

Facility: Vermont Yankee
 Exam Level (circle one): RO / **SRO(I)** / SRO(U)

Date of Examination: 10/3/03
 Operating Test No.: 1

B.1 Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
a. Perform Weekly Operable Control Rod Check (Stuck Rod) (20107F)	D, A, S	1
b. Parallel Main Generator to Grid (24507)	D, L, S	4
c. RPV venting via the MSIVs (20043)	D, S	3
d. Bypass Reactor Building HVAC Trips (20041)	D, C	5
e. Transfer MCC 89A from the Maintenance Tie to RUPS (26209)	D, S	6
f. Core Spray Pump Surveillance (20901F)	D, S, A	2
g. Initiate Manual Scram (OE 3107 Appendix F) (20023F)	M, S, A	7
h.		

B.2 ~~Facility Walk-Through~~ In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)

i. Place Standby CRD FCV in Service (Loss of CRD Regulating Function) (20106)	D, R	1
j. Respond to High Service Water Strainer D/P (27601)	D	8
k. Startup RPS Motor Generator (21202F)	D, A	7

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: Vermont Yankee
Exam Level (circle one): RO / SRO(I) / SRO(U)

Date of Examination: 10/3/03

Operating Test No.: 1

B.4 Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
a. Perform Weekly Operable Control Rod Check (Stuck Rod) (20107F)	D, A, S	1
b. Parallel Main Generator to Grid (24507)	D, L, S	4
c. RPV venting via the MSIVs (20043)	D, S	3
d. Bypass Reactor Building HVAC Trips (20041)	D, C	5
e. Transfer MCC 89A from the Maintenance Tie to RUPS (26209)	D, S	6
f. Core Spray Pump Surveillance (20901F)	D, S, A	2
g. Initiate Manual Scram (OE 3107 Appendix F) (20023F)	M, S, A	7
h. Swap SJAE Suction Valves (516) (27106)	D, S	9

B.2 Facility Walk-Through In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)

i. Place Standby CRD FCV in Service (Loss of CRD Regulating Function) (20106)	D, R	1
j. Respond to High Service Water Strainer D/P (27601)	D	8
k. Startup RPS Motor Generator (21202F)	D, A	7

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Perform Weekly Operable Control Rod Check
Failure Mode: Stuck Control Rod
Reference: OP-4111 Control Rod Drive System Surveillance
Task Number: 2010020201

Task Performance: AO/RO/SRO ____ RO/SRO X SRO Only

Sequence Critical: Yes ____ No X

Time Critical: Yes ____ No X

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Method of Testing: Simulation ____ Performance X Discuss

Setting: Classroom ____ Simulator X Plant

Performance Expected Completion Time: 15 minutes

Evaluation Results:

Performance: PASS ____ FAIL ____ Time Required: _____

Prepared by: _____ [Signature] 9/15/03
Operations Training Instructor Date

Reviewed by: _____ [Signature] 9/16/03
SRO Licensed/Certified Reviewer Date

Approved by: _____ [Signature] 9/18/03
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.

<u>Initial Conditions:</u>	Normal Rx operation, 90% power. The previous crew started the Weekly Operable Control Rod Check.
<u>Initiating Cues:</u>	The CRS directs you to complete the Weekly Operable Control Rod Check per OP 4111 on control rods 06-15 and 18-03 which were not previously done.
<u>Task Standards:</u>	Rod 06-15 and 18-03 satisfactorily cycled.
<u>Required Materials:</u>	OP-4111 Control Rod Drive System Surveillance VYOPF 4111.02 ON 3143 Stuck Control Rod
<u>Simulator Setup:</u>	IC-20 ERFIS Printer ON, Preinsert MALFUNCTION RD021803. Ensure CRD flows are in the Green Band Reduce Reactor power to 90% with recirc flow RE stated no control rod blocks are expected Drive water pressure adjusted to 250 psig Mark rods 06-15 and 18-03 with asterisks on VYOPF 4111.02

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure OP-4111 and review admin limits, precautions and prerequisites reviewed.

Standard: OP-4111 obtained section A, admin limits, precautions and prerequisites reviewed.

Interim Cue: Prerequisites are complete.

SAT/UNSAT

Step 2: Verify RBM channels are operable.

Standard: No rod blocks, verifies detector bypass lights out when rods are selected.

SAT/UNSAT

Step 3: Demand and print control rod positions display (CRD) to document initial control rod position.

Standard: Select "CRD" display on ERFIS, ensure printer is on, and print display.

Interim Cue: The operator does not need to wait for printout to continue surveillance. When asked, no rod sequence exchange is planned.

SAT/UNSAT

***Step 4: Select rod 06-15.**

Standard: Energize rod select power, depress rod select pushbutton for 06-15.

SAT/UNSAT

Step 5: Verify rod 06-15 selected.

Standard: Verify rod select pushbutton for rod 06-15 is illuminated.

SAT/UNSAT

Step 6: Verify no adjacent control rod to rod 06-15 is presently at position 46.

Standard: Verify rods 06-11, 10-11, 10-15, 10-19, 06-19, and 02-19 are not at position 46 using full core display or ERFIS printout.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>*Step 7: Drive rod 06-15 to position 46.</u></p> <p>Standard: Momentarily place rod movement control switch to the "Rod in" position.</p>
SAT/UNSAT	<p><u>*Step 8: Verify rod 06-15 position decreases to position 46.</u></p> <p>Standard: Verify rod 06-15 position is at 46 using full core or 4 rod position display on CRP 9-5.</p>
SAT/UNSAT	<p><u>*Step 9: Withdraw rod 06-15 to position 48.</u></p> <p>Standard: Momentarily place rod movement control switch to the "rod out notch" position.</p>
SAT/UNSAT	<p><u>Step 10: Ensure rod 06-15 is at position 48.</u></p> <p>Standard: Verify rod 06-15 position is at 48 using full core or 4 rod display on CRP 9-5.</p>
SAT/UNSAT	<p><u>Step 11: Performs coupling check when control rod is at position 48.</u></p> <p>Standard: Out notch override and notch out 3-5 seconds. Check alarm typer-cup check SAT</p>
SAT/UNSAT	<p><u>*Step 12: Initial VYOPF 4111.02 for rod 06-15.</u></p> <p>Standard: Initials recorded on form for rod 06-15.</p>
SAT/UNSAT	<p><u>*Step 13: Select rod 18-03 at least 2-3 seconds after settle light extinguishes.</u></p> <p>Standard: > 2-3 seconds after settle light extinguishes depress rod select pushbutton for 06-15. (OP 4111, Precaution 8)</p>
SAT/UNSAT	<p><u>Step 14: Verify rod 18-03 selected.</u></p> <p>Standard: Verify rod select pushbutton for 18-03 is illuminated.</p>

SAT/UNSAT **Step 15: Verify no adjacent control rod to rod 18-03 is presently at position 46.**

Standard: Verify rods 22-03, 22-07, 18-07, and 14-07 are not at position 46 using full core display or ERFIS printout.

SAT/UNSAT ***Step 16: Attempt to drive rod 18-03 to position 46.**

Standard: Momentarily place rod movement control switch to "rod in" position.

SAT/UNSAT ***Step 17: Recognize failure of rod 18-03 to move to position 46.**

Standard: Observe rod 18-03 at position 48 on full core or 4 rod display.

SAT/UNSAT **Step 18: Inform Control Room Supervisor of 18-03 failure to move.**

Standard: Control Room Supervisor informed.

Interim Cue: CRS acknowledges your report, has entered ON 3143 and will direct your actions for rod 18-03 which is stuck.

Interim Cue: CRS directs you to confirm no rod block panel alarms are present on CRP 9-5 alarms 5-D-2, 5-D-6, 5-D-7, 5-M-7, 5-N-1, and 5-N-2.

SAT/UNSAT **Step 20: Verify no rod block exists.**

Standard: Verify no rod block in by observing annunciators 5-D-2, 5-D-6, 5-D-7, 5-M-7, 5-M-8, 5-N-1, 5-N-2 clear.

SAT/UNSAT **Step 21: Report no rod block exists.**

Standard: CRO reports to CRS no rod blocks are present.

Interim Cue: CRS directs you to attempt a one notch insert and withdraw of rod 18-03 observing drive flow, drive pressure, and settle

SAT/UNSAT *Step 21: Attempt a one notch insert and withdrawal of rod 18-03 observing drive flow, drive pressure, settle,drive in, and drive out lights lights.

