOSE MV-08-13 SG 2A Steam to AFW Pp 2C.</p> <p style="padding-left: 40px;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">C. PERFORM the following to reset and OPEN MV-08-3, 2C PUMP:</p> <p style="padding-left: 80px;">(1) CLOSE MV-08-3, 2C PUMP (RTGB-202 – Key 78)</p> <p><u>STANDARD:</u> CLOSE MV-08-3, 2C PUMP using Key 78</p> <p style="padding-left: 40px;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 8 (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p>C. PERFORM the following to reset and OPEN MV-08-3, 2C PUMP:</p> <p style="padding-left: 40px;">(2) If 2C AFW pump tripped due to mechanical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 80px;">a. RESET the 2C Auxiliary Feedwater Pump mechanical overspeed linkage.</p> <p><u>STANDARD:</u> CALL Field Operator to reset the mechanical overspeed linkage</p> <p>EXAMINERS CUE: Field Operator calls back and states mechanical linkage on MV-08-3 has been reset.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 9 (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p>C. PERFORM the following to reset and OPEN MV-08-3, 2C PUMP:</p> <p style="padding-left: 40px;">(2) If 2C AFW pump tripped due to mechanical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 80px;">b. VERIFY top surface of trip tappet nut is in line with the line marked on the head lever to ensure full engagement.</p> <p><u>STANDARD:</u> VERIFY with the field operator the proper trip tappet nut engagement .</p> <p>EXAMINERS CUE: Field operator states the trip tappet nut is in line with the line marked on the head lever.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 10: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">C. PERFORM the following to reset and OPEN MV-08-3, 2C PUMP:</p> <p style="padding-left: 80px;">(3) PLACE MV-08-3, 2C PUMP (2C Auxiliar Feedwater Pump), in OPEN</p> <p><u>STANDARD:</u> TURNS KEY 78 for MV-08-3 to the open position.</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 11: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">C. PERFORM the following to reset and OPEN MV-08-3, 2C PUMP:</p> <p style="padding-left: 80px;">(4) VERIFY MV-08-3, THROTTLE / TRIP VALVE FOR AFW PUMP 2C is OPEN.</p> <p><u>STANDARD:</u> OBSERVES MV-08-3 red light on green light off.</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 12: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">D. IF 2C AFW pump is rotating, THEN perform the following:</p> <p><u>STANDARD:</u> CALLS field operator to determine if 2C AFW pump is rotating</p> <p style="padding-left: 40px;">EXAMINERS CUE: Field Operator reports back, 2C AFW pump is NOT rotating.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 13: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p>E. PERFORM one of the following to drain oil from the underside of the governor main speed piston.</p> <p style="padding-left: 40px;">(1) WAIT 3 minutes after the pump stops rotating</p> <p style="text-align: center;">OR</p> <p style="padding-left: 40px;">(2) PERFORM the following:</p> <p style="padding-left: 80px;">a. PLACE manual control knob on the side of the turbine governor in the FULLY COUNTER-CLOCKWISE idle speed position.</p> <p style="padding-left: 80px;">b. RETURN manual control knob on the turbine governor to FULLY CLOCKWISE maximum speed position.</p> <p><u>STANDARD:</u> DETERMINE time since pump stopped rotating. If >3 minutes step 2.a and 2.b not performed. If <3 minutes call field operator to perform step 2.a and 2.b</p> <p>EXAMINERS CUE: If field operator called, state step 2.a and 2.b has been performed.</p> <p>If less than 3 minutes step E.(2) should be performed.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p> <p>NOTE:</p> <p>Step E (2) is CRITICAL IF the Applicant does not wait the three (3) minutes.</p>
<p><u>STEP 14: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p>F. ENSURE MV-09-11, PUMP 2C TO SG 2A is CLOSED (RTGB-202)</p> <p><u>STANDARD:</u> VERIFIES MV-09-11 green light on, red light off.</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 15: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">G. ENSURE MV-09-12, PUMP 2C TO SG 2B is CLOSED (RTGB-202)</p> <p><u>STANDARD:</u> VERIFIES MV-09-12 green light on, red light off.</p> <p style="padding-left: 40px;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 16: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">H. IF <u>both</u> Steam Generators are intact AND NOT faulted, THEN OPEN the following valves simultaneously:</p> <p style="padding-left: 80px;">(1) MV-08-13 SG 2A STM TO AFW PP 2C (2) MV-08-12 SG 2B STM TO AFW PP 2C</p> <p><u>STANDARD:</u> USING two handed operation open MV-08-13 MV-08-12 simultaneously and verifies valves open.</p> <p style="padding-left: 40px;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">CRITICAL STEP</p> <p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 17: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">I. IF either SG is faulted THE OPEN steam supply valve from the NON-FAULTED S/G</p> <p><u>STANDARD:</u> DETERMINES step N/A</p> <p style="padding-left: 40px;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 18: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">J. IF flow is to be restored to 2A S/G THEN ENSURE SE-09-4, 2C PUMP DISCH to 2A S/G is OPEN</p> <p><u>STANDARD:</u> OPENS SE-09-4</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 19: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">K. IF flow is to be restored to 2B S/G THEN ENSURE SE-09-5, 2C PUMP DISCH to 2B S/G is OPEN</p> <p><u>STANDARD:</u> OPENS SE-09-5</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p style="text-align: center;"><u>CAUTION</u></p> <p>Excessive Feedwater to a Steam Generator following a Total Loss of Feedwater can result in water hammer and thermal shock when the feed ring is uncovered (level <33% NR). Following a Total Loss of Feedwater, initial Feedwater flow should be controlled as follows:</p> <ul style="list-style-type: none"> • If using Main Feedwater OR Condensate, 'As low as possible' for the first 5 minutes OR until SG level has risen. <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 20: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">L. Throttle MV-09-11, PUMP 2C to S/G 2A, to establish required flowrate to the 2A steam generator.</p> <p><u>STANDARD:</u> <u>THROTTLLES</u> MV-09-11, PUMP 2C to S/G 2A, to establish adequate flowrate to the 2A steam generator to allow SG level to rise.</p> <p style="text-align: center;">EXAMINERS CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 21: (1)</u> IF 2C AFW pump tripped due to mechanical or electrical overspeed trip, THEN PERFORM the following:</p> <p style="padding-left: 40px;">M. Throttle MV-09-12, PUMP 2C to S/G 2B to establish required flowrate to the 2B steam generator.</p> <p><u>STANDARD:</u> <u>THROTTLES</u> MV-09-12, PUMP 2C to S/G 2B, to establish adequate flowrate to the 2A steam generator to allow SG level to rise.</p> <p style="padding-left: 40px;">EXAMINERS CUE: Advise JPM is complete.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
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STOP TIME: _____

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

The Unit is in Mode 3 NOP/NOT. 2B AFW pump throttle valve MV-09-10 breaker tripped. The 2A AFW pump motor tripped when started. The 2C AFW pump is ready to be started to feed the 2A and 2B SG.

INITIATING CUES:

The US directs you to start the 2C AFW using 2-NOP-09.02 Auxiliary Feedwater step 4.3.6 and feed the 2A and 2B SG.

