

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Rx Startup to Criticality
Failure Mode: Short period during startup
Reference: OP 0105, Reactor Operations, Rev. 83
Task Number: XXXXXX

Task Performance: AO/RO/SRO ☐ RO/SRO Only ☒ SE Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 20 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor

Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

Date

Approved by: _____
Operations Training Superintendent

Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Simulator** and you are to **perform** the actions.

You are requested to **"talk-through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

The plant is starting up.
OP 0105 Phase 1A is complete through step A.26.

Initiating Cues:

Continue the startup and take the reactor critical.

Task Standards:

While pulling control rods to take the reactor critical, a high worth rod takes reactor period to shorter than 30 seconds. The student takes action to take the reactor subcritical per OP 0105.

Required Materials:

OP 0105, Phase A Reactor Operations (latest revision)
VYOPF 0105.03 with doubling count rates filled in.

Simulator Setup:

Reset to IC 861 (just before critical).

<u>Evaluation</u>	<u>Performance Steps</u>
TIME START: _____	
SAT/UNSAT	<u>Step 1: Obtain procedure; review administrative limits, precautions, and prerequisites</u>
	Standard: OP 0105 Phase 1A obtained; administrative limits, precautions, and prerequisites reviewed.
<hr/>	
Interim Cue:	Inform Operator that all prerequisites are SAT.
<hr/>	
SAT/UNSAT	<u>*Step 2: Continue to withdraw control rods in such a manner as to avoid having a sustained period shorter than 30 seconds (desired 100 to 200 seconds).</u>
	Standard: Pulls correct control rod, otherwise a reactivity mismanagement issue.
<hr/>	
Examiner NOTE:	Just prior to critically the short period alarm will come in. (about 4 movements on control rod)
<hr/>	
SAT/UNSAT	<u>*Step 3: If the sustained period becomes shorter than 30 seconds</u>
	Standard: Recognizes short period along with annunciator 5-P-5.
Simulator Operator Note:	Upon receiving cue (going from notch 18 to 20) that the next notch of rod 18-31 will cause a high period, INSERT KEY 1 following notching out.

SAT/UNSAT *Step 4: Use EMERGENCY IN switch to turn the period

Standard: uses the EMERGENCY IN switch to reduce period.

Simulator Operator Note: Upon receiving cue from evaluator OR by observing operator using EMERGENCY IN, INSERT KEY 2 after rod moves in 2 notches.

SAT/UNSAT *Step 5: Insert Control Rods until the reactor is subcritical

Standard: Continues to insert control rods with EMERGENCY IN until the reactor is subcritical.

SAT/UNSAT Step 6: Notify the SM, OM and RE

Standard: Notifies appropriate management.

* Critical Step

TIME FINISH: _____

Terminating Cue: The reactor is subcritical and management is notified.

Evaluator Comments: _____

EXAMINEE HANDOUT

Initial Conditions:

The plant is starting up.
OP 0105 Phase 1A is complete through step A.26.

Initiating Cues:

Continue the startup and take the reactor critical.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Secure Standby Gas Treatment
Failure Mode: N/A
Reference: OP 2117, Standby Gas Treatment, Rev. 17, LPC 4
Task Number: 2610060101

Task Performance: AO/RO/SRO ☐ RO/SRO Only ☒ SE Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 15 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor

Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

Date

Approved by: _____
Operations Training Superintendent

Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Simulator** and you are to **perform** the actions.

You are requested to **"talk-through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

Both trains of SBGT are running as a result of auto initiation
An operator has verified and backed up the initiation.
Initiating signals are clear.
Reactor Building ventilation is operating normally.

Initiating Cues:

You have been directed by the CRS to return both trains of SBGT to a normal lineup, in accordance with OP 2117, Section D.

Task Standards:

Both SBGT Trains in Standby mode, with torus vent path aligned through SBGT Train "A".

Required Materials:

OP 2117, Standby Gas Treatment (latest revision)

Simulator Setup:

Reset to IC 862

- Ensure RB Ventilation is running
- Ensure both trains of SBGT are running

Evaluation

Performance Steps

IME START: _____

SAT/UNSAT

Step 1:

Obtain procedure; review administrative limits, precautions, and prerequisites

Standard:

OP 2117 Section D obtained; administrative limits, precautions, and prerequisites reviewed.

Interim Cue: Inform Operator that all prerequisites are SAT.

Procedure Step

Step 2:

Secure/Check secure the first train as follows:

SAT/UNSAT

Step 3:

Verify initiating signal has cleared

Standard:

Verifies initiating signal cleared based on initial conditions.

Interim Cue: If asked, restate the initiating signal has cleared.

SAT/UNSAT

Step 4:

Ensure either reactor building HVAC is running per OP 2192, Heating Ventilating and Air Conditioning System or the other train of SBT is running.

Standard:

Ensures reactor building HVAC is running based on initial conditions.

Interim Cue: If asked, restate the initial conditions and reactor building HVAC is operating

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>*Step 5: Momentarily place SBTG Fan A REF-2A (SBTG Fan B REF-2B) control switch on CRP 9-26 to STOP</u></p> <p>Standard: Operator momentarily places SBTG FAN A(B) REF 2-A(B) control switch on CRP 9-26 to STOP. Verify SBTG A/B stopped Observe red light Off and green light On for SBTG A(B) on CRP 9-26.</p>

Note: Step 6 is not critical because SGT-2A and 3A are reopened later in the procedure.

SAT/UNSAT	<p><u>Step 6: Close/verify closed the following valves</u></p> <ul style="list-style-type: none">• <u>SGT-2A(B)</u>• <u>SGT-3A(B)</u> <p>Standard: Operator closes SGT-2A(B) by repositioning control switch to CLOSE AUTO-OP and observing green light On and red light Off on CRP 9-26.</p> <p>Operator closes SGT-3A(B) by repositioning control switch to CLOSE AUTO-OP and observing green light On and red light Off on CRP 9-26.</p>
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SAT/UNSAT	<p><u>*Step 7: Close/Check closed SGT-1A(B)</u></p> <p>Standard: Operator takes control switch on CRP 9-26 to CLOSE AUTO-OP. Verifies SGT-1A(B) closed by observing red light Off and green light On for SGT-1A(B) on CRP 9-26..</p>
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Procedure Step	<p><u>Step 8: Secure the second train as follows:</u></p>
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SAT/UNSAT	<p><u>Step 9:Ensure reactor building HVAC is running per OP 2192 Heating, Ventilating and Air Conditioning System</u></p> <p>Standard: Ensures reactor building HVAC is running based on initial conditions.</p>
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Terim Cue: If asked, restate the initial conditions

Evaluation

Performance Steps

SAT/UNSAT

***Step 10: Momentarily place SBTG Fan A REF-2A (SBTG Fan BREF-2B) control switch on CRP 9-26 to STOP**

Standard: Operator momentarily places SBTG FAN B(A) REF 2-B(A) control switch to STOP on CRP 9-26.

SAT/UNSAT

***Step 11: If SGT Train B is secured, close/verify closed the following valves:**

- **SGT-2B**
- **SGT-3B**

Standard: Operator closes SGT-2B by repositioning control switch to CLOSE AUTO-OP and observing green light On and red light Off on CRP 9-26.

Operator closes SGT-3B by repositioning control switch to CLOSE AUTO-OP and observing green light On and red light Off on CRP 9-26.