Standard: Momentarily place rod movement control switch to "rod in" then "rod out" position and verify on CRP 9-5:

Drive pressure, DPI-3-303, normal (green band)
Drive flow, FI-3-310, less than normal
Settle, drive in, drive out lights sequence normally

SAT/UNSAT Step 22: Report to CRS all conditions are normal except drive flow was observed to be low .

Interim Cue: CRS acknowledges your report and directs you to increase drive water DP in 10-50 psig, not exceed 350 psig drive water D/P.

SAT/UNSAT *Step 23: Raise drive water DP by 10 to 50 psig.

Standard: Adjust CRD-PCV-20 on CRP 9-5 to raise drive water DP by 10 to 50 psig as indicated on DPI-3-303.

Note: Operator may refer to OP 2111 section A step 11 or because of ON entry he may perform this step from memory

NOTE: REMOVE MALFUNCTION RD020615 AT THIS TIME (PRIOR TO NEXT STEP).

SAT/UNSAT *Step 24: Attempt to insert rod 18-03 one notch.

Standard: Momentarily place rod movement control switch to "rod in" position.

Note: If drive water pressure is raised too much the control rod will double or triple notch and the mispositioned control rod procedure will also be entered if required.

SAT/UNSAT Step 25: Verify rod 18-03 at position 46.

Standard: Observe rod 18-03 at position 46 by full core or 4 rod display
and report to CRS.

Interim Cue: CRS acknowledges your report and directs you to return rod 18-03 to position 48.

SAT/UNSAT Step 26: Return rod 18-03 to position 48.

Standard: Momentarily place rod movement control switch to "rod out"
position.

SAT/UNSAT Step 27: Verify rod 18-03 at position 48.

Standard: Observe rod 06-15 at position 48 by full core or 4 rod display
and report to CRS.

Interim Cue: CRS acknowledges your report and directs you to exercise rod 18-03 to position
46 and back to position 48 two times.

SAT/UNSAT Step 28: Exercise rod 18-03 To position 46 and back to position 48.

Standard: Repeat steps 24, 25, ,26, and 27 above.

SAT/UNSAT Step 29: Exercise rod 18-03 To position 46 and back to position 48.

Standard: Repeat steps 24, 25, ,26, and 27 above.

Report to the CRS that rod 18-03 has been exercised to
position 46 twice and is at position 48

Evaluation

Performance Steps

Interim Cue: The CRS acknowledges your report and directs you to return drive water D/P to 250 to 275 psid.

SAT/UNSAT

Step 30: Return drive water DP to normal.

Standard: Adjust CRD-PCV-20 to lower drive water DP to 250 to 275 psid. (Green band on DPI-3-303.) and report to CRS

Interim Cue: The CRS acknowledges you report and directs you to exercise rod 18-03 to position 46 and back to position 48 two times at normal drive water D/P.

SAT/UNSAT

Step 29: Exercise rod 18-03 two times at normal drive water D/P.

Standard: Repeat step 24,25,26, and 27 above.

Interim Cue: When operator desires to continue surveillance, advise that no further action's required for this JPM.

TIME FINISH:

Terminating Cue: Rod 06-15 and 18-03 successfully exercised.

Evaluators Comments: _____

System: 201003 **K/A's: A2. 01 Ability to (a) predict the impacts of the following on the CONTROL ROD AND DRIVE MECHANISM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:**

(CFR: 41.5 / 45.6)

Stuck rod RO 3.4 SRO 3.6

System Generic K/A's:

EXAMINEE HANDOUT

Initial Conditions:

Normal Rx operation, 90% power. The previous crew started the Weekly Operable Control Rod Check.

Initiating Cues:

The CRS directs you to complete the Weekly Operable Control Rod Check per OP 4111 on control rods 06-15 and 18-03 which were not previously done.

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Synchronize Turbine Generator With Output Grid At Min. Load
Failure Mode: N/A
Reference: OP 0105, Reactor Operations
Task Number: 2450050101

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: 20 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐

Time Required: _____

Prepared by: _____
Operations Training Instructor

9/15/03
Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: _____
Operations Training Superintendent

9/18/03
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:

Plant startup is underway. Turbine is operating at 1800 RPM. The generator acceleration relay is reset.

Initiating Cues:

CRS directs you to synchronize turbine generator to grid and load it to approximately 20% per OP 0105, Section 3.C.

Task Standards:

Turbine generator is synchronized to grid at minimum load.

Required Materials:

OP 0105, Reactor Operations
Completed VYOPF 0105.05 up to and including Phase 3B

Simulator Setup:

IC-7, reset the Acceleration Relay/Scram.

Evaluation

Performance Steps

TIME START: _____

NOTE: All actions performed on CRP 9-7 unless otherwise indicated.

SAT/UNSAT

Step 1: Obtain Procedure OP 0105.

Standard: OP 0105 obtained, Phase 3 admin limits and precautions reviewed.

Interim Cue: Provide operator with completed VYOPF 0105.05.

SAT/UNSAT

Step 2: Check OPEN the exciter field breaker.

Standard: Operator observes exciter field breaker green light ON and red light OFF.

SAT/UNSAT

Step 3: Check voltage regulator transfer control is in MANUAL position .

Standard: Operator observes voltage regulator transfer control is positioned to MANUAL.

SAT/UNSAT

Step 4: Check that the exciter is in minimum volts position by lowering DC voltage until the LOWER white light is energized.

Standard: Operator observes LOWER white light ON.

SAT/UNSAT

***Step 5: Close the exciter field breaker.**

Standard: Operator positions exciter field breaker hand switch to CLOSE.
Operator observes exciter field breaker red light on, green light off

SAT/UNSAT

Step 6: With the voltage regulator in MANUAL, bring the Generator Stator voltage from minimum (approximately 20,000 volts) to rated value of approximately 22,000 volts by going to Raise with the manual DC control switch on EI-9-7-8.

Standard: Operator verifies voltage regulator in MANUAL and then positions Manual DC Control (DC voltage adjust) switch to RAISE until generator stator voltage is approximately 22,000 volts as indicated on EI-9-7-8.

SAT/UNSAT

**Step 7: Shift the voltage regulator from MANUAL to AUTO as follows:
a. Use AC Voltage Adjust switch to null the regulator transfer indication.**

Standard: Operator positions the AC Voltage Adjust switch to null the regulator transfer indication on EI-9-7-12.

SAT/UNSAT

Step 8: b. Switch the Voltage Regulator Transfer switch to AUTO.

Standard: Operator positions the Voltage Regulator Transfer switch to AUTO.

SAT/UNSAT	Step 9:	<u>Null the deviation between the AC and DC regulators using the DC voltage adjust switch and the Voltage Regulator Mismatch meter.</u>
	Standard:	Operator positions the DC Voltage Adjust switch to null the AC and DC regulators as observed on the Voltage Regulator Mismatch meter EI-9-7-12.
SAT/UNSAT	Step 10	<u>Prepare to synchronize by coordinating with VELCO and performing the Switching and Tagging Order as follows:.</u>
	Standard:	Operator contacts VELCO and requests permission to open BKR 81-1T, BKR-1T, close T1-MOD, and place reclosure switches to OFF.

Interim Cue: Inform Operator that switching order has been issued as requested.

SAT/UNSAT	*Step 11	<u>Place reclosure switches to OFF for 81-1T and 1T,</u> <u>Open BKR 81-1T</u> <u>Open BKR-1T</u> <u>. Close T1-MOD</u>
	Standard:	Operator performs the following: <ul style="list-style-type: none">calls the AO to position 81-1T and 1T reclosure switches to OFF- positions BKR 81-1T and BKR-1T hand switches to OPEN and verifies breaker green lights on and red lights off- positions T1MOD handswitch to CLOSE, and verifies MOD green light off and red light on

Interim Cue: When asked, inform operator the reclosure switches are OFF. AO reports local visual observation of breakers as requested.

SAT/UNSAT	*Step 12:	<u>Place breaker switch in synchroscope socket and turn the synchroscope on.</u>
	Standard:	Operator places breaker switch in synchroscope socket and turns the synchroscope to ON. Verifies the meter begins to rotate slowly.
SAT/UNSAT	*Step 13:	<u>Load the generator as follows:</u> <u>a. Adjust generator output voltage (incoming) to be equal to or slightly higher than line voltage (running), using the AC voltage adjust switch.</u>
	Standard:	Operator positions AC Voltage Adjust switch to adjust incoming generator output voltage to be equal to or slightly higher than line voltage by comparing the voltage meters on either side of the synchroscope.
SAT/UNSAT	*Step 14:	<u>b. Adjust the turbine generator speed so that the synchroscope needle is moving slowly in the FAST direction.</u>
	Standard:	Operator intermittently positions Speed Load Changer to either RAISE or LOWER to maintain the synchroscope needle moving slowly in the FAST direction.