JOB PERFORMANCE MEASURE
SIMULATOR SETUP SHEET

NOTE: Sign off 2-NOP-09.02, 'Auxiliary Feedwater' procedure up to step 4.36 prior to giving Applicant procedure.

1. Restore IC-50
2. Execute S-5 AFW.Lsn

NOTE: 'C' AFW Mechanical Overspeed will trigger automatically

3. Trigger reset 2C AFW overspeed when Field Operator called to reset.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

ESTABLISH ONCE-THROUGH COOLING - UNIT 2

NRC

S-6

Simulator

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: Establish Once-Through Cooling

Faulted JPM? Yes

Facility JPM #:

K/A: 006 ECCS A4.02 / 4.0 Ability to manually operate and/or monitor in the control room: Valves

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is complete when once-through cooling has been established, safety injection flow to the RCS has been verified and US has been informed that the task is complete.

Evaluation Location:

Performance Level:

Simulator	In Plant	Lab	Other	Perform	Simulate	Discuss
X				X		

References:

- 2-EOP-15, Functional Recovery, RCS and Core Heat Removal, Success Path 3
- 2-EOP-99, Figure 2

Validation Time: 20 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 2-EOP-15, Functional Recovery, RCS and Core Heat Removal, Success Path 3
- 2-EOP-99, Figure 2

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Establish Once-Through Cooling on Unit 2
- The performance level to be used for this JPM is **Perform**
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

SPECIFIC DIRECTIONS FOR SIMULATOR JPMs:

- All simulator JPM steps, including communications, shall be performed for this JPM.
- You are to operate any plant equipment that is necessary for the completion of this JPM.
- The simulator will provide the cues as you perform this JPM.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

Unit 2 is experiencing a total loss of feedwater event. All attempts to restore main and auxiliary feedwater have been unsuccessful, and both steam generator levels indicate less than 15% wide range. The US has determined that once-through cooling will be established.

INITIATING CUES:

You are the Desk RCO. The US has directed you to establish once-through-cooling IAW 2-EOP-15, RCS and Core Heat Removal - HR-3, Success Path 3 – Once-Through-Cooling, and verify SI flow IAW 2-EOP-99, Figure 2.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

START TIME: _____

2-EOP-15, Functional Recovery, RCS & Core Heat Removal HR-3, Success Path 3, Once-Through-Cooling	
<p><u>STEP 1 (4.6.1A):</u> DE-ENERGIZE ALL Pressurizer Heaters.</p> <p><u>STANDARD:</u> POSITION all Pressurizer Heaters control switches to OFF.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 2 (4.6.1B):</u> If Main Condenser is available, <u>Then</u> PERFORM BOTH the following:</p> <p style="padding-left: 40px;">1. BLOCK MSIS</p> <p><u>STANDARD:</u> DETERMINE that Main Condenser is AVAILABLE. When MSIS BLOCK permissive annunciates, block MSIS.</p> <p>EXAMINER'S CUE:</p> <p>EXAMINERS NOTE: MSIS BLOCK will not be in at this time. Applicant will need to monitor plant conditions and be aware of block annunciator as SBCS valves and ADV's are opened.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 3 (4.6.1.B):</u> If Main Condenser is available, <u>Then</u> PERFORM BOTH the following:</p> <p style="padding-left: 40px;">2. ENSURE ALL Steam Bypass Valves are OPEN.</p> <p><u>STANDARD:</u> POSITION SBCS controllers to manual and open all five SBCS valves to 100% open.</p> <p>EXAMINER'S CUE: EXAMINERS NOTE: Although not procedurally driven, SBCS permissive switch should be taken to MANUAL at this time. If this is not performed, the SBCS valves will close when SG pressure reaches 806 psia.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 4 (4.6.1.C)</u> ENSURE ALL available Atmospheric Dump Valves are OPEN.</p> <p><u>STANDARD:</u> POSITION all four ADVs to 100% OPEN.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5 (4.6.1.D):</u> ENSURE ALL RCPs are STOPPED.</p> <p><u>STANDARD:</u> DETERMINE that all RCPs are STOPPED.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 6 (4.6.1.E):</u> ENSURE SIAS <u>and</u> CIAS are ACTUATED.</p> <p><u>STANDARD:</u> DEPRESS the “think” pushbutton above each switch and POSITION SIAS Train A and Train B actuation switches to SIAS ON.</p> <p> VERIFY SIAS and CIAS Trains A and B have ACTUATED.</p> <p>EXAMINER’S CUE:</p> <p>EVALUATOR’S NOTE: SIAS and CIAS may AUTO Actuate prior to MANUAL Actuation. If AUTO actuation has occurred, this is not a CRITICAL STEP.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7 (4.6.1.F):</u> ENSURE BOTH of the following:</p> <p> 1. BOTH HPSI pumps are RUNNING.</p> <p><u>STANDARD:</u> OBSERVE HPSI Pump 2A and 2B are running.</p> <p>EXAMINER’S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 8 (4.6.1.F):</u> ENSURE BOTH of the following:</p> <p style="padding-left: 40px;">2. ALL cold leg injection valves are OPEN.</p> <p><u>STANDARD:</u> OBSERVE that all cold leg injection valves are OPEN.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 9 (4.6.1.G):</u> ENSURE ALL available charging pumps are RUNNING.</p> <p><u>STANDARD:</u> POSITION all available charging pump control switches to START, if not already running.</p> <p>EXAMINER'S CUE:</p> <p>EVALUATOR'S NOTE: 2C Charging pump must be manually STARTED and is the critical step.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 10 (4.6.1.H):</u> ENSURE BOTH PORV block valves are OPEN.</p> <p><u>STANDARD:</u> POSITION PORV block valve V1477 control switch to OPEN. Identifies breaker tripped on V1477</p> <p>EXAMINER'S CUE: If field operator called to reset breaker, wait until end of steps to call that breaker is reset.</p> <p>EXAMINERS NOTE: PORV block valve V1476 is already open. PORV block valve V1477 breaker will trip as soon as the switch is taken to open. Applicant may call the field operator at this time to reset breaker.</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p>STEP 11(4.6.1.H.1): <u>IF ONE PORV Block Valve is OPEN Then</u> continue steps to initiate Once Through Cooling.</p> <p><u>STANDARD:</u> <u>DETERMINES</u> V1476 block valve is open and continues with CONTINGENCY ACTIONS for ONE PORV Block Valve open.</p> <p align="center">EXAMINER'S CUE: EXAMINEARS NOTE: Transitions to CONTINGENCY ACTIONS for one PORV block open.</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p>STEP 12 (4.6.1.H.2): <u>IF NO PORV Block Valve is OPEN, THEN:</u></p> <p><u>STANDARD:</u> <u>DETERMINES</u> step is N/A due to V1476 is OPEN</p> <p align="center">EXAMINER'S CUE:</p> <p align="center">EVALUATOR'S NOTE:</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p>STEP 13 (4.6.1.I.1): <u>WHEN</u> at least ONE HPSI pump is RUNNING <u>with</u> a cold leg flowpath, and at least ONE PORV block valve is OPEN, <u>Then</u> PERFORM the following:</p> <p align="center">A. ENSURE the associated PORV control switch is OFF.</p> <p><u>STANDARD:</u> VERIFY V1474 control switch in OFF.</p> <p><u>EXAMINER'S CUE:</u></p> <p><u>EVALUATOR'S NOTE:</u> Both PORV switches should already be in OFF.</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 14 (4.6.1.1.1):</u> <u>WHEN</u> at least ONE HPSI pump is RUNNING with a cold leg flowpath, and at least ONE PORV block valve is OPEN, <u>Then</u> PERFORM the following:</p> <p>B. PULL at least TWO RPS Hi Pzr Press bistables.</p> <p><u>STANDARD:</u> Unscrews and pulls at least two RPS Hi Pzr Press bistables .</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 15 (4.6.1.1.1):</u> <u>WHEN</u> at least ONE HPSI pump is RUNNING with a cold leg flowpath, and at least ONE PORV block valve is OPEN, <u>Then</u> PERFORM the following:</p> <p>C. VERIFYthe PORV with an OPEN PORV Block Valve is OPEN.</p> <p><u>STANDARD:</u> Determine PORV V1474 did not open.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 16 (4.6.1.I.1):</u> <u>WHEN</u> at least ONE HPSI pump is RUNNING with a cold leg flowpath, and at least ONE PORV block valve is OPEN, <u>Then</u> PERFORM the following:</p> <p>D. CONTINUE efforts to OPEN the second PORV and PORV Block Valve.</p> <p><u>STANDARD:</u> CALL the field operator to determine the status of the Breaker for Block Valve V1477 (breaker 2-42002 (secondary isol.) and 2-42007 (Reg. Guide 1.63 Isol.) at 480V MCC 2B5) When breaker reset and block valve V1477 open, verifies PORV V1475 opens.</p> <p>EXAMINER'S CUE: Call as field operator and state breaker 2-42002 is in the tripped condition. Reset breaker when requested by Applicant.</p> <p>EXAMINERS NOTE: There is no way to remotely open PORV V1474 if pulling RPS bistables did not open valve.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 17 (4.6.1.I.2):</u> <u>If</u> at least ONE PORV is NOT OPEN:</p> <p>A. Continue efforts to ENSURE at least ONE PORV <u>and</u> its associated Block Valve are OPEN.</p> <p><u>STANDARD:</u> OPEN PORV block valve V1477 when breaker 2-42001 is reset.</p> <p>EXAMINER'S CUE: EXAMINERS NOTE: When PORV and Block valve open refers back to step 4.6.1.J. (page 131 of procedure).</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 18 (4.6.1.J):</u> <u>When</u> once through cooling has been established, <u>Then</u>:</p> <p>1. Close Atmosphere Dump Valves (ADV's).</p> <p><u>STANDARD:</u> <u>POSITION</u> both ADV's to CLOSE. If controller is AUTO / MANUAL, use pushbutton on controller and set to '0'. If manual switches used hold switch to closed position until red light off and green light on.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 19 (4.6.1.J):</u> <u>When</u> once through cooling has been established, <u>Then</u>:</p> <p>2. Close Main Steam Isolation Valves.</p> <p><u>STANDARD:</u> <u>POSITION</u> both MSIVs to CLOSE.</p> <p>EXAMINER'S CUE: Task is complete</p> <p>EVALUATOR'S NOTE:</p> <p><u>COMMENTS:</u></p> <p align="center">END OF TASK</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