AT/UNSAT

***Step 12: Close/Check closed SGT-1B**

Standard: Operator takes SGT-1B control switch on CRP 9-26 to CLOSE AUTO-OP, then verifies SGT-1B closed by red light off, green light on on CRP 9-26

SAT/UNSAT

***Step 13: If SGT Train A is secured, establish torus vent path through the following valves by opening or checking open:**

- **SGT-2A, and**
- **SGT-3A**

Standard: Operator opens SGT-2A and SGT-3A on CRP 9-26 by taking associated control switch to OPEN.

Operator verifies SGT-2A and SGT-3A are open by, observing red light On and green light Off for SGT-2A and SGT-3A on CRP 9-26.

SAT/UNSAT

Step 14: Close/check closed SGT-1A

Standard: Operator checks closed SGT-1A on CRP 9-26 by verifying red light On, green light Off.

Evaluation

SAT/UNSAT

Performance Steps

- Step 15: When both SBGT are secured, verify the following normal valve lineup.**
- **SGT-1A(B), SGT-2B, SGT-3B, SGT-4A (B), and SGT-5 are closed.**
 - **SGT-2A and SGT-3A are open.**
 - **SBGT Fan A (B) control switches are in Auto.**
 - **9KW heaters SBGT-A Elect HTR EUH-2 and SBGT-B Elect HTR EUH-4 control switches are in auto.**

Standard: Operator verifies the following on CRP 9-26:

_____SGT-1A(B), SGT-2B, SGT-3B, SGT-4A(B) and SGT-5 are closed

_____SGT-2A and SGT-3A open

_____SBGT Fan A(B) control switches in AUTO

_____9 KW heaters SBGT-A Elec Htr EUH-2 and SBGT-B Elec Htr EUH-4 control switches are in AUTO

* Critical Step

TIME FINISH: _____

Terminating Cue: SBGT System in Standby Mode, with torus vent path established through SBGT Train "A"

Evaluator Comments: _____

System: 261000 **K/A's:** K1.01

Examinee Handout

Initial Conditions:

Both trains of SBGT are running as a result of auto initiation
An operator has verified and backed up the initiation.
Initiating signals are clear.
Reactor Building ventilation is operating normally.

Initiating Cues:

You have been directed by the CRS to return SBGT to a normal lineup in accordance with OP 2117, Section D.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Transfer Pressure Control From MPR to EPR
Failure Mode: N/A
Reference: OP 2160, Turbine Generator Support Systems Operation, Rev. 24
Task Number: 2490020101

Task Performance: AO/RO/SRO ☐ RO/SRO Only ☒ SE Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 12 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor Date

Reviewed by: _____
SRO Licensed/Certified Reviewer Date

Approved by: _____
Operations Training Superintendent Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Simulator** and you are to **perform** all actions.

You are requested to **"talk-through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

The plant is operating at 100% power with the MPR controlling pressure. The EPR Cutout Switch has been in NORMAL for the past 30 minutes.

Initiating Cues:

The CRS has directed you to transfer pressure control to the EPR in accordance with OP 2160, Section B.2.

Task Standards:

Plant operating normally with pressure control transferred to the EPR

Required Materials:

OP 2160, Turbine Generator Support Systems Operation (latest revision)

Simulator Setup:

- Reset to IC 862
 - Pressure control transferred to the MPR
 - EPR Cutout Switch in NORMAL
 - Annunciators reset

<u>Evaluation</u>	<u>Performance Steps</u>
TIME START: _____	
SAT/UNSAT	<u>Step 1: Obtain Procedure; review Precautions, Admin Limits, Prerequisites, and Section B.2</u> Standard: Procedure obtained, Precautions, Admin Limits, Prerequisites and Section B.2 reviewed. <hr/> Interim Cue: If asked, all prerequisites are met. <hr/>
SAT/UNSAT	<u>Step 2: Verify EPR is ready for service:</u> <ul style="list-style-type: none">• <u>EPR CUTOUT SWITCH in NORMAL (ON)</u>• <u>EPR CONTROL PWR LOSS annunciator 7-G-2 clear</u> Standard: Operator verifies that the EPR Cutout Switch is in NORMAL and that annunciator 7-G-2 is clear.
SAT/UNSAT	<u>Step 3: Verify bulb for oncoming pressure regulator is sound</u> Standard: Operator removes EPR white light bulb and places bulb in a known-energized lamp socket to verify that the bulb is good, then replaces bulb in the EPR white light socket, OR verifies it is sound by observing the intact filament.
SAT/UNSAT	<u>*Step 4: Using EPR SETPOINT switch, slowly lower the EPR setpoint by going to LOWER until the EPR OUTPUT STROKE begins to move</u> Standard: Operator places the EPR Setpoint control switch to LOWER until the EPR Output Stroke begins to move.
Evaluator Note/Cue: Student may notice that EPR stroke is not rising	

Evaluation

Performance Steps

SAT/UNSAT

Step 5: **As the EPR OUTPUT STROKE increases, control the rate by adjusting the EPR SETPOINT switch such that it continues to increase slowly.**

Standard: Operator intermittently manipulates the EPR Setpoint Control Switch to effect a slow rate of EPR Output Stroke increase.

SAT/UNSAT

***Step 6:** **Continue to slowly lower the EPR SETPOINT until the EPR begins to take control**

Standard: Operator continues to observe the slowly rising stroke, watching for the EPR white light to energize, adjusting the setpoint as necessary.

SAT/UNSAT

Step 7: **Verify that the EPR is in control of pressure by observing:**

- 1) **Verify white light above EPR SETPOINT switch is illuminated.**
- 2) **Verify white light above MPR SETPOINT switch is extinguished.**
- 3) **On CRP 9-5, verify stable reactor pressure.**

Standard: Operator verifies that the EPR is in control of pressure by observing the above-listed indications.

SAT/UNSAT

***Step 8:** **If either pressure regulator fails to control pressure, refer to OT 3115 for immediate actions.**

Standard: Operator observes pressure is under control.

SAT/UNSAT

***Step 9:** **Using MPR SETPOINT switch, slowly RAISE the MPR SETPOINT, by going to RAISE, until the MPR OUTPUT STROKE is 10% below the EPR.**

Standard: Operator places the MPR Setpoint Control Switch to RAISE as necessary to adjust the MPR Output Stroke to a setting 10% below the EPR.

AT/UNSAT

Step 10: Adjust reactor pressure as necessary

Standard: Operator uses the EPR Setpoint Control Switch to adjust reactor pressure as necessary.

Interim Cue: Inform Operator that no pressure adjustment is necessary.

TIME FINISH: _____

Terminating Cue: Pressure control transferred to the EPR with the MPR stroke 10% below that of the EPR and reactor pressure stable.

Evaluator Comments: _____

System: 241000 **K/A's:** K1.02, K4.01, A1.01, A4.16, A4.19

System Generic K/A's: 2.1.20, 2.1.21

EXAMINEE HANDOUT

Initial Conditions:

The plant is operating at 100% power with the MPR controlling pressure. The EPR Cutout Switch has been in NORMAL for the past 30 minutes.

Initiating Cues:

The CRS has directed you to transfer pressure control to the EPR in accordance with OP 2160, Section B.2.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Energize Bus 4 From the Vernon Tie Line During a Station Blackout
Failure Mode: Breaker 3V Does Not Close
Reference: OT 3122, Loss of Normal Power, Appendix A, Rev. 21, LPC 4
Task Number: 2000040501

Task Performance: AO/RO/SRO ☐ RO/SRO ☒ SRO Only ☐

Sequence Critical: Yes ☒ No ☐

Time Critical: Yes ☐ No ☒

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 7 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor Date

Reviewed by: _____
SRO Licensed/Certified Reviewer Date

proved by: _____
Operations Training Superintendent Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the operator has failed the Job Performance Measure.