SAT/UNSAT	*Step 15:	<u>When the synchroscope is between 5 minutes to 12 and 12 o'clock, close BKR 81-1T.</u>
	Standard:	Operator observes synchroscope needle rotating slowly in fast direction and when needle position is between 5 minutes to 12 and 12 o'clock, operator positions breaker 81-1T hand switch to CLOSE. Operator verifies breaker 81-1T red light on and green light off.
SAT/UNSAT	*Step 16:	<u>Immediately pickup 25-50 MWE on the generator by going to RAISE on the speed load changer.</u>
	Standard:	Operator immediately positions Speed Load Changer hand switch to RAISE until megawatts indicates 25 -50 MWE on meter 9-7-7.
SAT/UNSAT	Step 17:	<u>When BKR 81-1T is closed and generator is at desired load, synchronize and close BKR-1T.</u>
	Standard:	Operator observes synchroscope needle not rotating and positions breaker 1-1T hand switch to CLOSE and observes breaker red light ON and green light OFF.
SAT/UNSAT	Step 18:	<u>Turn synchroscope off and remove breaker switch from socket.</u>
	Standard:	Operator positions synchroscope to OFF and removes breaker switch from socket.
SAT/UNSAT	Step 19:	<u>Per VELCO, place reclosure switch for 1T to INST and 81-1T to SYNC CK.</u>
	Standard:	Contact AO in switchyard to place 1T in INST and 81-1T to SYNC CK.

Interim Cue: AO reports switches in INST and SYNC CK.

SAT/UNSAT	Step 20:	<u>If exhaust hood temperatures are > 125 F, remain at 25 to 50 MWE to allow the exhaust hoods to cool below 125 F (time required may be about 5 minutes).</u>
	Standard:	Operator maintains load at 25-50 MWE until exhaust hoods temperature drops to below 125°F as indicated on Recorder 110-2

Interim Cue: When operator checks temperature, Inform him that exhaust hoods temperature are below 125°F.

* Critical Step

TIME FINISH: _____

Terminating Cue: The Turbine generator is synchronized to grid at approximately 20% load.

Evaluators Comments: _____

System: 245000 K/A's: **A4.02 Ability to manually operate and/or monitor in the control room:**
(CFR: 41.7 / 45.5 to 45.8)

A4.02 Generator controls	RO 3.1	SRO 2.9
A4.05 Generator megawatt output	RO 2.7	SRO 2.7
A4.06 Turbine speed	RO 2.7	SRO 2.6

Generic: **K/A's:**

EXAMINEE HANDOUT

Initial Conditions:

Plant startup is underway. Turbine is operating at 1800 RPM. The generator acceleration relay is reset.

Initiating Cues:

CRS directs you to synchronize turbine generator to grid and load it to approximately 20% per OP 0105, Section 3.C.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: RPV Venting via MSIVs
Reference: OE 3107 Appendix CC
Task Number: N/A

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

Sequence Critical: Yes ☐ No ☒

Time Critical: Yes ☐ No ☒

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Method of Testing: Simulation ☐ Performance ☒ Discuss

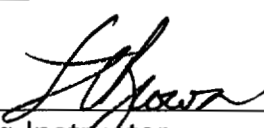
Setting: Classroom ☐ Simulator ☒ Plant

Performance Expected Completion Time: 20 minutes


Evaluation Results:

Performance: PASS ☐ FAIL ☐

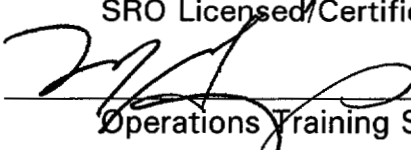
Time Required: _____

Prepared by: 
Operations Training Instructor

9/16/03
Date

Reviewed by: 
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: 
Operations Training Superintendent

9/18/03
Date

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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.

<u>Initial Conditions:</u>	A plant transient has occurred and the crew has entered EOP 5. RPV/ED. SRVs C,B, & D have failed to open. MSIV's are shut.
<u>Initiating Cues:</u>	The SM directs you to perform RPV/ED defeating interlocks using the MSIVs per OE 3107 Appendix CC. The TSC concurs with this action.
<u>Task Standards:</u>	MSIVs in one steam line open and the reactor is being vented through a turbine bypass valve.
<u>Required Materials:</u>	OE 3107 Appendix CC
<u>Simulator Setup:</u>	Any IC. Insert malfunction RPO3, spurious Group I isolation, <u>then remove</u> . Backup the Group's isolation. Insert malfunctions to simulate a very slow depressurization through 1 SRV AD-03 A,B,C,D AD-06 A,B,C,D AD-01 A at 50% Simulator operator to adjust to maintain reactor pressure 800 to 1000 psig and slowly lowering. If the operator is slow, make the leak smaller, if fast this value should be just right.

Evaluation

Performance Steps

TIME START:

SAT/UNSAT

Step 1: Obtain Procedure OE 3107 Appendix CC and review prerequisites.

Standard: Operator obtains procedure and reviews prerequisites.

Interim Cue: All prerequisites are met. The operator will go to the EOP tool box in the back of the simulator control room and get the 6 jumpers with banana plugs, screw driver, and electrical tape .

SAT/UNSAT

Step 2: Verify closed MS-80A, B, C, D.

Standard: On CRP 9-3 verify closed by, Green light ON Red light OFF, the following valves:
MSIV-80A
MSIV-80B
MSIV-80C
MSIV-80D

SAT/UNSAT

Step 3: Verify closed MS-86A, B, C, D.

Standard: On CRP 9-3 verify closed by, Green light ON Red light OFF, the following valves:
MSIV-86A
MSIV-86B
MSIV-86C
MSIV-86D

SAT/UNSAT

Step 4: Verify closed RV-39.

Standard: On CRP 9-4 check closed RV-39 Green light ON and Red light OFF.

SAT/UNSAT

Step 5: Verify closed RV-40.

Standard: On CRP 9-4 check closed RV-40 Green light ON and Red light OFF.

SAT/UNSAT	<u>Step 6: Verify closed MS-74.</u>
	Standard: On CRP 9-3 check closed MS-74 Green light ON and Red light OFF.
SAT/UNSAT	<u>Step 7: Verify closed MS-77.</u>
	Standard: On CRP 9-4 check closed MS-77 Green light ON and Red light OFF.
SAT/UNSAT	<u>Step 8: Verify closed MS-79.</u>
	Standard: On CRP 9-4 check closed MS-79 Green light ON and Red light OFF.
AT/UNSAT	<u>Step 9: Verify closed MS-78.</u>
	Standard: On CRP 9-4 check closed MS-78 Green light ON and Red light OFF.
SAT/UNSAT	<u>*Step 10: Defeat PCIS Group 1 isolation interlocks for MS-74.</u>
	Standard: Lift and tape lead AA-3 in CRP 9-15 and install jumper from AA-13 to AA-24 in CRP 9-17.
SAT/UNSAT	<u>*Step 11: Defeat PCIS Group 1 isolation interlocks for MS-77.</u>
	Standard: Lift and tape lead DD-15 in CRP 9-15 and install jumper from DD-34 to DD-40 in CRP 9-17.
SAT/UNSAT	<u>*Step 12: Defeat PCIS Group 1 isolation interlocks for MS-80A,B,C,D.</u>
	Standard: Install jumpers from AA-20 to AA-23 and BB-20 to BB-23 in CRP 9-41
SAT/UNSAT	<u>*Step 13: Defeat PCIS Group 1 isolation interlocks for MS-86A,B,C,D.</u>
	Standard: Install jumpers from AA-20 to AA-23 and BB-20 to BB-23 in CRP 9-42