JOB PERFORMANCE MEASURE
SIMULATOR JPM SETUP

1. **RESTORE** IC-25 from the JPM IC Set Group.
2. **DO NOT UNFREEZE** the Simulator.
3. **SELECT** JPM Lesson File Folder.
4. **SELECT** Lesson S-6, OTC.Lsn and **EXECUTE** the Lesson.
5. **UNFREEZE** the Simulator
6. Make a Temporary **STOREPOINT** if more than one student will perform the JPM.
7. The lesson does **NOT** need to be stopped and re-executed for subsequent students.
8. UNFREEZE the Simulator when the student is ready.

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

Unit 2 is experiencing a total loss of feedwater event. All attempts to restore main and auxiliary feedwater have been unsuccessful, and both steam generator levels indicate less than 15% wide range. The US has determined that once-through cooling will be established.

INITIATING CUES:

You are the Desk RCO. The US has directed you to establish once-through-cooling IAW 2-EOP-15, RCS and Core Heat Removal - HR-3, Success Path 3 – Once-Through-Cooling, and verify SI flow IAW 2-EOP-99, Figure 2.



Reminder to the TPE Evaluator
Refer to the OJT/TPE Procedure and
follow the instructions.

St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

PUMP ECCS AREA SUMPS TO RDT POST LOCA - UNIT 1

NRC C-1 Unit 1 Control Room

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: 07006020, Pump ECCS Area Sumps to the Containment (Pump ECCS Area Sumps to the Reactor Drain Tank post LOCA - Unit 1).

Faulted JPM? No

Facility JPM #: 0821089

K/A Rating(s): A.04.02, (4.1) ECCS: Ability to manually operate and/or monitor in the control room: Valves

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is complete when the US is notified that the ECCS Area Sumps are aligned to the Reactor Drain Tank.

Evaluation Location:

<u>Simulator</u>	<u>In Plant</u>	<u>Lab</u>	<u>Other</u>
	X		

Performance Level:

<u>Perform</u>	<u>Simulate</u>	<u>Discuss</u>
	X	

References:

- 1-EOP-03, "Loss of Coolant Accident"

Validation Time: 5 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 1-EOP-03, "Loss of Coolant Accident", (Step 40)

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is:

Align ECCS Area Sumps to the Reactor Drain Tank post LOCA - Unit 1.
- The performance level to be used for this JPM is Simulate
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

Unit 1 has experienced a LOCA. RAS has occurred and all normal post-trip power is available.

INITIATING CUES:

You are the Desk RCO. The Unit Supervisor has directed you to align the ECCS Sumps to the Reactor Drain Tank in accordance with 1-EOP-03, "Loss of Coolant Accident."