After providing the initiating cue, ask the operator "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the Simulator and you are to perform the actions.

You are requested to **"talk through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

A turbine trip has occurred following a loss of all offsite power; both diesels have failed to start. A station Blackout has been declared.

Initiating Cues:

You are directed to perform Immediate Operator Actions IAW OT-3122 Appendix A to restore AC power to Bus 3 or Bus 4 from the Vernon Tie. Bus 3 is preferred.

Task Standards:

Bus 4 energized from Vernon Tie Line IAW OT 3122 appendix A.

Required Materials:

OT 3122, Appendix A

Simulator Set-Up:

Reset to IC 864 Ensure following malfunctions are inserted:

- DG05B
- DG05A
- ED17
- Using softpanels select 3V breaker to TRIP (ED18B)

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT	<u>Step 1:</u> <u>Obtain OT 3122. Review entry conditions, immediate operator actions, and follow-up actions.</u>
	Standard: OT 3122, appendix A obtained, entry conditions, immediate operator actions and follow-up actions reviewed.
SAT/UNSAT	<u>*Step 2:</u> <u>Place the service water pump control switches to STOP, then NORMAL.</u>
	Standard: At CRP 9-6, take each SW pp control switch to STOP and then to NORMAL. Observe the green light on and red light off for each pump.
SAT/UNSAT	<u>Step 3:</u> <u>Place all ECCS pumps in PULL-TO-LOCK</u>
	Standard: At CRP 9-3 place the control switches for each of the four RHR pumps and both Core Spray pumps in PULL-TO-LOCK.
SAT/UNSAT	<u>*Step 4:</u> <u>Energize Bus 3 from Vernon tie:</u> <u>Close 3V4 and the selected bus feeder breaker .</u>
	Standard: Breaker handswitch on CRP 9-3 for 3V4 taken to CLOSE Check breaker 3V4 closed by observing red light ON and green light OFF above breaker control switch on CRP 9-8
SAT/UNSAT	<u>*Step 5:</u> <u>Close the selected bus tie breaker (3V)</u>
	Standard: Breaker handswitch on CRP 9-8 for 3V taken to CLOSED Observe failure of breaker 3V by observing green indicating light ON and red light OFF above breaker control switch on CRP 9-8

Interim Cue: If informed as CRS that the 3V breaker failed, repeat the request to restore power from Vernon Tie.

SAT/UNSAT

*Step 6:

Close the selected bus tie breaker (4V)

Standard: Breaker handswitch on CRP 9-8 for 4V taken to CLOSED
Observe closure of breaker 4V by observing red indicating light ON and green light OFF above breaker control switch on CRP 9-8

SAT/UNSAT

Step 7:

Check voltage and current on Bus 4

Standard: Observes voltage and current meters on CRP 9-8

* Critical Step

TIME FINISH: _____

Terminating Cue: Bus 4 energized from Vernon Tie line.

Evaluators Comments: _____

System: 295003

EXAMINEE HANDOUT

Initial Conditions:

A turbine trip has occurred following a loss of all offsite power; both diesels have failed to start. A station Blackout has been declared.

Initiating Cues:

You are directed to perform Immediate Operator Actions IAW OT-3122 Appendix A to restore AC power to Bus 3 or Bus 4 from the Vernon Tie. Bus 3 is preferred.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Manual RCIC Start With Injection to the Rx Vessel
Failure Mode: Failure of the Flow Controller in Auto
Reference: OP 2121 Appendix C, Reactor Core Isolation Cooling System, Rev 30, LPC3
Task Number: 2170030101

Task Performance: AO/RO/SRO ☐ RO/SRO ☒ SRO Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 15 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor Date

Reviewed by: _____
SRO Licensed/Certified Reviewer Date

Approved by: _____
Operations Training Manager Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the operator has failed the Job Performance Measure.

After providing the initiating cue, ask the operator "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the Simulator and you are to perform the actions.

You are requested to **"talk through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

There has been a spurious Group I isolation and resulting Rx scram. All three feed pumps are unavailable. Actions have been taken IAW OT 3100 and EOP-1.

Initiating Cues:

The CRS directs you to start RCIC and inject to the vessel to raise level to the normal band (150"-160") IAW OP 2121 Appendix C.

Task Standards:

Operator starts RCIC and injects to the vessel. Reactor vessel level is increasing.

Required Materials:

OP 2121, Reactor Core Isolation Cooling System, Appendix C

Simulator Set-Up:

Reset to IC 865

- Ensure Malf RC03 @ 0% is entered.

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1:

Obtain OP 2121, Review Administrative Limits, Precautions, and Prerequisites

Standard:

OP 2121, Section D MAY be obtained. Admin. limits, precautions and prerequisites reviewed. However, Appendix C, the mini-procedure is expected to be used.

Interim Cue: If asked, inform operator that all prerequisites are satisfied.

SAT/UNSAT

***Step 2:**

Open lube oil COOLING WATER RCIC-132

Standard:

RCIC-132 hand switch on CRP 9-4 positioned to OPEN. Observe red light ON, green light OFF

SAT/UNSAT

***Step 3:**

Start the GLAND SEAL VACUUM PUMP

Standard:

Vacuum pump switch on CRP 9-4 positioned to ON. Observe red light ON, green light OFF

SAT/UNSAT

***Step 4:**

Open MINIMUM FLOW RCIC-27

Standard:

RCIC-27 hand switch positioned to OPEN
Observe RCIC-27 red light ON, green light OFF

SAT/UNSAT

***Step 5:**

Open STEAM SUPPLY RCIC-131

Standard:

RCIC-131 hand switch positioned to OPEN
Observe RCIC-131 red light ON, green light OFF

Evaluation

Performance Steps

SAT/UNSAT

Step 6: Confirm turbine start by observing TURBINE SPEED SI 13-2 and PUMP DISCHARGE PRESSURE PI 13-93 increasing

Standard: Observes turbine RPM, SI 13-2, and pump discharge pressure, PI 13-93, increasing (CRP 9-4 vertical display)

SAT/UNSAT

***Step 7: Open PUMP DISCHARGE, RCIC-21**

Standard: RCIC-21 hand switch positioned to OPEN
Observe RCIC-21 red light ON, green light OFF

SAT/UNSAT

Step 8: Operator notes the failure of RCIC flow to increase to 400 GPM.

Standard: Operator observes flow <400 GPM on FI-91-1

Interim Cue: If operator requests additional guidance from CRS, instruct him to take the necessary actions to inject with RCIC at 400 GPM or as necessary to return level to the normal band.

SAT/UNSAT

***Step 9: Shift RCIC controller to manual to control level 150" to 160"**

Standard: Operator shifts RCIC controller knob into manual position on FIC-91 at CRP 9-4.

SAT/UNSAT

Step 10: Verify that Minimum Flow RCIC-27 closes (automatic) at approximately 80 GPM

Standard: Operator verifies auto closure of RCIC -27 when flow reaches approx. 80 gpm

SAT/UNSAT

Step 11: Monitor the following parameters:

<u>EXHAUST PRESSURE</u>	<u>0-20 psig</u>
<u>SUCTION PRESSURE</u>	<u>6-30 psig</u>
<u>STM SUPPLY PRESSURE</u>	<u>50-1120 psig</u>
<u>TURBINE SPEED</u>	<u>>2200-5000 rpm</u>

Standard: Observes Exhaust pressure, suction pressure, supply pressure and turbine speed on the indicators on CRP 9-4

Evaluator Note: The JPM may be terminated when level begins to increase due to RCIC operation. Reaching the level band of 150-160" is NOT required to be evaluated.