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>*Step 14: Open one of the outboard isolation valves, MS-86A,B,C,D.</u> Standard: On CRP 9-3 Position ONE of the following control switches to OPEN: MSIV 86A MSIV 86B MSIV 86C MSIV 86D
SAT/UNSAT	<u>Step 15: Verify steam line drain valve MS-79 is CLOSED.</u> Standard: Verify on CRP 9-3 MS-79 CLOSED by Green light ON and Red light OFF.
SAT/UNSAT	<u>*Step 16: Open MS-74.</u> Standard: Position control switch for MS-74 to OPEN on CRP 9-3.
SAT/UNSAT	<u>Step 17: Verify OPEN MS-74.</u> Standard: On CRP 9-3 verify MS-74 OPEN by Red light ON and Green light OFF.
SAT/UNSAT	<u>*Step 18: Open MS-77.</u> Standard: Position control switch for MS-77 to OPEN on CRP 9-3.
SAT/UNSAT	<u>Step 19: Verify OPEN MS-77.</u> Standard: On CRP 9-3 verify MS-77 OPEN by Red light ON and Green light OFF.
<hr/>	
Note: When MS-77 is opened main steam line pressure will begin increasing	
<hr/>	
SAT/UNSAT	<u>Step 20: Raise MPR/EPR set points to prevent bypass valve opening.</u> Standard: If main steam line pressure is > 920 psig or any bypass valve is open the operator goes to raise on the EPR and MPR pressure control setpoint adjust switches on CRP-9-7 until all bypass valves are shut.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>Step 21: OPEN MS-78.</u> Standard: On CRP 9-3 operator positions MS 78 control switch to open.
SAT/UNSAT	<u>Step 22: Verify OPEN MS-78.</u> Standard: On CRP 9-3 operator verifies MS-78 OPEN by Red light ON and Green light OFF.
SAT/UNSAT	<u>Step 23: Verify Rx pressure and steam line pressure within 50 psig of each other.</u> Standard: At CRP 9-7, using PI-101-2 main steam pressure and at CRP 9-5 using PI-2-3-56A or 2-3-56B, operator verifies upstream and downstream steam pressures are within 50 psid. Note: The operator may need to increase EPR/MPR setpoint to prevent opening, BPVs in this step.
SAT/UNSAT	<u>*Step 24: Open the inboard MSIV in the same line as the open outboard MSIV.</u> Standard: Position the inboard MSIV control switch on CRP 9-4 to OPEN in the same line as opened in Step 14. MSIV 80A MSIV 80B MSIV 80C MSIV 80D
SAT/UNSAT	<u>Step 25: Verify OPEN MS-80A, B, C, D in the same line as the open outboard MSIV.</u> Standard: On CPR 9-4 verify open by, Red light ON Green light OFF, the MSIV in Step 22: MSIV-80A MSIV-80B MSIV-80C MSIV-80D

Evaluation

Performance Steps

SAT/UNSAT

Step 26: If MTS 2 is tripped THEN attempt to reset MTS 2.

Standard: MTS 2 is the low condenser vacuum trip on CRP 9-7
Vacuum is still better than the trip setpoint, no action is required.

SAT/UNSAT

***Step 27: OPEN a bypass valve as necessary to vent the RPV.**

Standard: On the CRP 9-7 operate BPOJ control switch to the raise position until BPVs start open.

SAT/UNSAT

Step 28: Verify BPV OPEN

Standard: Verify BPV #1 green light and red light ON at CRP 9-7 and BPV #1 position indicator on CRP 9-7 indicates open.

TIME FINISH: _____

Terminating Cue: MSIVs open in one line and the reactor being vented through the turbine bypass valves.

Evaluators Comments: _____

System: 239001 K/A's: K1.06, K3.09, K4.01, K4.07, A1.08, A2.03

Initial Conditions:

A plant transient has occurred and the crew has entered EOP 5. RPV/ED. SRVs C,B, & D have failed to open. MSIV's are shut.

Initiating Cues:

The SM directs you to perform RPV/ED defeating interlocks using the MSIVs per OE 3107 Appendix CC. The TSC concurs with this action.

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Bypassing Reactor Building Non-Rad HVAC Trips
Reference: OE 3107 Appendix AA, Rev 15
Task Number: N/A

Task Performance: AO/RO/SRO ____ RO/SRO X SRO Only

Sequence Critical: Yes ____ No X

Time Critical: Yes ____ No X

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ____ Performance X Discuss ____

Setting: Classroom ____ Simulator X Plant ____

Performance Expected Completion Time: 10 minutes

Evaluation Results:

Performance: PASS ____ FAIL ____

Time Required: _____

Prepared by: [Signature]
Operations Training Instructor

9/13/03
Date

Reviewed by: [Signature]
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: [Signature]
Operations Training Manager

9/18/03
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 primary system break has occurred in the Reactor Building and the CRS has entered EOP-4 on high temperature. Reactor Building HVAC has tripped on low Reactor water level.

Initiating Cues: The Control Room Supervisor directs you to bypass RB HVAC trips and restart RB HVAC per OE 3107 Appendix AA.

Task Standards: RB HVAC trips bypassed and RB HVAC running.

Required Materials: OE 3107 Appendix AA

Simulator Setup: Works with OE 3107 App F, JPM 20023F

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure OE 3107 Appendix AA

Standard: OE 3107 Appendix AA, obtained.

Interim Cue: If asked inform the operator that power is available to RB HVAC. Operator may confirm power available at CR 9-25

SAT/UNSAT

Step 2: Obtain Jumpers.

Standard: Operator obtains 2 jumpers with banana plugs from the EOP tool box in the Control Room.

SAT/UNSAT

***Step 3: Place Group III Isolation Valves to Close..**

Standard: Operator places control switches that are in the open position to close.

CRP 9-3

AC-8, DRYWELL PURGE

AC-7A, DRYWELL VENT

AC-6A, DRYWELL 3" VENT

AC-20, N₂ MAKE-UP

AC-10, TORUS PURGE

AC-7B, TORUS VENT

AC-6B, TORUS 3" VENT

AC-9, AIR PURGE SUPPLY

AC-22B, DRYWELL MAKE-UP

SGT-6, VENT TO SBT

AC-23, N₂ PURGE SUPPLY

AC-7, VENT TO RTF-5

AC-22A, TORUS MAKE-UP

CA-38A, CTMT COMPR SUCT

CA-38B, CTMT COMPR SUCT

CRP 9-26

HVAC-9, RB VENT SUPPLY

HVAC-10, RB VENT SUPPLY

HVAC-12, RB VENT EXHAUST

HVAC-11, RB VENT EXHAUST

RB supply/exhaust fans off

RSF-1A off REF-1A off

RSF-1B off REF-1B off

CRP 9-25

SBGT

REF-2A on

REF-2B on

CRP 9-47

VG-26, CAM SUPPLY INBD

VG-76A, CAM RETURN INBD

VG-23, CAM SUPPLY OUTBD

VG-76B, CAM RETURN OUTBD

CAD Panel "A"

NG 11A, 12A, 13A

VG 22A, 9A

SAT/UNSAT	<u>Step 4: Ensure the Reset Permissive Lights Are Lit.</u>
	Standard: On CRP 9-5, operator checks Group III Sys I and Sys 2 red Reset Permissive Lights are ON (lower right section of vertical panel).
<hr/>	
Interim Cue:	Permissive lights are lit.
<hr/>	
SAT/UNSAT	<u>*Step 5: Install Jumpers.</u>
	Standard: Operator installs the following jumpers: <ul style="list-style-type: none">- CRP 9-15: EE6 to EE9- CRP 9-17: BB10 to BB11
<hr/>	
SAT/UNSAT	<u>*Step 6: Reset the PCIS Logic When the Signal has Cleared.</u>
	Standard: On CRP 9-5 (upper right section of benchboard), operator positions System Isol Reset Switch to INBD and then OUTBD.
<hr/>	
Interim Cue:	Reset switch moves to the INBD position, OUTBD position and then returns to normal.
<hr/>	
SAT/UNSAT	<u>*Step 7: Open Reactor Building Ventilation Isolation Valves.(OP 2192 step C)</u>
	Standard: On CRP 9-26, operator places the following control switches to OPEN: HVAC-9 _____ HVAC-11 _____ HVAC-10 _____ HVAC-12 _____
<hr/>	
SAT/UNSAT	<u>Step 8: Verify Reactor Building Ventilation Isolation Valves are Open.</u>
	Standard: ON CRP 9-26, operator verifies red light ON and Green light OFF for each Reactor Building Ventilation Isolation Valve.
<hr/>	
Interim Cue:	If the AO is dispatched to start reactor building ventilation before HVAC 9,10,11,12 are opened, he should request they are positioned/verified open. OP 2192 section C.1.a. (Simulator operator acting as AO)
<hr/>	

Note: Step 7 and Step 8 actions will likely be done simultaneously.

SAT/UNSAT **Step 9: Start Reactor Building HVAC system per OP 2192.**

Standard: Direct AO to start RB HVAC per OP 2192.

Interim Cue: Direct booth operator to restart Reactor Building ventilation. Inform the operator that the AO has started RB HVAC per OP 2192 and Standby Gas Treatment will be secured by another operator.

TIME FINISH: _____

Terminating Cue: Appendix AA implemented, HVAC trips bypassed HVAC-9,10,11,12 OPEN, and RB HVAC started.