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

START TIME: _____

<p>1-EOP-03, "Loss of Coolant Accident" Step 40 Align ECCS Sumps to RDT <u>If</u> RAS is present, <u>Then</u> ALIGN the ECCS sumps to the reactor drain tank by performing ALL of the following:</p>	
<p>STEP 1 (40.A): PLACE the ECCS Area Leakage System control switch, located on CRAC panel, to the RDT POSITION.</p> <p>STANDARD: <u>POSITION</u> the ECCS Area Leakage System control switch to <u>RDT</u>.</p> <p style="padding-left: 40px;">EXAMINER'S CUE: ECCS Area Leakage System control switch indicates RDT</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2 (40.B): VERIFY ALL of the following:</p> <ol style="list-style-type: none"> 1. HCV-06-9, RDT Pump Suction, CLOSES 2. HCV-06-7, Sump Pump to EDT, CLOSES 3. HCV-06-8, Sump Pump to RDT, OPENS <p>STANDARD: <u>VERIFY</u> HCV-06-9 and HCV-06-7 are <u>CLOSED</u> and HCV-06-8 is <u>OPEN</u>.</p> <p style="padding-left: 40px;">EXAMINER'S CUE: HCV-06-9 indicates Green light ON, Red light OFF, HCV-06-7 indicates Green light ON, Red light OFF, HCV-06-8 indicates Green light OFF, Red light ON</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 3 (40.C):</u> PERFORM BOTH of the following on RTGB 105:</p> <p style="padding-left: 40px;">1. PLACE V6301, Rx Drn Tk Cntmt Isol, to RESET and then to OPEN.</p> <p><u>STANDARD:</u> POSITION V6301 control switch to RESET, then to OPEN.</p> <p style="padding-left: 40px;">EXAMINER'S CUE: V6301 indicates Green light OFF, Red light ON</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 4 (40.C):</u> PERFORM BOTH of the following on RTGB 105:</p> <p style="padding-left: 40px;">2. PLACE V6302, Rx Drain Tank Cntmt Isolation, to RESET and THEN to OPEN.</p> <p><u>STANDARD:</u> POSITION V6302 control switch to RESET, then to OPEN.</p> <p style="padding-left: 40px;">EXAMINER'S CUE: V6302 indicates Green light OFF, Red light ON</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5: (40.D)</u> VERIFY Annunciator Y-19, ECCS Pump Room Leakage Valves Misaligned, is LIT.</p> <p><u>STANDARD:</u> VERIFY Annunciator Y-19 is LIT.</p> <p style="padding-left: 40px;">EXAMINER'S CUE: Annunciator Y-19 is LIT</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP (done):</u> NOTIFY the US that the ECCS Sumps have been ALIGNED to the RDT.</p> <p><u>STANDARD:</u> NOTIFY the US that the ECCS Sumps have been ALIGNED to the RDT.</p> <p style="padding-left: 40px;">EXAMINER'S CUE: Unit Supervisor ACKNOWLEDGES</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

***Cues are to be used only if JPM performance is being simulated in the plant.**

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

Unit 1 has experienced a LOCA. RAS has occurred and all normal post-trip power is available.

INITIATING CUES:

You are the Desk RCO. The Unit Supervisor has directed you to align the ECCS Sumps to the Reactor Drain Tank in accordance with 1-EOP-03, "Loss of Coolant Accident."



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

ALIGN UNIT 2 CST TO SUPPLY 1C AFW PUMP

NRC P-1

Unit 1 and Unit 2 CST, 1C AFW Pump

Applicant _____

Examiner _____

Job Performance Measure

NRC P-1

Task Number: 03105050 and 07009055
Task Title: Align AFW System in Response to Component Malfunction/Failure
Faulted JPM: Yes No
Facility JPM # N/A
K/A Knowledge of AFW design feature(s) and/or interlock(s) which provide for the following: K4.01 Water sources and priority of use 4.1
Duty Areas: N/A
Task Information: N/A
Task Standard: N/A

Evaluation Location

Simulator

In Plant

Perform

Performance Level

Simulate

Discuss

Lab

Other

References:

- 1-AOP-09.02, "Auxiliary Feedwater"

Validation Time: 15 Minutes

Time Critical Yes

No

Tools/Equipment/Procedures Needed:

- Standard Personal Protective Equipment
- Flashlight
- Radio
- Watch Stander Key Ring for Locked Valves
- 1-AOP-09.02, "Auxiliary Feedwater"

Specific Safety Concerns, PPE and Hazards associated with the task:

- None.

Radiological Protection and RWP Requirements:

- None

Job Performance Measure

NRC P-1

Specific Directions:

- The Task you are to perform is: Align Unit 2 CST to Supply 1C AFW Pump
- The performance level to be used for this JPM is **Perform** or **Simulate**.
(Circle the performance level being used for this implementation of the JPM.)
- This **Is Not** a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

Initial Conditions:

Unit 1 is experiencing a Total Loss of Feedwater event. Unit 1 CST is unavailable, Unit 2 CST level is 43 Feet.

Initiating Cues:

You are the Unit 1 NPO. The Unit 1 Unit Supervisor has directed you to line up the Unit 2 CST to supply the 1C AFW Pump IAW 1-AOP-09.02, "Auxiliary Feedwater," Attachment 5, Steps 1.A through 1.D, and 1.F.1 through 1.F.4.

Job Performance Measure
NRC P-1

PERFORMANCE CHECKLIST

Start Time: _____

1-AOP-09.02, "Auxiliary Feedwater," Attachment 5	
<p><u>STEP 1(1.A).</u> Notify Unit 2 Control Room.</p> <p><u>Standard:</u> NOTIFY Unit 2 Control Room that Unit 2 CST will be ALIGNED to supply the 1C AFW Pump.</p> <p><u>Examiner's Cue:</u> Unit 2 Control Room ACKNOWLEDGES</p> <p><u>Comments:</u></p> <p align="center"><u>NOTE</u></p> <p>In the event Unit 2 CST is utilized to supply condensate to Unit 1, a minimum of 182,000 gallons (19'6") must be maintained in the Unit 2 CST unless Unit 2 is in Modes 4, 5, or 6. This is to ensure that Unit 2 has the capability to cool the RCS to less than 350 degrees.</p> <p align="center"><u>CAUTION</u></p> <ul style="list-style-type: none"> • During the performance of this attachment, close communications with the Unit 2 Control Room must be maintained to ensure administrative requirements and safety issues are considered in regards to both units. • In the event the Unit 1 AFW Pump suction pressure decreases to 3 psig during the performance of this attachment, the AFW Pump discharge valves must be throttled to maintain suction pressure. • Performance of this attachment will require Unit 1 to enter action statement for Tech. Spec. 3.7.1.2 and 3.7.1.3. Unit 2 will be in action statement for Tech. Spec. 3.7.1.3 and possibly 3.7.1.2 depending on valve selection in Attachment 5 Step 1.C. 	<p>_____ Sat</p> <p>_____ Unsat</p>

Job Performance Measure

NRC P-1

<p><u>STEP 2 (1.B).</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>ENSURE all Unit 1 Auxiliary Feedwater pumps are OFF.</p> <p>ENSURE all Unit 1 Auxiliary Feedwater pumps are OFF.</p> <p>All Unit 1 Auxiliary Feedwater pumps are OFF.</p>	<p>_____ Sat</p> <p>_____ Unsat</p>
<p><u>STEP 3 (1.C)</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>At the Unit 2 CST, PERFORM one of the following to establish a flowpath from the Unit 2 CST to Unit 1 AFW pumps:</p> <p>1. IF the Unit 2 CST level is greater than 40 feet, THEN OPEN V12803, CST INLET TO / FROM UNIT 1 ISOL. (CST/23/N-6/E-21)</p> <p>UNLOCK and POSITION V12803 to OPEN (counterclockwise) and then RELOCK.</p> <p>V12803 is fully counter clockwise and LOCKED.</p> <p>Initiating Cue gives Unit 2 CST level as 43 Feet. Valve does not have to be re-locked to meet the Critical Step.</p>	<p>Critical Step</p> <p>_____ Sat</p> <p>_____ Unsat</p>
<p><u>STEP 4 (1.C)</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>At the Unit 2 CST, PERFORM one of the following to establish a flowpath from the Unit 2 CST to Unit 1 AFW pumps:</p> <p>2. IF the Unit 2 CST level is less than or equal to 40 feet, THEN PERFORM one of the following:</p> <ul style="list-style-type: none"> • OPEN V12801, 2C AFW PUMP SUCT TO / FROM UNIT 1 ISOL. (CST/23/N-14/E-20) • OPEN V12802, 2A/2B AFW PUMP SUCT TO / FROM UNIT 1 ISOL. (CST/23/N-14/E-20) <p>Determined to be NA, due to initiating cue.</p> <p>Initiating Cue gives Unit 2 CST level as 43 Feet.</p>	<p>_____ Sat</p> <p>_____ Unsat</p>