* Critical Step

TIME FINISH: _____

Terminating Cue: RCIC started and injecting to the vessel.

Evaluators Comments:

System: 217000

Examinee Handout

Initial Conditions:

There has been a spurious Group I isolation and resulting Rx scram. All three feed pumps are unavailable. Actions have been taken IAW OT 3100 and EOP-1.

Initiating Cues:

The CRS directs you to start RCIC and inject to the vessel to raise level to the normal band (150"-160") IAW OP 2121 Appendix C.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Perform Core Spray "A" Quarterly Full Flow Test
Failure Mode: Minimum Flow Valve Fails Shut
Reference: OP 4123, Core Spray System Surveillance, Rev. 41
Task Number: 2090010201

Task Performance: AO/RO/SRO ☐ RO/SRO Only ☒ SE Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 15 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor Date

Reviewed by: _____
SRO Licensed/Certified Reviewer Date

Approved by: _____
Operations Training Supervisor Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Simulator** and you are to **perform** the actions.

You are requested to **"talk-through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

The plant is operating at power during normal operations.

Initiating Cues:

You have been directed by the CRS to perform the Core Spray Quarterly Full Flow Test on the "A" Core Spray Pump IAW OP 4123. The surveillance has been completed through Step C.3.c. Document results on Form VYOPF 4123.01A.

Task Standards:

"A" Core Spray Quarterly Full Flow Test performed satisfactorily.

Required Materials:

OP 4123, Core Spray System Surveillance (latest revision)
Form VYOPF 4123.01 (latest revision) with Steps 1 & 2 data filled in

Simulator Setup:

- Reset to IC 866

TIME START: _____

SAT/UNSAT

***Step 1: Start Core Spray Pump "A" (step C.3.d)**

Standard: Operator places Core Spray Pump "A" hand switch to START on CRP 9-3 horizontal panel, and observes red light On, green light Off above pump start switch.

SAT/UNSAT

Step 2: Verify Core Spray Pump "A" running (step C.3.d)

Standard: Operator observes running amps approximately 90

SAT/UNSAT

***Step 3 Verify Minimum Flow Valve CS-5A remains open (step C.3.e)**

Standard: Operator identifies that CS-5A opens when pump is started

SAT/UNSAT

Step 4: Verify that annunciator 3-A-7 'ADS PERMISSIVE RHR?CS RUNNING' energizes

Standard: Operator verifies annunciator 3-A-7 energizes.

SAT/UNSAT

Step 5: Check that the appropriate RRU started automatically

Standard: Operator contacts AO to check RRU auto started (or checks back panel).

Interim Cue:

As AO, acknowledge appropriate RRU has started automatically. Can also be checked on control room back panel RP 9-25 (RRU-7)

SAT/UNSAT

***Step 6: Throttle FULL FLOW TEST CS-26A to obtain 3100-3150 gpm as read on PUMP FLOW FI 14-50A.**

Standard: Operator throttles flow to obtain 3100-3150 gpm.

SAT/UNSAT	<u>*Step 7: Verify valve MINIMUM FLOW CS-5A closes as flow increases</u>
	Standard: Operator verifies valve MINIMUM FLOW CS-5A closes by observing GREEN light ON, RED Light OFF.
SAT/UNSAT	<u>Step 8 : Maintain test parameters until all readings and measurements have been taken</u>
	Standard: Operator maintains test parameters.
Interim Cue:	Provide Pump Suction & Discharge Pressures (local test gage) of 3.4 psig & 237.5 psig. After the data on VYOPF 4123.01A has been filled out for step C.5.a, advise operator that testing is complete and the surveillance can continue at step C.5.b. (This data was actual plant data used during 1/3/07 in plant surveillance).
SAT/UNSAT	<u>*Step 9: Close FULL FLOW TEST CS-26A. Continue to hold the control switch for approximately 5 seconds after valve closure.</u>
	Standard: Operator closes FULL FLOW TEST CS-26A and holds control switch for approx. 5 seconds after valve closure.
SAT/UNSAT	<u>*Step 10: Verify Minimum Flow Valve CS-5A remains open</u>
	Standard: Operator identifies that CS-5A did not open; informs CRS
Interim Cue:	If informed as CRS that valve has failed shut, acknowledge report.
SAT/UNSAT	<u>*Step 11: Secure Core Spray Pump "A"</u>
	Standard: Operator secures pump by taking control switch at CRP 9-3 to STOP. This step is required to prevent pump damage by running pump dead headed. See CAUTION prior to step C.3.e.

* Critical Step

TIME FINISH: _____

Terminating Cue: "A" Core Spray Pump secured after once it is noted that the Minimum Flow Valve fails shut.

Evaluator Comments: _____

Examinee Handout

Initial Conditions:

The plant is operating at power during normal operations.

Initiating Cues:

You have been directed by the CRS to perform the Core Spray Quarterly Full Flow Test on the "A" Core Spray Pump IAW OP 4123. The surveillance has been completed through Step C.3.c. Document results on Form VYOPF 4123.01A.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: PCIS Group V Failure
Failure Mode: RWCU Fails to Isolate Upon SLC Initiation
Reference: OP 2114, Operation of the Standby Liquid Control System, Rev. 23, LPC 2
Task Number: 2110050101

Task Performance: AO/RO/SRO ☐ RO/SRO Only ☒ SE Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant

Performance Expected Completion Time: 5 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor

Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

Date

pproved by: _____
Operations Training Superintendent

Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Simulator** and you are to **perform** all actions.

You are requested to **"talk-through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

The plant is experiencing an ATWS.

Initiating Cues:

You have been directed by the CRS to initiate and verify SLC injection to the reactor vessel per OP 2114, App.B. All other ATWS & EOP actions will be performed by another operator.

Task Standards:

Boron injected to the reactor vessel IAW OP 2114

Required Materials:

OP 2114, Operation of the Standby Liquid Control System (latest revision)

Simulator Setup:

- Reset to 100% power IC and perform the following (**Simulator Booth Operator NOTE: Cannot snap to an ATWS Scenario- therefore Simulator needs to be reset for each candidate**):
 - Insert the following malfunctions: mFRP_09A, mFRP_09B, mFRD_12A(60%), mFRD_12B(60%). Then go to run and perform the following:
 - Insert manual scram
 - Initiate ARI/RPT and trip the recirculation pumps

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1:

Obtain and review OP 2114 Appendix B

Standard: OP 2114 Appendix B obtained and reviewed

Interim Cue: If asked, all pre-requisites are SAT

SAT/UNSAT

***Step 2:**

Unlock SLC Switch by positioning the key to the two o'clock position

Standard: Key positioned to the two o'clock positon

SAT/UNSAT

***Step 3:**

Turn SLC switch to SYS 1 or SYS 2.

Standard: SLC Switch turned to the SYS 1 or SYS 2 position

SAT/UNSAT

Step 4:

Verify that the "A/B" SLC Pump starts

Standard: Operator verifies that the "A" or "B" SLC Pump is running by observing the Red light On and Green light Off

SAT/UNSAT

Step 5:

SLC discharge pressure increases as indicated on PI-11-65.

Standard: Operator observes rising pressure indicated on PI 11-65 on CPR 9-5

evaluation

Performance Steps

SAT/UNSAT

***Step 6: On CRP 9-4, RWCU system isolation valves automatically close:**

_____ CU-15 (Outlet Isolation)

_____ CU-18 (Inlet Isolation)

_____ CU-68 (Return Isolation)

Standard: Operator recognizes that the RWCU System did NOT isolate

EVALUATOR NOTE: Operator may elect to take SLC switch to the other position (per step 4 of Appendix B) before manually closing the RWCU valves.