Evaluators Comments: _____

System: 295032 **EA1.03 Ability to operate and/or monitor the following as they apply to HIGH SECONDARY CONTAINMENT AREA TEMPERATURE :**

(CFR: 41.7 / 45.6)

Secondary containment ventilation.

RO 3.7

SRO 3.7

System Generic K/A's:

Initial Conditions:

A primary system break has occurred in the Reactor Building and the CRS has entered EOP-4 on high temperature. Reactor Building HVAC has tripped on low Reactor water level.

Initiating Cues:

The Control Room Supervisor directs you to bypass RB HVAC trips and restart RB HVAC per OE 3107 Appendix AA.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Transfer MCC-89A Power From The Maintenance Tie To RUPS
Failure Mode: N/A
Reference: OP 2143, 480 And Lower Voltage AC System (Except Vital, Inst. AC, And Lighting Panels), Rev 42
Task Number: 2627320101

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

9/15/03
Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: _____
Operations Training Superintendent

9/18/03
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:

MCC-89A is powered from the maintenance tie.

Initiating Cues:

The CRS directs you to transfer MCC-89A power from the maintenance tie to RUPS and startup UPS
1A IAW OP 2143 Section K.

Task Standards:

Transfer of MCC-89 power from the maintenance tie to the RUPS is complete.

Required Materials:

OP 2143

Simulator Setup:

Any IC, MCC-89A, powered from maintenance tie. Check following IDAs:

Place MCC 89A on Main Tie
Shutdown UPS
Verify:
EDR 05 CLOSE
EDR 07 CLOSE
EDR 10 CLOSE
EDR 11 OPEN

Evaluation

Performance Steps

TIME START:

SAT/UNSAT **Step 1: Obtain Procedure OP 2143, review Admin Limits and Precautions and proceeds to section K.**

Standard: OP 2143 obtained, admin limits and precautions reviewed.

Interim Cue: The reactor building is accessible.

SAT/UNSAT ***Step 2: At MCC-89A open the FEED from MCC 9B maintenance tie breaker.**

Standard: Operator directs an AO (Simulator operator) to open feed from MCC 9B maintenance tie breaker.

Interim Cue: Direct booth operator to take EDR 07 to open
Maintenance Tie breaker at MCC-89A is open

SAT/UNSAT **Step 3: Lock closed control cabinet door.**

Standard: Operator directs an AO to shut control cabinet door and lock door for feed from MCC 9B.

Interim Cue: MCC-89A control cabinet is shut and locked.
No booth operator actions

SAT/UNSAT ***Step 4: At MCC-89A close the feed from UPS-1A output tie breaker.**

Standard: Operator directs an AO (Simulator operator) to position UPS-1A feed switch at MCC-89A to CLOSED

Interim Cue: Direct booth operator to take EDR 11 to close
The feed from UPS-1A output tie breaker at MCC-89A is closed.

Note: Completion of task will require transition to Procedure Steps D4 and D5. JPM Steps 2 and 4 were previously completed.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>Step 5: Position UPS A control switch on CRP 9-3 to OFF for approximately one second then release it.</u> Standard: Operator positions UPS A control switch to OFF for approximately one second then releases it on CRP 9-3.
SAT/UNSAT	<u>Step 6: If ECCS signal is present, position the UPS feeder trip keylock switch on CRP 9-32 to BLOCK.</u> Standard: Operator verifies an ECCS signal is NOT PRESENT. No action required.
SAT/UNSAT	<u>Step 7: At Bus-9 close the UPS-1A supply breaker.</u> Standard: Operator directs an AO at Bus-9 to position the UPS-1A supply breaker hand switch to CLOSE.
<hr/> Interim Cue: Direct booth operator to verify EDR 10 is closed UPS-1A supply breaker is shut at Bus 9 <hr/>	
SAT/UNSAT	<u>Step 7a: At MCC-89A open the FEED from MCC 9B maintenance tie breaker.</u> Standard: This step previously completed.
SAT/UNSAT	<u>Step 7b: Lock closed control cabinet door.</u> Standard: This step previously completed
SAT/UNSAT	<u>Step 7c: At MCC-89A close the feed from UPS-1A output tie breaker.</u> Standard: This step previously completed
SAT/UNSAT	<u>Step 8: Verify UPS 1A local control cabinet breakers closed.</u> Standard: Operator directs AO to verify the following breakers closed on UPS 1A control cabinet: <ul style="list-style-type: none">- Input AC Circuit Breaker- Output AC Circuit Breaker- DC Circuit Breaker

Interim Cue: All local control cabinet breakers at the UPS control cabinate are closed.

Interim Cue: If operator asks the UPS will be started from the control room.

SAT/UNSAT ***Step 9: Position UPS-1A control selector switch on CRP 9-3 to ON for approximately one second and then release it.**

Standard: Operator positions UPS A control switch to ON for approximately one second and then releases it on CRP 9-3.

Interim Cue: If asked, CRS directs the CRP 9-3 switch be used.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>Step 10: Monitor UPS for unusual conditions, such as excessive noise or vibration, as it starts and comes up to speed.</u>
	Standard: Operator directs an AO to monitor UPS for unusual conditions as it starts and comes up to speed.

Interim Cue: Inform operator that UPS is running SAT.

SAT/UNSAT **Step 11: Verify MCC-89A bus voltage 435 to 506 VAC from CRP 9-3.**

Standard: Operator verifies MCC-89A bus voltage is approximately 480 VAC by observing MCC-89A volt meter on CRP 9-3.

SAT/UNSAT **Step 12: Once UPS MG is up to speed and producing rated voltage, locally press the FAILURE RESET pushbutton on the UPS control panel to reset the TFR relay and clear all remaining alarm conditions.**

Standard: Operator directs AO to press FAILURE RESET pushbutton on local UPS control panel.

TIME FINISH: _____

Terminating Cue:

Transfer of MCC-89 power from the maintenance tie to the RUPS is complete.

Evaluators Comments: _____

System: 2622002

K/A's: A4.01 Ability to manually operate and/or monitor in the control room:

(CFR: 41.7 / 45.5 to 45.8)

Transfer from alternative source to preferred source RO 2.8 SRO 3.1

Student Handout

Initial Conditions:

MCC-89A is powered from the maintenance tie.

Initiating Cues:

The CRS directs you to transfer MCC-89A power from the maintenance tie to RUPS and startup UPS 1A IAW OP 2143 Section K.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

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. 34
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: 24 minutes

Evaluation Results:

Performance: PASS ☐ FAIL ☐ Time Required: _____

Prepared by: _____
Operations Training Instructor

9/13/03

Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

9/16/03

Date

Approved by: _____
Operations Training Superintendent

9/18/03

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.

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:

- Any at power IC
- Run Event Trigger CS JPM ET, CS JPM SCN. This event trigger will cause the Minimum Flow Valve (CS-5A) to stroke shut once the Core Spray "A" control switch is taken to START.
- Ensure Reactor feed pumps A & C are running

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure, review administrative limits, precautions and pre-requisites

Standard: OP 4123 Section A obtained, administrative limits, precautions, and prerequisites reviewed

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

SAT/UNSAT

Step 2: Notify RP of test gauge installation and core spray full flow test.

Standard: RP notified

SAT/UNSAT

Step 3: Install safety class temporary test gauges on A Core Spray suction and discharge piping, fill and vent the system, system walkdown and dedicated operator for PCIS valves IAW Step C.2.

Standard: Operator directs that temporary test gauges be installed and verified IAW procedure Step C.2.

Interim Cue: Inform Operator that Step C.2 is completed and:

S/N- VY-1 Suction Pressure Test Gauge 12/1/-3 calibration due date
S/N- VY-2 Discharge Pressure Test Gauge 12/1/03 calibration due date
The "A" Core Spray System is filled and vented
The "A" Core Spray piping and component inspection is complete
A dedicated operator is stationed for CS-806A and CS-807A

SAT/UNSAT

Step 4: Prompt CRS to declare Core Spray Subsystem "A" inoperable, and to enter either LCO 3.5.A.2 or 3.5.A.6

Standard: Operator prompts CRS to declare Core Spray "A" inop, and to enter 3.5.A.2

Interim Cue: As CRS, acknowledge prompt to declare Core Spray "A" inop and to enter 3.5.A.2.

- SAT/UNSAT *Step 5: Start Core Spray Pump "A"**
- 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 6: Verify Core Spray Pump "A" running**
- Standard: Operator identifies Red light On, Green light Off above Core Spray Pump "A" control switch.
- SAT/UNSAT Step 7: Verify Minimum Flow Valve CS-5A remains open**
- Standard: Operator identifies CS-5A stroked shut on pump start and reports to CRS.
-

Interim Cue: If informed as the CRS that the CS-5A valve has failed shut, acknowledge the report.