Job Performance Measure

NRC P-1

<p><u>STEP 5. (1.D)</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>OPEN V12805, CST CROSSTIE TO UNIT 1 ISOL. (CST/24/N-685/E-1191)</p> <p>UNLOCK and POSITION V12805 fully counter clockwise.</p> <p>V12805 is Fully counter clockwise</p> <p>Valve does not have to be re-locked to meet the Critical Step.</p>	<p>Critical Step</p> <p>_____ Sat</p> <p>_____ Unsat</p>
<p><u>STEP 6 (1.E)</u></p>	<p>To supply 1A and 1B AFW Pumps PERFORM the following:</p>	<p>_____ Sat</p> <p>_____ Unsat</p>
<p><u>Standard:</u></p>	<p>Determines this step is N/A as the cue states to align the 1C AFW pump NOT the 1A and 1B</p>	
<p><u>Examiners Cue:</u></p>	<p>None</p>	
<p><u>Comments:</u></p>		
<p><u>STEP 7. (1.F)</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>To supply 1C AFW pump, PERFORM the following:</p> <p>(1) CLOSE V12506, CST OUTLET TO 1C AFW PUMP SUCT ISOL at the Unit 1 CST. (CST/23/N-9/E-19)</p> <p>UNLOCK and POSITION V12506 fully clockwise.</p> <p>V12506 is fully clockwise.</p> <p>Valve does not have to be re-locked to meet the Critical Step.</p>	<p>Critical Step</p> <p>_____ Sat</p> <p>_____ Unsat</p>

Job Performance Measure

NRC P-1

<p><u>STEP 8 (1.F).</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>To supply 1C AFW pump, PERFORM the following:</p> <p>(2) OPEN V12175, TO/FROM UNIT 2 FROM 1C AFW PUMP SUCT LINE ISOL, at the Unit 1 CST. (CST/21/N-13/E-24)</p> <p>UNLOCK and POSITION V12175 fully counter clockwise.</p> <p>V12175 is fully counter clockwise.</p> <p>Valve does not have to be re-locked to meet the Critical Step.</p>	<p>Critical Step</p> <p>_____ Sat</p> <p>_____ Unsat</p>
<p><u>STEP 9 (1.F).</u></p> <p><u>Standard:</u></p> <p><u>Examiner's Cue:</u></p> <p><u>Comments:</u></p>	<p>To supply 1C AFW pump, PERFORM the following:</p> <p>(3) ENSURE PI-12-18C, 1C AFW PUMP SUCT PRESS, instrument isolation valve is OPEN. (TRSL/27/N-T3/W-TA)</p> <p>POSITION PI-12-18C instrument isolation to fully counter clockwise.</p> <p>PI-12-18C instrument isolation valve is fully counter clockwise.</p>	<p>_____ Sat</p> <p>_____ Unsat</p>

Job Performance Measure

NRC P-1

<u>STEP 10 (1.F).</u>	<p>To supply 1C AFW pump, PERFORM the following:</p> <p>(4) VERIFY greater than 3 psig suction pressure on PI-12-18C, 1C AFW PUMP SUCTION PRESSURE.</p>	<p>_____ Sat</p> <p>_____ Unsat</p>
<u>Standard:</u>	VERIFY GREATER THAN 3 psig on PI-12-18C.	
<u>Examiner's Cue:</u>	PI-12-18C INDICATES 15 psig.	
<u>Comments:</u>		
<u>STEP 11 (1.F).</u>	<p>IF feeding S/Gs with 1C Auxiliary Feedwater Pump, THEN PERFORM the following</p> <p>(5) CLOSE V09399, 1C AFW PUMP RECIRC ISOL (TRSL/23/N-T3/W-TA)</p>	<p>Critical Step</p> <p>_____ Sat</p> <p>_____ Unsat</p>
<u>Standard:</u>	POSITION V09399 to the fully clockwise position.	
<u>Examiner's Cue:</u>	V09399 is fully clockwise.	
<u>Comments:</u>		

Job Performance Measure

NRC P-1

<u>STEP 12.(Done)</u>	Notify Unit 1 Unit Supervisor that the task is complete.	
<u>Standard:</u>	NOTIFY Unit 1 Unit Supervisor that 1C AFW Pump is lined up to take a suction on the Unit 2 CST IAW 1-AOP-09.02, "Auxiliary Feedwater".	_____ Sat _____ Unsat
<u>Examiner's Cue:</u>	Unit 1 Unit Supervisor ACKNOWLEDGES.	
<u>Comments:</u>	If candidate continues onward, then inform him "This JPM is complete."	
END OF TASK		

Stop Time: _____

Job Performance Measure

NRC P-1

CANDIDATE CUE SHEET

Initial Conditions:

Unit 1 is experiencing a Total Loss of Feedwater event. Unit 1 CST is unavailable, Unit 2 CST level is 43 Feet.

Initiating Cues:

You are the Unit 1 NPO. The Unit 1 Unit Supervisor has directed you to line up the Unit 2 CST to supply the 1C AFW Pump IAW 1-AOP-09.02, "Auxiliary Feedwater," Attachment 5, Steps 1.A through 1.D, and 1.F.1 through 1.F.5.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

**HYDROGEN PURGE SYSTEM OPERATION – UNIT 1
Unit 1 RAB 43' FAN ROOM**

NRC P-2

Applicant _____

Examiner _____

Task: Hydrogen Purge System Operation - Unit 1

Faulted JPM? No

Facility JPM #: 0821098

K/A Rating(s): 028 A2.02 / 3.5 Malfunctions or operations on the HRPS; and (b) based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions or operations: LOCA condition and related concern over hydrogen

Duty Area(s): N/A

Task Information: N/A

Task Standard:

This JPM is complete when the Hydrogen Purge System is in operation with a 100 CFM flowrate established.

Evaluation Location:

Simulator	In Plant	Lab	Other
	X		

Performance Level:

Perform	Simulate	Discuss
	X	

References:

- 1-EOP-99, Appendix N, Hydrogen Purge System Operation

Validation Time: 20 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 1-EOP-99, Appendix N, Hydrogen Purge System Operation

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- RWP Required

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is: Hydrogen Purge System Operation - Unit 1
- The performance level to be used for this JPM is Simulate
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

The unit is engaged in mitigating a LOCA. SIAS has been reset and RAB Main Exhaust Fan, HVE-10B is running. The TSC and Chemistry have given permission to place the Hydrogen Purge System in operation to ventilate the Containment.

INITIATING CUES:

You are the SNPO. You have been directed by the Unit Supervisor to locally operate the Hydrogen Purge system IAW 1-EOP-99, Appendix N. Establish a 100CFM flowrate using HVE-7B.

NOTE TO EXAMINER:

Initiating cue identifies student as SNPO. No key will be required due to cues provided in steps 9 and 10.