SAT/UNSAT

***Step 7: Manually close CU-15**

Standard: Operator places the CU-15 control switch on CRP 9-4 to CLOSE and verify it closes by observing the Green light “on” and Red light “off” for CU-15.

EVALUATOR NOTE: Operator may elect to trip the running RWCU Pump first in anticipating an automatic pump trip (on interlock) once RWCU valves are shut.

SAT/UNSAT

***Step 8: Manually close CU-18**

Standard: Operator places the CU-18 control switch on CRP 9-4 to CLOSE and verifies it closes by observing the Green light “on” and Red light “off” for CU-18.

SAT/UNSAT

***Step 9: Manually close CU-68**

Standard: Operator places the CU-68 control switch on CRP 9-4 to CLOSE and verify it closes by observing the Green light “on” and Red light “off” for CU-68.

SAT/UNSAT

Step 10: Squib valve SLC-14A(B) fires, as indicated by:

Red flow indicator light on (flow greater than 30 gpm).

Standard: Operator observes the following:

Operator observes Red Flow Indicator light is energized on CRP 9-5

SLC tank level decreases as indicated on LI-11-66.

Standard: Operator observes SLC Tank Level indicator (LI 11-66) and verifies that level indication is lowering

TIME FINISH: _____

Terminating Cue: Boron is being injected into the reactor vessel IAW OP 2114 Appendix B

Evaluator Comments: _____

System: 211000

Examinee Handout

Initial Conditions:

The plant is experiencing an ATWS.

Initiating Cues:

You have been directed by the CRS to initiate and verify SLC injection to the reactor vessel per OP 2114, App.B. All other ATWS & EOP actions will be performed by another operator.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
NRC EXAM 2007**

Task Identification:

Title: Startup Idle Recirc Pump With the Other Pump Running
Failure Mode: "A" Recirc Pump Failed Startup Sequence during startup
Reference: OP 2110, Reactor Recirc System (Rev 74)
Task Number: 2020040101

Task Performance: AO/RO/SRO ☐ RO/SRO Only ☒ SE Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☒ No ☐

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss ☐

Setting: Classroom ☐ Simulator ☒ Plant ☐

Performance Expected Completion Time: 15 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor Date

Reviewed by: _____
SRO Licensed/Certified Reviewer Date

Approved by: _____
Operations Training Superintendent Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Simulator** and you are to **perform** all actions.

You are requested to **"talk-through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

- Reactor is in single loop operation with the "B" Recirc Pump Operating
- The "A" Recirc Loop is idle and has been prepared for pump start IAW OP 2110 Section D Step 1
- Control rods have been inserted as necessary to ensure operation outside Exclusion Region during pump start IAW OP 2110 Section D- Step 2.

Initiating Cues:

The CRS has directed you to start the "A" Recirc Pump IAW OP 2110, continuing with section D- Step 3. Reactor control and monitoring during this evolution will be performed by another operator.

Task Standards:

RV-53A opened and "B" Recirc Pump speed raised to 50-70%.

Required Materials:

OP 2110, Reactor Recirc System (latest revision)

Simulator Setup:

- IC-888
- IC is set up with single loop operations following a Recirc pump trip. Ensure the actions for securing a Recirc pump are complete and control rods have been inserted to exit the buffer/exclusion region and to provide adequate margin for pump start.

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT Step 1: Obtain procedure; review admin limits, precautions, and pre-requisites

Standard: Procedure obtained; admin limits, precautions, and pre-requisites reviewed

Interim Cue: If asked, all pre-requisites are met (This should already be known since steps D1-4 were cued as being complete in initial conditions)

SAT/UNSAT Step 2: Reduce speed of running pump to minimum as follows: If the operating pump PUMP B CONTROLLER 2-184-16B is in automatic, transfer the controller to manual as follows: On PUMP B CONTROLLER 2-184-16B compare the MG-B.S and MG-B.P values

Standard: Operator compares the MG-B.S and MG-B.P values

SAT/UNSAT Step 2a: If the values are the same depress the A/M pushbutton and verifies the red manual LED illuminates.

Standard: Operator depresses the A/M pushbutton and verifies the red manual LED illuminates

SAT/UNSAT Step 2b: On PUMP B CONTROLLER 2-184-16B, verify or select the MG-B.P display and On PUMP B CONTROLLER 2-184-16B, adjust controller output to 0.00

Standard: Operator selects the MG-B.P display and On PUMP “B” CONTROLLER 2-184-16B and adjusts controller output to 0.00

SAT/UNSAT **Step 3 : Perform reactor coolant temperature check per VYOPF 4110.05**

Standard: Operator performs reactor coolant temperature check per VYOPF 4110.05.

Interim Cue: Inform candidate that all temperatures are within spec.

SAT/UNSAT ***Step 4: Ensure motor-generator set start permissives are satisfied.**

Standard: Operator verifies the following:

- _____ Pump Suction Valve (RV-43A) is open
- _____ Generator field breaker is open
- _____ Lockout relay is reset
- _____ Lube oil circulation flow is normal (40-65 psig as indicated on PI-2-184-3A)
- _____ Drive motor bus is at or near rated voltage
- _____ Discharge Bypass Valve (RV-54A) is open
- _____ Pump Discharge Valve (RV-53A) is closed

Interim Cue: If asked, the lockout relay is reset; lube oil pressure indicates 55 psig

SAT/UNSAT **Step 5: Monitor ERFIS Point M040**

Standard: Operator monitors Point M040 on ERFIS

SAT/UNSAT ***Step 6: Start the "A" Recirc Pump (P-18-1A)**

Standard: Operator takes the Recirc Pump “A” Drive Motor control switch to START

AT/UNSAT

***Step 7:** Observe that Field breaker closes approximately 7 sec. after drive motor breaker is closed, Generator speed hits peak of approximately 80%, and Generator speed settles out to approximately 40% speed and then decays to approximately 20% speed.

Standard: Operator verifies that field breaker **DID NOT** close within approximately 7 seconds and after approximately 12 seconds the drive breaker has **TRIPPED** resulting in annunciators 4-A-1, 4-A-2, 4-A-5, and 4-A-7 and “A” Recirc Pump Trip; Notifies the CRS that the “A” Recirc pump tripped.

SAT/UNSAT

***Step 8:** IF for any reason, the Recirculation Pump started then tripped, THEN Immediately close RV-53A pump discharge valve

Standard: Operator verifies RV-53A pump discharge valve closed

Evaluator Note: If the operator was quick to open the discharge valve (RV-53A) based on field breaker failing to shut within 7 seconds, then RV-53A would have to be closed following the pump trip.

SAT/UNSAT

***Step 9:** IF for any reason, the Recirculation Pump started then tripped, THEN Raise speed of the running pump to between 50% to 70% speed provided bottom head drain temperature is within 145°F of saturation temperature.

Standard: Operator verifies bottom head drain temperature is within 145°F of saturation temperature, then raises speed of the running pump to between 50-70% speed.

Evaluator Cue: Provide cue to the candidate that bottom drain temperature is within 145°F of saturation temperature

Terminating Cue: Discharge valve (RV-53A) closed and “B” Recirc Pump running at 50-70% speed

TIME FINISH: _____

Evaluator Comments: _____

System: 202001

Examinee Handout

Initial Conditions:

- Reactor is in single loop operation with the "B" Recirc Pump Operating
- The "A" Recirc Loop is idle and has been prepared for pump start IAW OP 2110 Section D Step 1
- Control rods have been inserted as necessary to ensure operation outside Exclusion Region during pump start IAW OP 2110 Section D- Step 2.