- SAT/UNSAT * Step 8: Secure Core Spray Pump A.**
- Standard: Operator secures pump by taking Core Spray "A" hand switch to STOP. If the operator has not secured the pump and checks RRU operation, this step in UNSAT.
- SAT/UNSAT Step 9: Verify Core Spray Pump "A" secured.**
- Standard: Operator verifies pump secured by observation of green light ON, red light OFF, on CRP 9-3 and/or zero pump amps.

TIME FINISH: _____

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

Evaluator Comments: _____

System:209001 **K/A's: A2.02 Ability to (a) predict the impacts of the following on the LOW PRESSURE CORE SPRAY SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:**

(CFR: 41.5 / 45.6)

Valve closures

RO 3.2

SRO 3.2

Generic K/A's:

Student 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.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Initiate a Manual Scram (OE 3107 Appendix F)
Failure Mode: RPS Can Not be Reset
Reference: OE 3107 Appendix F, Initiation of a Manual Scram (Rev. 15)
Task Number: 2000200501

Task Performance: AO/RO/SRO ___ RO/SRO Only X SE Only ___

Sequence Critical: Yes ___ No X

Time Critical: Yes ___ No X

Individual Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ___ Performance X Discuss

Setting: Classroom ___ Simulator X Plant

Performance Expected Completion Time: 12 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___ Time Required: _____

Prepared by: _____
Operations Training Instructor

9/15/03
Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: _____
Operations Training Superintendent

9/18/03
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:

A hydraulic ATWS has occurred, and reactor power remains above 2%. EOP-2 has been entered and is being used to control plant parameters. ADS has been inhibited. RPS and ARI/RPT have been initiated.

Initiating Cues:

The CRS has directed you to implement OE 3107 Appendix F (Initiation of a Manual Scram).

Task Standards:

Inward rod motion achieved by inserting a manual scram at CRP 9-5.

Required Materials:

- OE 3107 Appendix F, Initiation of Manual Scram (latest revision)
- Four long alligator clip jumpers
- Flathead screwdriver
- Electrical tape

Simulator Setup:

- Any full-power IC
- Insert mfRD_12A and mfRD_12B at 87% - Hydraulic ATWS
- Insert mfNM_06A, B, C, and D – APRM INOPS
- Inhibit ADS
- Initiate ARI/RPT
- Depress PB-1 on FWLC master controller

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain procedure and review pre-requisites, obtains tools from EOP Tool Box.

Standard: Procedure obtained; pre-requisites reviewed and verified, tools obtained.

SAT/UNSAT

Step 2: If plant conditions allow, reset the SCRAM

Standard: Identify that plant conditions do NOT allow reset of the scram.

SAT/UNSAT

Step 3: If plant conditions allow, reset ARI/RPT

Standard: Operator resets ARI/RPT by depressing the ARI/RPT reset pushbuttons at CRP 9-4.

SAT/UNSAT

Step 4: If reactor pressure is less than 500 psig, then open/check open CRD 56, CRD charging water header supply

Standard: Operator recognizes reactor pressure is >500 psig and does not perform step.

SAT/UNSAT

***Step 5: Install the following jumpers at CRP 9-15**

Relay/Post #	to	Relay/Post #
_____ 5A-K10A / 2	→	5A-K11E / 4
_____ 5A-K10C / 2	→	5A-K11G / 4

Standard: Jumper alligator clips attached to terminal posts as indicated above

Note: OE 3107 Appendix Figure 1 provided for reference as Attachment A to this JPM

SAT/UNSAT

***Step 6: Install the following jumpers at CRP 9-17**

Relay/Post #	to	Relay/Post #
_____ 5A-K10B / 2	→	5A-K11F / 4
_____ 5A-K10D / 2	→	5A-K11H / 4

Standard: Jumper alligator clips attached to terminal posts as indicated above

SAT/UNSAT

***Step 7: Reset the Scram**

Standard: Operator resets the scram by taking the Scram Reset switch at CRP 9-5 to position 2/3 → 1/4 RESET

SAT/UNSAT

Step 8: Confirm or reset ARI/RPT logic trips

Standard: Operator confirms that ARI/RPT logic trips are reset by observing ARI/RPT annunciators NOT in alarm.

SAT/UNSAT

Step 9: Reset drift alarms

Standard: Operator takes Control Rod Drift Reset switch at CRP 9-5 to RESET

SAT/UNSAT

Step 10: Open/confirm open CRD 32A/B, 33A/B/C/D

Standard: Operator observes red lights on for six valves on lower right hand side of control room panel 9-5 bench board.

SAT/UNSAT

Step 11: Verify SDV-A and SDV-B are drained or draining by CRP 9-5 or local indication

Standard: Operator observes open indication for SDV vent and drain valves

Interim Cue:

If AO contacted to verify local indications of SDV draining, inform Operator that the SDV is draining. If Operator intends to wait until the SDV is completely drained, wait approximately two minutes, then inform Operator as CRS to initiate manual scram.

SAT/UNSAT

***Step 12: Insert a manual scram**

Standard: Operator inserts a manual scram by depressing Manual Scram Pushbuttons A and B at CRP 9-5.

SAT/UNSAT

Step 13: Observe inward rod movement and repeat steps 6 through 10

Standard: Operator recognizes inward rod motion and prepares to repeat steps 6 through 10.

Interim Cue:

Once Operator identifies inward rod motion and indicates intention to repeat steps 6 through 10, inform Operator that no further actions are required for this JPM.

TIME FINISH: _____

Terminating Cue: Inward rod motion achieved by reset and initiaion of manual scram.

Evaluator Comments: _____

System: 212000 A4.17 Ability to manually operate and/or monitor in the control room:
(CFR: 41.7 / 45.5 to 45.8)

Perform alternate reactivity/ shutdown operations .

Importance RO 4.1 SRO 4.1

System: 295039 EA1.01,.03 Ability to operate and/or monitor the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN :

(CFR: 41.7 / 45.6)

Reactor Protection System RO 4.6* SRO 4.6*

ARI/RPT/ATWS: Plant-Specific RO 4.1* SRO 4.1*

System Generic K/A's:

Tear-Out Sheet

Initial Conditions:

A hydraulic ATWS has occurred, and reactor power remains above 2%. EOP-2 has been entered and is being used to control plant parameters. ADS has been inhibited. RPS and ARI/RPT have been initiated.

Initiating Cues:

The CRS has directed you to implement OE 3107 Appendix F (Initiation of a Manual Scram).

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Advance Off Gas System, OG-516 Valve Transfer.
Failure Mode:
Reference: OP 2150, Advanced Off Gas System And Air Evacuation Equipment
Task Number: 2717190101

Task Performance: AO/RO/SRO ___ RO/SRO X SRO Only

Sequence Critical: Yes ___ No X

Time Critical: Yes ___ No X

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation ___ Performance X Discuss ___

Setting: Classroom ___ Simulator X Plant

Performance Expected Completion Time: 10 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___ Time Required: _____

Prepared by: _____
Operations Training Instructor

9/16/03
Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: _____
Operations Training Superintendent

9/18/03
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:

Reactor is at 100% power.

Initiating Cues:

The CRS directs you to swap ejector suction pressure control from OG-516A to OG-516B per OP 2150, Section Y.

Task Standards:

Ejector suction pressure control is successfully swapped from OG-516A to OG-516B.

Required Materials:

OP 2150, Advanced Off Gas System And Air Evacuation Equipment

Simulator Setup:

IC-19 (or any IC with OG-516A is service)
(Validated in IC-7. Works with Turbine Generator S/U and RUPS 89A JPMs)

Evaluation

Performance Steps

TIME START:

Note: All Steps performed on CRP 9-6 unless otherwise noted.

SAT/UNSAT	<u>Step 1:</u>	<u>Obtain Procedure OP 2150 and review admin limits, precautions and prerequisites.</u>
	Standard:	OP 2150 obtained. Admin limits, precautions and prerequisites reviewed.
<hr/>		
Interim Cue: Prerequisites SAT.		
<hr/>		
SAT/UNSAT	<u>Step 2:</u>	<u>Verify that the second stage ejector steam supply valve AS-FCV-2B is open.</u>
	Standard:	Operator observes valve AS-FCV-2B red light ON and green light OFF.
SAT/UNSAT	<u>Step 3:</u>	<u>Verify that OG-516B is closed.</u>
	Standard:	Operator observes OG-516B green light ON and red light OFF and OG-516B controller is set at 0% open.
SAT/UNSAT	<u>*Step 4:</u>	<u>Open SJAE B first stage steam supply valve AS-FCV-1B.</u>
	Standard:	Operator positions AS-FCV-1B hand switch to OPEN and observes red light ON and green light OFF.
SAT/UNSAT	<u>Step 5:</u>	<u>Note the valve position on OG-516A controller.</u>
	Standard:	Operator notes the valve position on OG-516A controller on CRP 9-50.
SAT/UNSAT	<u>Step 6:</u>	<u>Close OG-516A.</u>
	Standard:	Reduce display to "0" by pressing "V" or ">" and "V" Push "SEL" button on CRP 9-50 PC-OG-1102A (Operator may use OP 2150 App E to assist him in controller operations)
SAT/UNSAT	<u>*Step 7:</u>	<u>Place OG-516A control switch to CLOSE.</u>
	Standard:	Operator positions OG-516A control switch to CLOSE.