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

START TIME: _____

Operate the Containment Hydrogen Purge System as follows:	
<p>STEP 1 (1): ENSURE ONE RAB Main Exhaust Fan, HVE-10A (B), is RUNNING, if available.</p> <p>STANDARD: <u>ENSURE</u> HVE-10A or HVE-10B is <u>RUNNING</u></p> <p>EXAMINER'S CUE: HVE-10B is RUNNING (from initiating cue)</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2 (2): VERIFY the following valves are LOCKED CLOSED:</p> <p style="padding-left: 40px;">V25015, Pen.58 to HVE-7A / 7B Gate – Filter Bypass</p> <p>STANDARD: <u>VERIFY</u> V25015 is <u>LOCKED CLOSED</u></p> <p>EXAMINER'S CUE: V25015 handwheel ROTATED CLOCKWISE until hard stop REACHED and LOCKED.</p> <p>EVALUATOR'S NOTE: Penetration 58 is between filter train and containment wall</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 3 (2): VERIFY the following valves are LOCKED CLOSED:</p> <p style="padding-left: 40px;">V-25-16, Pen. 58 to HVE-7A / 7B Gate – Filter Bypass</p> <p>STANDARD: <u>VERIFY</u> V-25-16 is <u>LOCKED CLOSED</u></p> <p>EXAMINER'S CUE: V-25-16 handwheel ROTATED CLOCKWISE until hard stop REACHED and LOCKED</p> <p>EVALUATOR'S NOTE: Penetration 58 is between filter train and containment wall</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p>STEP 4 (3) : CLOSE FCV-25-9, Pen-57 to HVE-7 Intake</p> <p>STANDARD: DEPRESS the CLOSE pushbutton for FCV-25-9 until FCV-25-9 indicates CLOSED.</p> <p>EXAMINER'S CUE: FCV-25-9 MECHANICAL POINTER INDICATES '0'. Light indication is GREEN</p> <p>EVALUATOR'S NOTE: The pushbutton for FCV-25-9 is located inside Junction Box B1117 on the column south west of FCV-25-9.</p> <p>The valve position indicator is located on the outside cover of Junction Box B1117. Position indication can also be verified by using the dial indicator and mechanical pointer located on FCV-25-9.</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 5 (4) : UNLOCK and OPEN the following valves:</p> <p>V25013, Pen. 57 to HVE-7A / 7B Gate Suction</p> <p>STANDARD: UNLOCK and OPEN V25013</p> <p>EXAMINER'S CUE: V25013 handwheel UNLOCKED and ROTATED COUNTER CLOCKWISE until hard stop REACHED</p> <p>EVALUATOR'S NOTE: Penetration 57 is between filter train and containment wall</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p>STEP 6 (4): UNLOCK and OPEN the following valves: V-25-14, Pen. 57 to HVE-7A / 7B Gate Suction</p> <p>STANDARD: UNLOCK and OPEN V-25-14</p> <p>EXAMINER'S CUE: V-25-14 handwheel UNLOCKED and ROTATED COUNTER CLOCKWISE until hard stop REACHED</p> <p>EVALUATOR'S NOTE: Penetration 57 is between filter train and containment wall</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 7 (5): VERIFY V-25-18, HVE-7A / 7B Disch. Gate to SBVS, is CLOSED.</p> <p>STANDARD: VERIFY V-25-18 is CLOSED</p> <p>EXAMINER'S CUE: V-25-18 handwheel ROTATED CLOCKWISE until hard stop REACHED</p> <p>EVALUATOR'S NOTE: V-25-18 is located next to V-25-17 in overhead</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 8 (6): OPEN V-25-17, "HVE-7A/7B Disch. Gate to Vent Stack."</p> <p>STANDARD: POSITION V-25-17 to OPEN</p> <p>EXAMINER'S CUE: V-25-17 handwheel ROTATED COUNTER CLOCKWISE until hard stop REACHED</p> <p>EVALUATOR'S NOTE: Valve is above HVE-6B</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 9 (7):</u> UNLOCK and OPEN the following valves: V25011, Makeup Air Before Pen. 56 Gate (19.5' Elev.)</p> <p><u>STANDARD:</u> UNLOCK and OPEN V25011</p> <p>EXAMINER'S CUE: When candidate reaches this step state that V25011 handwheel has been UNLOCKED and OPENED by an other operator.</p> <p>EVALUATOR'S NOTE: Question the Applicant where the valve is located. (Located in the Purge valve room, 19.5' between the RAB and Fuel Handling Bldg) When location identified, the above cue may be given.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP (location of valve)</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 10 (7):</u> UNLOCK and OPEN the following valves: V-25-12, Makeup Air Before Pen. 56 Gate (19.5' Elev.)</p> <p><u>STANDARD:</u> UNLOCK and OPEN V-25-12</p> <p>EXAMINER'S CUE: When candidate reaches this step state that V-25-12 handwheel has been UNLOCKED and OPENED by an other operator.</p> <p>EVALUATOR'S NOTE: Question the Applicant where the valve is located. (Located in the Purge valve room, 19.5' between the RAB and Fuel Handling Bldg) When location identified, the above cue may be given.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP (location of valve)</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">NOTE</p> <p>Hydrogen Purge Fans will not operate if FCV-25-10 position is between full closed and approximately 10% open.</p> </div> <p>STEP 11 (8): ENSURE FCV-25-10, HVS-4 Plenum to HVE-7 Intake, is THROTTLED OPEN.</p> <p>STANDARD: <u>POSITION</u> FCV-25-10 to <u>THROTTLED OPEN</u>.</p> <p>EXAMINER'S CUE: FCV-25-10 IS ROTATED COUNTER CLOCKWISE, currently at 50%.</p> <p>EVALUATOR'S NOTE: Control panel is located on column near north end of the 6A filter train</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 12 (9): START ONE Hydrogen Purge Fan.</p> <p style="padding-left: 40px;">HVE-7A OR HVE-7B</p> <p>STANDARD: <u>DEPRESS START</u> pushbutton for HVE-7B, (from initiating cue)</p> <p>EXAMINER'S CUE: HVE-7B RED light ON, GREEN light OFF.</p> <p>EVALUATOR'S NOTE: Control panel is located on column next to fans</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 13 (10): THROTTLE OPEN FCV-25-9, Pen-57 to HVE-7 Intake, to obtain between 90 and 100 CFM on FR-25-1, Local Flow Recorder</p> <p>STANDARD: <u>DEPRESS (and hold) THE OPEN PUSHBUTTON</u> until the desired flowrate of between <u>90</u> and <u>100cfm</u> is obtained.</p> <p>EXAMINER'S CUE: FCV-25-9 rotating COUNTER CLOCKWISE, FR-25-1 INDICATES approximately 95cfm</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p align="center">NOTE</p> <ul style="list-style-type: none"> • High charcoal temperatures are postulated to occur only as a result of restricted air flows rates less than 55 cfm. • Iodine desorption occurs at approximately 300°F and charcoal ignition at approximately 640°F </div> <p>STEP 14 (11): MONITOR the following on TR-25-2 in the Control Room</p> <ul style="list-style-type: none"> • Channel 1, Before Hydrogen Purge Charcoal Absorber (TE-25-18) • Channel 2, Hydrogen Purge Charcoal Absorber (TE-25-19) • Channel 3, Hydrogen Purge Charcoal Absorber (TE-25-20) • Channel 4, After Hydrogen Purge Charcoal Absorber (TE-25-21) <p>STANDARD: REQUEST Control Room Monitor the above points on TR-25-2</p> <p align="center">EXAMINER'S CUE: Control Room is MONITORING Channels 1, 2, 3 & 4.</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p align="center">NOTE</p> <p>Hydrogen Purge Fans will not operate if FCV-25-10 position is between full closed and approximately 10% open.</p> </div> <p>STEP 15 (12): ADJUST FCV-25-10 to maintain charcoal absorber temperature below alarm set point on TR-25-2 (RTGB-106).</p> <p>STANDARD: OPEN FCV-25-10 as necessary to MAINTAIN temperature <190°F</p> <p>EXAMINER'S CUE: Control Room informs you that TR-25-2 is Indicating 190°F and Increasing. RCO DIRECTS you to ADJUST flow to MAINTAIN temperature at <190°F.</p> <p align="center">If asked, Alarm Setpoint is 190°F.</p> <p>EXAMINER'S CUE: Open Pushbutton DEPRESSED momentarily, Control Informs you that TR-25-2 is INDICATING 175°F and Stable</p> <p>EVALUATOR'S NOTE: Located on the east side of the filter train, Indications by local TE: TI-25-HVE-7-1 and TI-25-HVE-7-2</p> <p><u>COMMENTS:</u></p>	<p align="center">CRITICAL STEP</p> <p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 16 (13):</u> Monitor Plant Stack radiation levels and Containment hydrogen concentration during purge operation.</p> <p><u>STANDARD:</u> <u>REQUEST</u> Control Room to <u>MONITOR</u> radiation and hydrogen levels</p> <p>EXAMINER'S CUE: Control Room Informs you that they will Monitor Plant Vent Radiation levels, and containment hydrogen concentration.</p> <p><u>COMMENTS:</u></p> <p align="center">END OF TASK</p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
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STOP TIME: _____

JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

The unit is engaged in mitigating a LOCA. SIAS has been reset and RAB Main Exhaust Fan, HVE-10B is running. The TSC and Chemistry have given permission to place the Hydrogen Purge System in operation to ventilate the Containment.

INITIATING CUES:

You are the SNPO. You have been directed by the Unit Supervisor to locally operate the Hydrogen Purge system IAW 1-EOP-99, Appendix N. Establish a 100CFM flowrate using HVE-7B.



St. Lucie Nuclear Plant

Operations Training

JOB PERFORMANCE MEASURE

**DROPPED OR MISALIGNED CEA ABNORMAL OPERATIONS,
PERFORM MANIPULATIONS OUTSIDE THE CONTROL ROOM
– UNIT 1**

**NRC P-3
Cable Spreading Room Unit 1**

Applicant _____

Examiner _____

JOB PERFORMANCE MEASURE

Task: CEA AOP, Perform Manipulations Outside the Control Room – Unit 1

Faulted JPM? Yes

Facility JPM #: 0821111

K/A: 001 K6.11 / 2.9 Knowledge of the effect of a loss or malfunction on the following CRDS components: Location and operation of CRDS fault detection (trouble alarms) and reset system, including rod control annunciator.

Duty Area(s): N/A

Task Information: N/A

Task Standard:

JPM is complete when IC/OPS notified CEA 62 power has been restored.

Evaluation Location:

Performance Level:

Simulator	In Plant	Lab	Other	Perform	Simulate	Discuss
	X				X	

References:

- 1-AOP-66.01 "Dropped or Misaligned CEA Abnormal Operations".

Validation Time: 20 minutes

Time Critical: No

Tools/Equipment/Procedures Needed:

- 1-AOP-66.01 "Dropped or Misaligned CEA Abnormal Operations", Attachment 5.

Specific Safety Rules, Personal Protective Equipment and Hazards associated with the task.

- None

Radiological Protection and RWP Requirements:

- None

JOB PERFORMANCE MEASURE
INITIAL CONDITIONS AND SPECIFIC DIRECTIONS

SPECIFIC DIRECTIONS:

- The task you are to perform is:
CEA ONOP, Perform Manipulations Outside the Control Room – Unit 1
- The performance level to be used for this JPM is Simulate
- This is not a time critical JPM.
- During the performance of the task, I will tell you which steps to simulate or discuss.
- I will provide you with the appropriate cues for steps that are simulated or discussed.
- You may use any approved reference materials normally available in the execution of this task, including logs.
- Indicate to me that you have finished the assigned task by returning the Candidate Cue Sheet that I provided to you.

INITIAL CONDITIONS:

Unit 1 was at 100% power late in core life.

The operator was inserting CEAs for ASI control when CEA 62 dropped to the bottom of the core.

Reactor and turbine power were matched.

All attempts from the control room to operate CEA 62 have failed.

INITIATING CUES:

The US has directed the operator to check the status of CEDM coil power supply panels IAW 1-AOP-66.01, "Dropped or Misaligned CEA Abnormal Operations", Attachment 5, Section 3.0, "Troubleshooting Actions for Inoperable CEA(S)".

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

START TIME: _____

**ATTACHMENT 5
Section 3.0**

<p>STEP 1: (3.0.1) INSPECT affected CEDM power supplies as follows: (CPP cabinets, cable spreading room)</p> <p align="center">A. VERIFY red CIRCUIT BREAKER CLOSED light is ON.</p> <p>STANDARD: <u>VERIFY</u> the RED CIRCUIT BREAKER CLOSED light is <u>ILLUMINATED</u>.</p> <p align="center">EXAMINER'S CUE: RED "CIRCUIT BREAKER CLOSED" LIGHT IS EXTINGUISHED, NOT ILLUMINATED.</p> <p><u>COMMENTS:</u></p>	<p>FAULTED STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2: (3.0.1) INSPECT affected CEDM power supplies as follows: (CPP cabinets, cable spreading room)</p> <p align="center">B. IF red CIRCUIT BREAKER CLOSED light is OFF AND affected CEA has been dropped, THEN OPEN and CLOSE affected CEA CIRCUIT BREAKER. (behind the affected CEA's control panel door)</p> <p>STANDARD: <u>OPEN</u> CEA 62's control panel door, and <u>POSITION</u> the circuit breaker to <u>OFF</u>, then <u>POSITION</u> the breaker to <u>ON</u>. <u>VERIFY</u> the RED CIRCUIT BREAKER CLOSED light is ILLUMINATED.</p> <p align="center">EXAMINER'S CUE: When positioned, the breaker is OFF. When positioned, the breaker is ON. If asked, the red CIRCUIT BREAKER CLOSED light is ILLUMINATED.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