Initiating Cues:

The CRS has directed you to start the "A" Recirc Pump IAW OP 2110, continuing with section D- Step 3. Reactor control and monitoring during this evolution will be performed by another operator.

Task Identification:

Task Performance: AO/RO/SRO X RO/SRO__ SRO Only__ AO Only__

Approved by: _____ Date _____
Operations Training Superintendent

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the operator has failed the Job Performance Measure.

After providing the initiating cue, ask the operator "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **plant** and you are to **simulate** the actions.

You are requested to **"talk through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

The "A" DG has been running for 3 hours, paralleled to the bus, loaded to 2500 KW, 1600 KVARs (OUT) per OP 2126. All "A" DG data readings have been completed satisfactorily by another operator and the diesel is ready to be secured.

Initiating Cues:

You have been directed by the CRS to shutdown the diesel generator locally, per OP 2126, Section D.

Task Standards:

The local shutdown of the diesel generator is complete and satisfactory.

Required Materials:

OP 2126, Diesel Generators (latest revision)

Simulator Setup:

N/A

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT Step 1: Obtain Procedure OP 2126 and review Precautions/Limitations.

Standard: OP 2126 obtained, reviewed the precautions/limitations

Interim Cue: Inform operator the precautions/limitations are SAT.

Note: All steps are performed in the “A” EDG Room.

SAT/UNSAT *Step 2: On generator panel DG-1-1A, using the GOVERNOR control switch, gradually reduce load to approximately 50%.

Standard: On DG A, the operator intermittently positions diesel governor control switch to LOWER until generator unloads to 50% on Diesel Control Panel.

Interim Cue: DG unloaded to 1250 KW

SAT/UNSAT Step 3: Using the AUTO VOLTAGE REG ADJUST switch, adjust reactive load to as close to zero KVARs as possible

Standard: Operator takes switch to LOWER until Reactive load reads approximately zero KVARs.

Interim Cue: When asked, KVARs are reading approximately zero

SAT/UNSAT Step 4: Run unit at 50% load for 5 minutes.

Standard: Operator allows unit to run for 5 minutes at 50% load.

Interim Cue: Inform operator that using time-compression, diesel has been running at 50% load for 5 minutes.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>*Step 5: On generator panel DG-1-1A, using the GOVERNOR control switch, unload unit to < 200 kw.</u></p> <p>Standard: Operator intermittently positions diesel governor control switch to LOWER until generator unloads to < 200KW, as indicated on the Diesel Control Panel.</p> <hr/> <p>Interim Cue: DG unloaded to 180 KW</p> <hr/>
SAT/UNSAT	<p><u>*Step 6: On CRP 9-8 open diesel output breaker 4KV BREAKER DIESEL GENERATOR 1A.</u></p> <p>Standard: Operator directs another operator to open the DG A output breaker from CRP 9-8.</p> <hr/> <p>Interim Cue: Inform Operator that the output breaker has been opened, and DG KW is zero.</p> <hr/>
SAT/UNSAT	<p><u>Step 7: Run unloaded for approximately 1 minute.</u></p> <p>Standard: Operator allows diesel to run unloaded for approximately one minute.</p> <hr/> <p>Interim Cue: Inform Operator that using time-compression, the diesel has been running unloaded for one minute.</p> <hr/>
SAT/UNSAT	<p><u>*Step 8: Reset the SPEED DROOP to “Zero”</u></p> <p>Standard: Operator resets the speed droop to zero at the Diesel Governor. (Top left knob on governor- counterclockwise).</p> <hr/> <p>Interim Cue: Inform Operator that the speed droop is at zero.</p> <hr/>

<u>valuation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>Step 9: Check the voltage regulator maintaining approximately 4160V and the governor maintaining 60 Hz.</u></p> <p>Standard: Operator observes voltage and adjusts voltage regulator as necessary to maintain 4160V, and observes frequency meter and adjusts governor as necessary to maintain 60 HZ.</p> <hr/> <p>Interim Cue: Voltage indicates 4160V. Frequency is 60 Hz.</p> <hr/>
SAT/UNSAT	<p><u>Step 10: Have a second operator independently verify the governor is maintaining diesel generator frequency at 60 Hz.</u></p> <p>Standard: Operator contacts another operator to perform independent verification of Diesel frequency.</p> <hr/> <p>Interim Cue: Second operator has performed independent verification.</p> <hr/>
SAT/UNSAT	<p><u>*Step 11: Stop the diesel from the DG-1-1A GENERATOR panel by depressing the MANUAL ENG. STOP pushbutton.</u></p> <p>Standard: Operator depresses the MANUAL ENG. STOP pushbutton on the Diesel Generator Control panel.</p> <hr/> <p>Interim Cue: DG slows, noise level is reduced to normal background.</p> <hr/>
SAT/UNSAT	<p><u>Step 12: Locally verify the following cycle on after the diesel has stopped.</u></p> <p> a. <u>Lube oil pump</u> b. <u>Cooling water pump</u> c. <u>Heaters</u> </p> <p>Standard: Operator observes breaker lights, pressures and amps, to verify lube oil pump, cooling water pump, and heater breakers cycle on as diesel speed decreases.</p> <hr/> <p>Interim Cue: If asked, inform Operator that the lube oil pump, cooling water pump, and heater breakers are</p>

operating as designed.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>Step 13: Refill the diesel day tank to the automatic high level cutout by depressing the FUEL OIL TRANSFER PUMP START button at the DG-1-A GENERATOR Panel.</u></p> <p>Standard: Operator depresses the Fuel Oil Transfer Pump START button at the Diesel generator control panel.</p>
Interim Cue: START pushbutton is depressed/Red light on	
SAT/UNSAT	<p><u>Step 14: Verify that the diesel day tank level alarms are clear.</u></p> <p>Standard: Operator observes diesel day tank level alarms are clear.</p>
Interim Cue: Inform the Operator that both Diesel Day tank alarms are clear. (DG-D-1, High level alarm and DG-D-2, Low level alarm)	
SAT/UNSAT	<p><u>Step 15: Close DLO-10A, LO DAY TANK SUPPLY VALVE if previously opened to make up oil.</u></p> <p><u>a. Verify lube oil makeup tank is at least 5/8 full.</u></p> <p><u>b. If lube oil tank level is < 5/8 full submit a WR</u></p> <p>Standard: Operator observes DLO-10A position and if open, rotates valve hand wheel fully clockwise to the SHUT position.</p>
Interim Cue: When Operator indicates he will check valve shut by rotating clockwise, inform Operator that the valve is closed and the lube oil tank level is > 5/8 full.	
SAT/UNSAT	<p><u>Step 16: Reset all relay targets.</u></p> <p>Standard: Operator observes all relay targets on Diesel Control Panel.</p>
Terminating Cue: All relays are reset, the EDG is shutdown. The JPM is complete	

* Critical Step

TIME FINISH: _____

Terminating Cue: The diesel generator is shutdown.

Evaluators Comments: _____

System: 264000 **K/A's:** A4.04

EXAMINEE HANDOUT

Initial Conditions:

The "A" DG has been running for 3 hours, paralleled to the bus, loaded to 2500 KW, 1600 KVARs (OUT) per OP 2126. All "A" DG data readings have been completed satisfactorily by another operator and the diesel is ready to be secured.