- SAT/UNSAT** ***Step 8: Place OG-516B control switch to OPEN.**
Standard: Operator positions OG-516B control switch to OPEN.
- SAT/UNSAT** ***Step 9: Depress OG-516B RESET push-button.**
Standard: Operator depresses OG-516B RESET push-button, PC-OG-516B,
on CRP 9-50.
- SAT/UNSAT** **Step 10: Verify reset pushbutton light illuminates.**
Standard: Operator verifies reset light for PCV-OG-516B, on CPR 9-50.
- SAT/UNSAT** ***Step 11: Slowly open OG-516B and adjust so that valve position is equal to previous position of OG-516A.**
Standard: Standard: Increase display to previous position of 516A value by pressing
"V" or ">" and "V" Push "SEL" button on CRP 9-50 PC-OG-
1102A

(Operator may use OP 2150 App E to assist him in controller operations)

NOTE: This step may be performed incrementally to prevent excessive flows.

- SAT/UNSAT** **Step 12: Close SJAE first stage steam supply AS-FCV-1A.**
Standard: Operator positions AS-FSV-1A hand switch to CLOSE and observes
green light ON and red light OFF.
TIME FINISH:

Terminating Cue: Ejector suction pressure control is successfully swapped from OG-516A to OG-516B.

Evaluators Comments: _____

System: 271000

K/A's: A4.01, 02, 03, 04, 06, 09 Ability to manually operate and/or monitor in the control room:

(CFR: 41.7 / 45.5 to 45.8)

Reset system isolations	RO 2.8	SRO 2.8
System flows	RO 2.9	SRO 2.9
System temperatures	RO 2.8	SRO 2.8
Condenser vacuum	RO 3.4	SRO 3.5
System indicating lights and alarms	RO 3.3	SRO 3.2
Offgas system controls/components	RO 3.3	SRO 3.2

Student Handout

Initial Conditions:

Reactor is at 100% power.

Initiating Cues:

The CRS directs you to swap ejector suction pressure control from OG-516A to OG-516B per OP 2150, Section Y.

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 at power.

A mechanical failure of the "B" CRD flow control valve has occurred. ON 3145 has been entered.

Initiating Cues:

You are the in-plant operator. The CRS directs you to place the "A" CRD FCV in service in accordance with ON 3145 Step 8.

Task Standards:

The Standby CRD flow control valve in service.

Required Materials:

ON 3145

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain procedure ON 3145 Step 8

Standard: Procedure obtained, Step 8 reviewed.

Interim Cue:

If asked, the in service FCV has failed completely shut .

SAT/UNSAT

Step 2: Shift CRD Flow Controller on CRP 9-5 to MANUAL & Close FCV-3-19B

Standard: Operator requests Control Room Operator to shift the CRD Flow Controller to MANUAL and zero valve position FCV-3-19B

Interim Cue:

Inform Operator that the CRD Flow Controller has been shifted to MANUAL and FCV-3-19B controller output is zero.

SAT/UNSAT

Step 3: Close inlet and outlet valve to "B" CRD FCV.

Standard: CRD 68B and 69B valve handles rotated clockwise until valves full shut.

Interim Cue:

Handles rotate freely clockwise, valve stems move inward until resistance is felt, and valve handle stops moving.

SAT/UNSAT

***Step 4: Select FCV to be placed in service at the Local Valve Selector switch.**

Standard: Local Valve Selector switch located behind FCV 19A , and taken to FCV-3-19A

Interim Cue:

The switch handle rotates freely to the FCV-3-19A position.

Evaluation

Performance Steps

SAT/UNSAT

***Step 5: Position local 3-way valve (CRD-126) to FCV to be placed in service.**

Standard: CRD-126, located on panel behind CRD flow control valves taken to FCV-3-19A
(Labeled as 207A)

Interim Cue:

Valve control knob rotates freely until resistance is felt with the pointer at the FCV-3-19A position.

SAT/UNSAT

***Step 6: Open inlet and outlet valve to Standby CRD FCV.**

Standard: CRD-68A and 69A handles rotated counter-clockwise until full open.

Interim Cue:

Valve handles rotate freely counter-clockwise and valve stems move outward until resistance is felt and handle stops moving.

SAT/UNSAT

Step 7: Notify Control Room to readjust CRD Parameters at CRP 9-5.

Standard: Operator calls Control Room to inform them the alternate FCV has been placed in service and to adjust CRD parameters.

Interim Cue:

When operator desires to contact the Control Room, inform him that CRD parameters have been adjusted. If asked, charging header pressure on PI-3-234 is 1450 psig.

TIME FINISH: _____

Terminating Cue: The Standby CRD FCV is placed in service.

Evaluators Comments: _____

System: K/A's: 201001 A2.02 Ability to (a) predict the impacts of the following on the
CONTROL ROD DRIVE HYDRAULIC SYSTEM ; and (b) based on those predictions,
use procedures to correct, control, or mitigate the consequences of those abnormal
conditions or operations:
(CFR: 41.5 / 45.6)

Valve closures RO 3.2 SRO 3.3

Generic K/A's:

Student Handout

Initial Conditions:

Plant at power.

A mechanical failure of the "B" CRD flow control valve has occurred. ON 3145 has been entered.

Initiating Cues:

You are the in-plant operator. The CRS directs you to place the "A" CRD FCV in service in accordance with ON 3145 Step 8.

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Title: Respond to Hi SW Strainer ΔP
Failure Mode: N/A
Reference: Alarm Response Sheet 6-A-6
Task Number: 2767040104

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

9/15/03
Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: _____
Superintendent Operations Training

9/19/03
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 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: Normal Rx operation, 90% power. Alarm 6-A-6, SERV WTR STRN A Δ P HI, has actuated

Initiating Cues: The CRS directs you to respond to the "A" SW high Δ P alarm using Alarm Response Sheet 6-A-6

Task Standards: SW strainer "A" bypass valve is throttled open and the strainer is in continuous backwash.

Required Materials: Alarm Response Sheet 6-A-6 SERV WTR STRN A Δ P HI

Evaluation

Performance Steps

TIME START: _____

NOTE: All actions are performed at the intake structure unless otherwise indicated.

SAT/UNSAT

Step 1: Obtain Alarm Response Sheet 6-A-6.

Standard: ARS 6-A-6 obtained and reviewed.

SAT/UNSAT

Step 2: Check SW pressure to ensure system demands are satisfied.

Standard: Operator asks RO to check SW discharge pressure gauge and determine if pressure is satisfactory.

Interim Cue: SW header pressure reads slightly below NORMAL but system demands are currently being met.

SAT/UNSAT

Step 3: Check local ΔP indication.

Standard: Operator checks local ΔP gauge at intake structure, DP1-104-36A.

Interim Cue: Inform operator it reads 9 psid.

SAT/UNSAT

***Step 4: Place the strainer in continuous backwash**

Standard: Operator places "A" SW strainer in "continuous".

Interim Cue: Local control switch is in continuous.

Interim Cue: If asked after the strainer is continuously backwashing the D/P remains high.

Evaluation

Performance Steps

SAT/UNSAT

***Step 5: Flush strainer through the drain.**

Standard: Operator flushes strainer through the drain by opening valve SP70-1AX.

Interim Cue: Valve turns in counter-clockwise direction until resistance is felt.

Interim Cue: If asked after the strainer drain valve SP70-1AX is opened the D/P remains high.

SAT/UNSAT

***Step 6: Crack open strainer bypass valve.**

Standard: Operator cracks open strainer "A" bypass valve, V70-14B.

Interim Cue: Handwheel turns in the counter-clockwise direction.

SAT/UNSAT

Step 7: Refer to ON 3148, Loss of Service Water

Standard: Operator informs CRS to refer to ON 3148.

Interim Cue: Acknowledge direction.