*Cues are to be used only if JPM performance is being simulated in the plant.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 3: (3.0.1)</u> INSPECT affected CEDM power supplies as follows: (CPP cabinets, cable spreading room)</p> <p align="center">C. VERIFY white CIRCUIT BREAKER OPEN light is OFF.</p> <p><u>STANDARD:</u> <u>VERIFY</u> the white CIRCUIT BREAKER OPEN light is <u>NOT ILLUMINATED</u>.</p> <p align="center">EXAMINER’S CUE: WHITE “CIRCUIT BREAKER OPEN” LIGHT IS NOT ILLUMINATED.</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p><u>STEP 4:(3.0.1)</u> INSPECT affected CEDM power supplies as follows: (CPP cabinets, cable spreading room)</p> <p align="center">D. On the affected ACTM, VERIFY green POWER LED is ON.</p> <p><u>STANDARD:</u> <u>OBSERVE</u> GREEN “Power On” LED on the Coil Power Programmer timer module <u>ILLUMINATED</u>.</p> <p align="center">EXAMINER’S CUE: GREEN “POWER ON LED” IS ILLUMINATED.</p> <p><u>COMMENTS:</u></p>	<p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>
<p><u>STEP 5:(3.0.2)</u> INSPECT CEDM 15 V TRANSIENT MONITOR SYSTEM assemblies on rear of CPP cabinets for alarms as follows:</p> <p align="center">A. VERIFY red power supply alarm lights are OFF. (two lights per CEA on rear of CPP cabinets)</p> <p><u>STANDARD:</u> <u>VERIFY</u> the two red power supply lights for CEA 62 are EXTINGUISHED</p> <p align="center">EXAMINER’S CUE: THE TWO POWER SUPPLY LIGHTS FOR CEA 62 ARE ILLUMINATED, ON.</p> <p><u>COMMENTS:</u></p>	<p align="center">FAULTED STEP</p> <p align="center">_____ SAT</p> <p align="center">_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 6:(3.0.2)</u> INSPECT CEDM 15 V TRANSIENT MONITOR SYSTEM assemblies on rear of CPP cabinets for alarms as follows:</p> <p style="padding-left: 40px;">B. IF any power supply alarm lights are ON, THEN RESET them as follows:</p> <p style="padding-left: 80px;">1) RECORD lights that are ON.</p> <p><u>STANDARD:</u> <u>RECORDS</u> the two red power supply lights for CEA 62 are ON</p> <p style="text-align: center;">EXAMINER’S CUE: NONE.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 7:(3.0.2)</u> INSPECT CEDM 15 V TRANSIENT MONITOR SYSTEM assemblies on rear of CPP cabinets for alarms as follows:</p> <p style="padding-left: 40px;">B. IF any power supply alarm lights are ON, THEN RESET them as follows:</p> <p style="padding-left: 80px;">2) PRESS lights that are ON to reset them to OFF condition.</p> <p><u>STANDARD:</u> <u>DEPRESS</u> the two red power supply lights for CEA 62.</p> <p style="text-align: center;">EXAMINER’S CUE: BOTH RED POWER SUPPLY LIGHTS ARE EXTINGUISHED.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">CRITICAL STEP</p> <p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 8:(3.0.2)</u> INSPECT CEDM 15 V TRANSIENT MONITOR SYSTEM assemblies on rear of CPP cabinets for alarms as follows:</p> <p style="padding-left: 40px;">C. TEST power supply alarm light bulbs on affected CEA as follows:</p> <p style="padding-left: 80px;">1) PRESS pushbutton for affected CEA on side of CEDM 15 V TRANSIENT MONITOR SYSTEM assembly to latch alarm lights ON for bulb-check.</p> <p><u>STANDARD:</u> <u>DEPRESS</u> the button on the side of the Transient Monitor System that corresponds to CEA 62, and <u>VERIFY</u> the two red power supply alarm lights are ILLUMINATED.</p> <p style="text-align: center;">EXAMINER’S CUE: THE TWO RED LIGHTS FOR CEA 62 ARE ILLUMINATED.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>

***Cues are to be used only if JPM performance is being simulated in the plant.**

JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST

<p><u>STEP 9:(3.0.2)</u> INSPECT CEDM 15 V TRANSIENT MONITOR SYSTEM assemblies on rear of CPP cabinets for alarms as follows:</p> <p style="padding-left: 40px;">C. TEST power supply alarm light bulbs on affected CEA as follows: 2) RESET alarm lights to OFF condition by pressing them.</p> <p><u>STANDARD:</u> <u>DEPRESS</u> the two red alarm lights for CEA 62, and <u>VERIFY</u> the two red power supply alarm lights are EXTINGUISHED.</p> <p style="text-align: center;">EXAMINER’S CUE: THE TWO RED LIGHTS FOR CEA 62 ARE EXTINGUISHED.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 10:(3.0.2)</u>INSPECT CEDM 15 V TRANSIENT MONITOR SYSTEM assemblies on rear of CPP cabinets for alarms as follows:</p> <p style="padding-left: 40px;">C. TEST power supply alarm light bulbs on affected CEA as follows: 3) IF alarm lights are still ON after being reset, THEN NOTIFY I&C.</p> <p><u>STANDARD:</u> <u>DETERMINE</u> step is N/A.</p> <p style="text-align: center;">EXAMINER’S CUE: NONE.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>
<p><u>STEP 11:(3.0.3)</u>ENSURE HVA-4 and HVA-5 Cable Spreading Room A/C units are running.</p> <p><u>STANDARD:</u> <u>VERIFY</u> HVA-4 and HVA-5 Cable Spreading Room A/C units are running.</p> <p style="text-align: center;">EXAMINER’S CUE: HVA-4 and HVA-5 Cable Spreading Room A/C units are running.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">_____ SAT</p> <p style="text-align: right;">_____ UNSAT</p>

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**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

<p><u>STEP 12:(3.0.4)</u>VERIFY cooling fans for CPP cabinet sections 3 through 18 are RUNNING.</p> <p><u>STANDARD:</u> VERIFY either visually or by presence of air flow that the fans in sections 3 through 18 are running.</p> <p style="text-align: center;">EXAMINER’S CUE: FANS IN SECTION 3 THROUGH 18 ARE RUNNING.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 13:(3.0.5)</u>EXAMINE CEAPDS and CEDS and CPP cabinets for abnormal conditions.</p> <p><u>STANDARD:</u> VERIFY no abnormal conditions on the cabinets by visual observations and comparing known normal indications to possible abnormal indications.</p> <p style="text-align: center;">EXAMINER’S CUE: NO ABNORMAL CONDITIONS APPEAR TO EXIST.</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 14(3.0.6)</u> NOTIFY I&C of any problems found.</p> <p><u>STANDARD:</u> REPORT red CIRCUIT BREAKER ON light and power supply alarm light problems to I&C via telephone.</p> <p style="text-align: center;">EXAMINER’S CUE: I&C ACKNOWLEDGES.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

***Cues are to be used only if JPM performance is being simulated in the plant.**

**JOB PERFORMANCE MEASURE
CANDIDATE CUE SHEET**

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF THE TASK)

INITIAL CONDITIONS:

Unit 1 was at 100% power late in core life.

The operator was inserting CEAs for ASI control when CEA 62 dropped to the bottom of the core.

Reactor and turbine power were matched.

All attempts from the control room to operate CEA 62 have failed.

INITIATING CUES:

The US has directed the operator to check the status of CEDM coil power supply panels IAW 1-AOP-66.01, "Dropped or Misaligned CEA Abnormal Operations", Attachment 5, Section 3.0, "Troubleshooting Actions for Inoperable CEA(S)".