Initiating Cues:

You have been directed by the CRS to shutdown the diesel generator locally, per OP 2126 Section D.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET
NRC EXAM 2007**

Task Identification:

Title: Lineup to Operate SRV-71 A and B From The RCIC Room
Failure Mode: N/A
Reference: OP 3126, Appendix C, Shutdown Using Alternate Shutdown Methods, Rev. 18, LPC 2
Task Number: 2007170501

Task Performance: AO/RO/SRO ☐ RO/SRO ☒ SRO Only ☐

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ☒ Performance ☐ Discuss ☐

Setting: Classroom ☐ Simulator ☐ Plant ☒

Performance Expected Completion Time: 10 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐

Time Required: _____

Prepared by: _____
Operations Training Instructor

Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

Date

Approved by: _____
Operations Training Supervisor

Date

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the operator has failed the Job Performance Measure.

After providing the initiating cue, ask the operator "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Plant** and you are to **simulate** all actions.

You are requested to "talk through" the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

Plant Shutdown is in progress from outside the Control Room, and reactor depressurization is required. All OP 3126 Initial Actions are complete. Plant Pressure is currently at 800#. Maintenance Electricians are not available to perform this procedure.

Initiating Cues:

The SM directs you to energize the Alt SD panels for RCIC and SRV in the RCIC room per OP 3126, Appendix C step 4 (Steps 1, 2 & 3 of Appendix C are complete). Once the appropriate panels are energized and available for operation, commence a cooldown using local SRV operation.

Task Standards:

OP 3126, Appendix C (Steps 4 through 6) properly completed.

Required Materials:

OP 3126 (Shutdown Using Alternate Shutdown Methods) Appendix C (latest revision)

<u>Evaluation</u>	<u>Performance Steps</u>
TIME START: _____	
SAT/UNSAT	<u>Step 1: Obtain Procedure, review Appendix C.</u> Standard: OP 3126 obtained, Appendix C reviewed.
SAT/UNSAT	<u>Step 2: At the RCIC Corner Room (Rx Bldg. 213' level) on ALTERNATE SHUTDOWN STATION ADS SAFETY RELIEF VALVES panel B1300SII perform the following:</u> <u>Check/place SAFETY RELIEF VALVE RV2-71A control switch to CLOSE</u> Standard: Operator indicates switch closed
Interim Cue:	Inform Operator that switch is in CLOSE
SAT/UNSAT	<u>Step 3: Check/place Safety Relief Valve RV2-71B control switch to CLOSE</u> Standard: Operator indicates switch closed
Interim Cue:	Inform Operator that switch is in CLOSE
SAT/UNSAT	<u>*Step 4: At the APPENDIX R SRV ALT SHUTDOWN PANEL (RCIC Corner Room 232' level), Place ADS Transfer Switch (SS-752) to EMERGENCY.</u> Standard: Operator places the switch is in the EMERGENCY position.
Interim Cue:	When operator indicates he will reposition the switch, inform him the switch moves sharply to the EMERGENCY position.

SAT/UNSAT

***Step 5:** At the RCIC Corner Room (Rx Bldg. 213' level) perform the following:
Transfer 125VDC Manual RCIC Transfer Switch (MTS-13-1) to EMERGENCY by turning counter-clockwise.

Standard: Operator turns switch counter-clockwise to the EMERGENCY position.

Interim Cue:

Inform Operator that the switch moves smartly counter-clockwise to the EMERGENCY position.

SAT/UNSAT

***Step 6:** At CP-82-1 RCIC ALTERNATE SHUTDOWN SYSTEM; place the three RCIC ALTERNATE SHUTDOWN TRANSFER switches to EMER in the following sequence:

1) SS1178A

2) SS1178B

3) SS1178C

Standard: The operator indicates that the transfer switches on the RCIC shutdown panel are placed in EMER in the following order: SS1178A, SS1178B, SS1178C.

Interim Cue:

When operator indicates he is placing the transfer switches in EMER, inform him that each switch moves counter-clockwise to the EMER position.

SAT/UNSAT

***Step 7:** In panel B1300SII, transfer the SRV control power kniveswitch to EMER.

Standard: Operator indicates the SRV control power knife switch is in EMER.

Interim Cue:

When the operator indicates that he will open the panel to place the knife switch in EMER, inform him the switch moves and then comes to a hard stop. Then show a picture of front panel indications (SRV indicating lights are green).

AT/UNSAT

Step 8: If the power is not available on the panel, or to some valves, replace the fuses as described in Appendix E.

Standard: Operator indicates he would check the lights and meters for power.

Interim Cue:

When the operator indicates that he is checking for power, inform him everything appears to be energized.

OP-3126 Appendix C Steps 8-15 have been completed. RCIC is injecting and controlling level 137-167". You've been directed by the Shift Manager to commence a cooldown IAW OP-3126 Appendix C, Step 16.

SAT/UNSAT

***Step 9: Determine the reactor water temperature for the existing reactor pressure using the saturation curve (figure 1 of Appendix C)**

Standard: Operator uses Appendix C Figure 1 to determine that Saturation temperature for 800# is 520°F.

SAT/UNSAT

Step 10: Record the pressure and temperature on Appendix C "Reactor Cooldown Log"

Standard: Operator records Pressure and Temperature on the Appendix C "Reactor Cooldown Log" (800#, 520°F)

SAT/UNSAT

***Step 11: Subtract 90 degrees from the present saturation temperature and determine the corresponding reactor pressure**

Standard: Operator subtracts 90°F from 520°F to get 430°F. Once temperature is determined, the operator gets the corresponding saturation pressure (300-350#)

SAT/UNSAT

Step 12: Record this value on the "Reactor Cooldown Log"

Standard: Operator records 430°F and ~325# (300-350#) on the Appendix C "Reactor Cooldown Log"

SAT/UNSAT ***Step 13: Open SAFETY RELIEF VALVE RV2-71A or RV2-71B to reduce reactor pressure to that calculated in Step 16.b**

Standard: Operator opens RV2-71A or RV2-71B to reduce reactor pressure to 300-350#.

SAT/UNSAT **Step 14: Log the time when the desired pressure is reached**

Standard: Operator logs the time when desired plant pressure is reached

Interim Cue: Time compression is used. Inform the operator when the target pressure they calculated in step 11 is reached.

SAT/UNSAT ***Step 15: Operate the SRV as necessary to maintain pressure within +100/-0 psig of the desired pressure**

Standard: Operator opens/closes RV2-71A or RV2-71B as necessary to maintain pressure within +100/-0 psig of the desired pressure calculated in step 11.

*Critical Step

TIME FINISH: _____

Terminating Cue: OP 3126, Appendix C, Steps 4 through 7 properly completed.

Evaluator Comments: _____

System: _295016_ **K/A's:** K2.01

Examinee Handout

Initial Conditions:

Plant Shutdown is in progress from outside the Control Room, and reactor depressurization is required. All OP 3126 Initial Actions are complete. Plant Pressure is currently at 800#. Maintenance Electricians are not available to perform this procedure.

Initiating Cues:

The SM directs you to energize the Alt SD panels for RCIC and SRV in the RCIC room per OP 3126, Appendix C step 4 (Steps 1, 2 & 3 of Appendix C are complete). Once the appropriate panels are energized and available for operation, commence a cooldown using local SRV operation.

Directions:

Discuss the information given on this page with the operator being evaluated. Allow time for him to ask questions before beginning performance of the task. As each performance step is performed, evaluate the performance of that step by circling either "Sat" or "Unsat". Comments are required for any "Unsat" classification. If a step is preceded by an asterisk (*), it is a critical step. If a critical step is skipped or performed unsatisfactorily, then the individual has failed the Job Performance Measure.