TIME FINISH: _____

Terminating Cue: Strainer A bypass valve is cracked open and strainer is in continuous backwash.

Evaluators Comments: _____

System: 295018 **K/A's:** AA1.03 Ability to operate and or monitor the following as they
apply to a partial or complete loss of component cooling water

Affected systems so as to isolate damaged portions
(CFR: 41.7 / 45.6)

RO 3.3 SRO 3.4

EXAMINEE HANDOUT

Initial Conditions:

Normal Rx operation, 90% power. Alarm 6-A-6, SERV WTR STRN A Δ P HI, has actuated

Initiating Cues:

The CRS directs you to respond to the "A" SW high Δ P alarm using Alarm Response Sheet 6-A-6

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Startup the "A" RPS MG Set
Failure Mode: Failure of Output Voltage to Reach 120 VAC
Reference: OP 2134, "Reactor Protection System,"
Task Number: 2127040104

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

9/15/03
Date

Reviewed by: 
SRO Licensed/Certified Reviewer

9/16/03
Date

Approved by: 
Superintendent Operations Training

9/19/03
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:

- The "A" RPS MG set is being returned to service after brush replacement.
- There is an Operator waiting in the Control Room to assist you.
- Maintenance is not available to assist you.

Initiating Cues:

The CRS directs you to startup the "A" RPS MG set per OP 2134 Section A. Inform the CRS when the MG set is ready to be placed in service.

Task Standards:

- "A" RPS M/G Set running, producing 118±1 volts.
- "A" RPS M/G Set output breaker shut.
- Power Panels A-1 and A-2 breakers shut.

Required Materials:

OP 2134, "Reactor Protection System" (latest revision)

<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 2134 obtained, administrative limits, precautions and prerequisites reviewed.
Interim Cue:	If asked, all prerequisites have been met.
SAT/UNSAT	<u>Step 2: At CRP 9-15:</u>
	<ul style="list-style-type: none">a. RPS "A" Bus Normal/Alt selector switch in either ALT or OFFb. "A" system power supply circuit breaker 5A-CB1A is ONc. The two scram test switches channels A1/A2 test 5A-S2A/C are positioned to normal
	Standard: Contacts Control Room and verifies that all switches and breakers are properly positioned
Interim Cue:	When requested, inform Operator that OP 2134 Section A step 1 has been verified. The "A" RPS bus power select switch on CRP 9-15 is in the OFF position
SAT/UNSAT	<u>Step 3: Ensure That Power is Available to the M/G Set From MCC-8A</u>
	Standard: Contacts Control Room and requests verification that power is available to the M/G Set from MCC-8A. Operator may go to the switchgear room and locally verify MCC 8A RPS power available.
Interim Cue:	When requested, inform Operator that power is available to RPS M/G set "A"
SAT/UNSAT	<u>Step 4: Ensure M/G Set Generator Output Breaker on the local panel is OFF (MG 3-1A)</u>
	Standard: Checks position of MG Output Breaker, observes breaker in the OFF (Down) position
Interim Cue:	When checked, inform Operator that breaker is in the OFF (Down) position.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>Step 5: Ensure the Circuit Breakers on RPS Power Protection Panels A1 and A2 are OFF</u> Standard: Checks position of the RPS Power Protection Panel breakers, observes breakers in the OFF (Down) position
Interim Cue:	When checked, inform Operator that breakers are in the OFF (Down) position.
SAT/UNSAT	<u>*Step 6: Depress the Motor ON Pushbutton on local control panel to start the drive motor</u> Standard: Simulates starting the "A" RPS MG Set by depressing the Motor ON pushbutton. Verifies that "Motor On" red light is ON, and that MG Set is starting and coming up to speed
Interim Cue:	When simulated, inform Operator that the pushbutton has been depressed and the "Motor On" red light is ON. The MG Set has started and is coming up to speed.
SAT/UNSAT	<u>Step 7: When the M/G Set is at Operating Speed Check the Output Voltage is 118 ± 1 Volt</u> Standard: Checks MG Set output voltage on local panel "A-C Volts" meter after MG Set reaches normal operating speed
Interim Cue:	When checked, inform Operator that output voltage indication has not increased and presently indicates 0 volts.
SAT/UNSAT	<u>*Step 8: If the Output Voltage Does not Approach 118 ± 1, Depress "Motor On" Pushbutton Again to Reset the Voltage Regulator</u> Standard: Operator depresses the "Motor On" pushbutton a second time
Interim Cue:	Inform the operator that output voltage is now 116 volts.
SAT/UNSAT	<u>*Step 9: Adjust Output voltage Adjust Knob to Achieve ± 118 Volts</u> Standard: Operator rotates the Voltage Adjust knob in the clockwise direction to raise M/G output voltage

Evaluation

Performance Steps

Interim Cue: As the Operator rotates the Voltage Adjust Knob inform the Operator that output voltage is now indicating 118 volts.

SAT/UNSAT

***Step 10: Close the M/G Set Generator Output Breaker**

Standard: Simulates positioning the output breaker to the CLOSED (Up) position

Interim Cue: When simulated, inform Operator that the breaker is in the CLOSED (Up) position.

SAT/UNSAT

Step 11: If Maintenance is available check M/G Output of 118 +/- 1 volts as read on the line side of the molded case breaker in the RPS Power Protection Panel PPP-A-1 as read using a portable calibrated meter

Standard: Not Applicable Given in Initial Conditions

Interim Cue: If asked Maintenance is not available

SAT/UNSAT

Step 12: At the RPS Power Protection Panel PPP-A-1 perform the following.

- a. Verify POWER IN Lamp is ON**
- b. * Position Panel Output Breaker to OFF (to reset it)**
- c. * Protection Panel Output Breaker to ON (to re-energize it)**
- d. Check that the POWER OUT lamp on RPS Protection Panel PPP-A-1 is LIT**

Standard:

- a. Checks "Power In, Motor Gen" red light ON on Panel A-1
- b. Simulates placing breaker in OFF
- c. Simulates placing breaker in ON
- d. Checks that the POWER OUT lamp on PPP-A-1 is LIT

Evaluation

Performance Steps

Interim Cue: When checked, inform Operator that:

- a. Power In, Motor Gen" red light ON
- b. When simulated placing breaker in OFF, inform Operator that breaker is in the OFF (Down) position
- c. When simulates placing breaker in ON, inform Operator that breaker is in the ON (Up) position
- d. When checked, inform Operator that the POWER OUT lamp on PPP-A-1 is LIT.

SAT/UNSAT **Step 13: At RPS Power Protection Panel PPP-A-2 perform the following**

- a. **Verify POWER IN lamp is ON**
- b. *** Position Panel Output Breaker to OFF (to reset it)**
- c. *** Position Panel Breaker to ON (to re-energize it)**
- d. **Check that the POWER OUT lamp on Protection Panel PPP-A-2 is LIT**

Standard:

- a. Checks "Power In" light is ON
 - b. Simulates placing breaker to the OFF position
 - c. Simulates placing breaker to the ON position
 - d. When simulated, inform Operator that breaker is in the ON (Up) position
 - e. Checks that the POWER OUT lamp on PPP-A-1 is LIT
-

Interim Cue: When checked, inform Operator that the:

- a. The "Power In" lamp on is ON
 - b. The breaker is in the OFF position
 - c. The breaker is in the ON Position
 - d. The POWER OUT lamp on PPP-A-2 is LIT
-

Interim Cue: If asked the RPS "A" bus power supply selector switch on CRP 9-15 is still in the off position. (The A RPS bus is not on the alternate power supply)

Evaluation

Performance Steps

SAT/UNSAT

Step 14: Inform CRS that the "A" RPS MG Set is ready to be placed in service

Standard: Makes report to CRS

Interim Cue: Acknowledge report as CRS, and inform Operator that another operator will place the MG Set in service

TIME FINISH: _____

Terminating Cue: "A" RPS MG Set started and ready to be placed in service (through Step A.12 of OP 2134)

Evaluators Comments: _____

System: ²¹²⁰⁰⁰ A1.01 Ability to predict and/or monitor changes in parameters associated with operating the REACTOR PROTECTION SYSTEM controls including:
(CFR: 41.5 / 45.5)

RPS motor-generator output voltage

RO 2.8*

SRO 2.9

System Generic K/A's:

EXAMINEE HANDOUT

Initial Conditions:

- The "A" RPS MG set is being returned to service after brush replacement.
- There is an Operator waiting in the Control Room to assist you.
- Maintenance is not available to assist you

Initiating Cues:

The CRS directs you to startup the "A" RPS MG set per OP 2134 Section A. Inform the CRS when the MG set is ready to be placed in service.