After providing the initiating cue, ask the individual "Do you understand the task?"

Read to the person being evaluated:

Before starting, I will explain the initial conditions, provide the initiating cues and answer any questions you have.

This JPM will be performed in the **Plant** and you are to **simulate** all actions.

You are requested to **"talk through"** the procedure, stating the parameters you are verifying or checking and the steps you are performing.

Inform me upon completion of this task.

Initial Conditions:

Scram condition exists. Reactor is not shutdown, steps are being taken per EOP-2. Torus temperature is approaching 110°F and normal squib valve firing did not function. SLC keylock switch on CRP 9-5 is in OFF position.

Initiating Cues:

CRS directs you to assist the crew with Alternate SLC Injection by local firing of the squib valves using OE 3107, Appendix I starting at Step 4.

Task Standards:

SLC squib valve fired locally in accordance with OE 3107, Appendix I.

Required Materials:

OE 3107, OE Appendices, Appendix I

General References:

SLC System (G191171)
OP 4203, Maintenance and Testing of SLC Squib Valves

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain the procedure, review prerequisites.

Standard: OE 3107 Appendix I obtained; prerequisites reviewed.

SAT/UNSAT

*Step 2: Obtain a Firing Battery with an alligator clip on each end.

Standard: Firing Battery obtained from SLC EOP tool box.

Note: EOP toolbox should not be opened for this JPM.

Interim Cue: When the operator locates EOP Toolbox and indicates he will get battery firing device, inform him he has the battery firing device. Other prerequisites are satisfied.

SAT/UNSAT

*Step 3: Turn SLC switch (keylock) to OFF.

Standard: Contacts control room to verify switch is in off.

Interim Cue: When the operator calls inform the operator that the switch is in OFF.

SAT/UNSAT

*Step 4: At SLC-14A(B) "SLC Injection Squib Valve": unscrew amphenol connector from the squib valve

Standard: Squib Valve amphenol connector removed from SLC-14A(B).

Interim Cue: When the operator locates squib valve and describes method to remove connector, inform him that the amphenol connector is disconnected.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>*Step 5: Clip one of the leads from the battery to Pin “A”.</u></p> <p>Standard: Jumper connected from battery terminal to Pin “A”; Pin “A” is the thicker pin (see Figure 1).</p>

Interim Cue: When the operator indicates he will clip one lead from the battery to Pin “A” (using Figure 1 if necessary), inform him that the lead is connected.

SAT/UNSAT	<p><u>*Step 6: Touch the other battery lead to Pin “B” (next clockwise terminal).</u></p> <p>Standard: Other lead from battery touched to Pin “B” (see Figure 1).</p>
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Interim Cue: When the operator indicates he will touch the other lead to the next clockwise terminal, inform operator that a “pop” was heard when terminal B was contacted.

SAT/UNSAT	<p><u>Step 7: Inform the Control Room that the squib vlaves fired and SLC can be started.</u></p> <p>Standard: Operator calls the control room and informs them the squib valves have locally been fired.</p>
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TIME FINISH: _____

Terminating Cue: Squib Valve fired locally in accordance with OE 3107, Appendix I.

Evaluator Comments: _____

System: 211000 K/A's: K1.06

EXAMINEE HANDOUT

Initial Conditions:

Scram condition exists. Reactor is not shutdown, steps are being taken EOP-2. Torus temperature is approaching 110°F and normal squib valve firing did not function. The SLC keylock switch on CRP 9-5 is in OFF position.

Initiating Cues:

CRS directs you to assist them with Alternate SLC Injection by local firing of the squib valves using OE 3107, Appendix I starting at Step 4.

PRIMER CHAMBER ASSEMBLY FOR EXPLOSIVE VALVES SLC-14A(B)

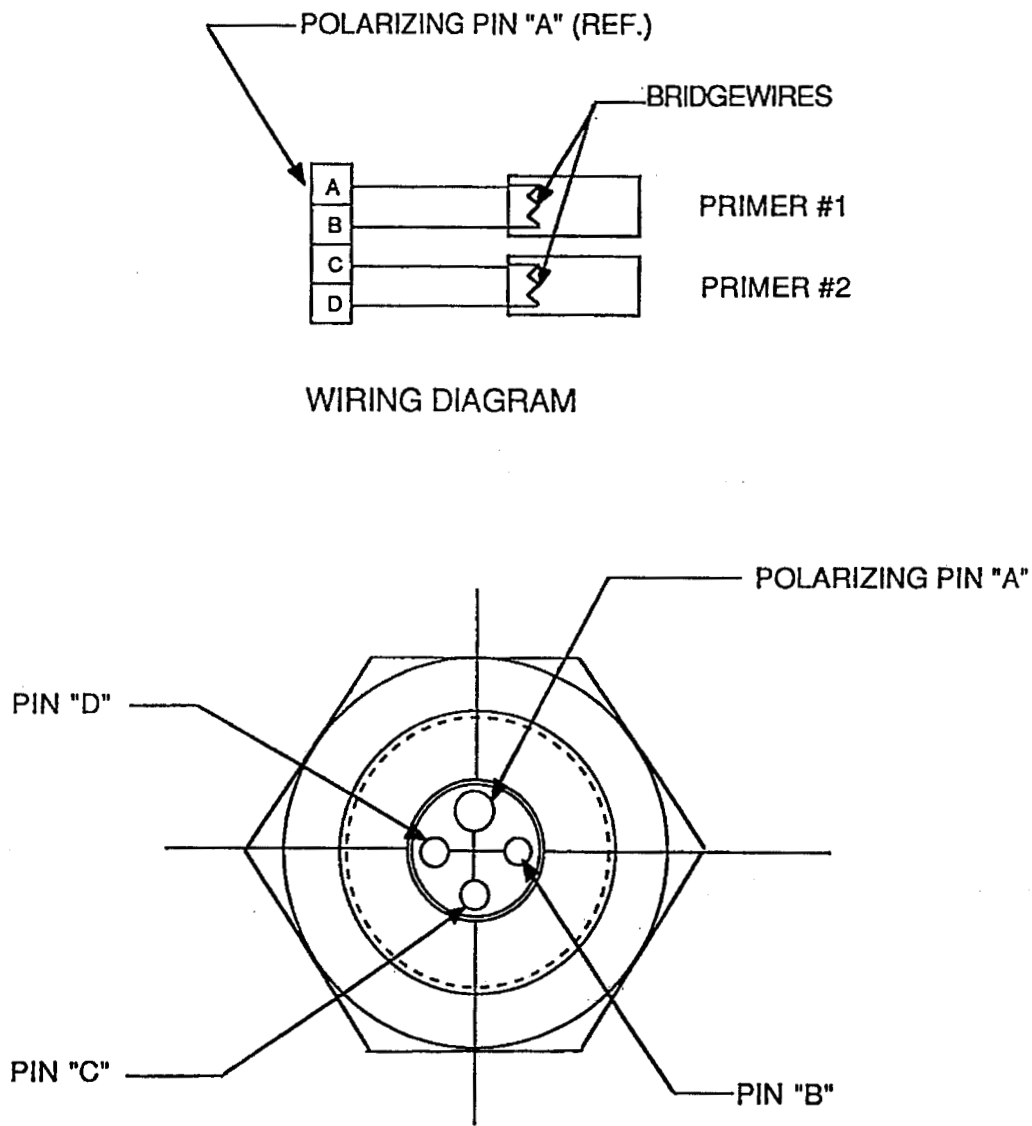


Figure 1