

Facility: <u>Vermont Yankee</u>	Date of Examination: _____	
Exam Level (circle one): RO / SRO(I) / SRO(U)	Operating Test No.: _____	
Control Room Systems[®] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a.* S1 (24101) EPR to MPR transfer	S, D	3 – 241000
b.* S2 (21201) Shift RPS "A" power supply	S, D	6 – 262001
c.* S3 (20019F) Alternate Injection "A" RHRSW	S, M, A	2 – 203000
d. S4 (22301) Reset Group 1 Isolation	S, D	5 – 223002
e. S5 (20508) Restart SDC	S, D, L	4 – 205000
f. S6 (20110F) Respond to a Rod Drift	S, M, A	1 -201003
g. S7 (26102) Secure SBT	S, D	9 – 261000
In-Plant Systems[®] (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
h.* P1 (20015) Isolate and Vent Scram Air Header	D, R, E	1 – 201001
i.* P2 (26410F) Alternate S/D Diesel Generator Start	D, R, E, L, A	6 – 264000
j. P3 (21701F) Operate RCIC from Alternate Shutdown Panel	M, R, E, L, A	2 – 217000
All control room (and in-plant) systems must be different and serve different safety functions; in-plant systems and functions may overlap those tested in the control room.		
* Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	
(C)ontrol room		
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4	
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1	
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1	
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(R)CA	≥ 1 / ≥ 1 / ≥ 1	
(S)imulator		

*SRO-U

- S1 The applicants will be required to transfer pressure control from the electronic pressure regulator (EPR) to the mechanical pressure regulator (MPR), and remove the EPR from service. This JPM will be performed by all candidates.
- S2 The applicants will be required to shift the "A" reactor protection system power supply from the motor generator to the alternate power supply. Following the transfer, the resulting half scram will also be reset. This JPM will be performed by all candidates.
- S3 The applicants will be required to lineup and inject into the RPV with "A" RHRSW as an alternate injection subsystem. During the lineup, a sump alarm will actuate due to a lifting relief valve. This will require the applicant to execute an alternate path to reseal the relief valve by reducing system pressure. This JPM will be performed by all candidates.
- S4 The applicant will be required to reset a PCIS Group 1 isolation signal. After repositioning the Group 1 valves to satisfy the inadvertent opening protection logic (IOPL), the applicant will reset the control signal. This JPM will be performed by the SRO(I) only.
- S5 The applicant will be required to restart shutdown cooling following a short term shutdown. This JPM will be performed by the SRO(I) only.
- S6 The applicant will be required to respond to a control rod drift. The followup actions for OT 3167 will be implemented including individually scrambling the drifting control rod. During followup actions, a second control will drift. This will require the applicant to execute an alternate path by implementing the OT 3167 immediate actions to insert a manual scram. This JPM will be performed by the SRO(I) only.
- S7 The applicant will be required to secure both SBTG trains and establish a torus vent path through SBTG. This JPM will be performed by the SRO(I) only.
- P1 The applicants will be required to isolate and vent the scram air header in response to a failure to scram. The task involves the manipulation of multiple valves within the RCA. This JPM will be performed by all candidates.
- P2 The applicants will be required to start the "A" diesel generator completing the alternate shutdown outside the control room actions. The initial actions to start the diesel generator will fail. As a result, this will require the applicant to execute an alternate path to start the diesel generator. This JPM will be performed by all candidates.
- P3 The applicant will be required to lineup and inject with the RCIC system at the alternate shutdown panel. When power is supplied to the alternate shutdown panel, the RCIC injection valve will not have power. This will require the applicant to execute an alternate path to replace a fuse to enable operation of the injection valve. This JPM will be performed by the SRO(I) only.

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Swap Pressure Regulators (EPR to MPR)
Failure Mode: N/A
Reference: OP 2160, "Turbine Generator Support Systems Operation,"
Task Number: 2490020101

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

Sequence Critical: Yes X No ___

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: 10 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___

Time Required: _____

Prepared by: [Signature]
Operations Training Instructor

11/30/04
Date

Reviewed by: [Signature] FOR T. SCHULTZ per TELECOM
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: [Signature]
Operations Training Superintendent

12/1/04
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 normally at power
- The EPR is controlling pressure and needs to be removed from service for maintenance. The MPR is available and operable.

Initiating Cues:

The CRS directs you to transfer control from the EPR to the MPR and remove the EPR from service, using ~~OP 2160, Section B.1~~.

Task Standards:

The MPR is placed in service and the EPR is removed from service ^{STEP} ~~in accordance with Procedure OP 2160, Section B.1.~~

Required Materials:

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

Simulator Setup:

- 100% power
- EPR Regulator in service
- Verify MPR and EPR stroke difference is approximately 10%

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure OP 2160 and review Admin Limits, Precautions, and Prerequisites

Standard: OP 2160 obtained, admin limits, precautions, and prerequisites reviewed

Interim Cue: Inform Operator that prerequisites are SAT

SAT/UNSAT

Step 2: If time permits, verify that the MPR pilot bushing is rotating

Standard: Directs auxiliary operator to verify that the MPR pilot bushing is rotating

Interim Cue: Respond as the auxiliary operator, and inform Operator that the MPR pilot bushing is rotating

SAT/UNSAT

Step 3: Verify MPR OUTPUT STROKE is approximately 10% below EPR OUTPUT STROKE setting

Standard: Verifies that the MPR output stroke is approximately 10% below the EPR output stroke setting by comparing strokes on meters on 9-7

SAT/UNSAT

Step 4: Verify bulb for oncoming pressure regulator is sound

Standard: Removes MPR white light bulb and checks/swaps bulb with one currently illuminated to verify viability

SAT/UNSAT

***Step 5: Using MPR SETPOINT switch, slowly lower the MPR SETPOINT by going to LOWER until the MPR OUTPUT STROKE moves in the direction of the EPR OUTPUT STROKE setting**

Standard: Rotates MPR Output Switch to the LOWER position, and observes that the MPR Output Stroke moves in the direction of the EPR Output Stroke setting. Holds the switch until the MPR takes control.

SAT/UNSAT

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

Standard: Rotates MPR Output Switch to the LOWER position, and observes that the MPR Output Stroke moves in the direction of the EPR Output Stroke setting until the MPR takes control

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>Step 7: Verify that the MPR is controlling pressure as follows:</u> <u>Verify white light above MPR SETPOINT switch is illuminated</u> Standard: Observes white light above MPR Setpoint Switch ON,
SAT/UNSAT	<u>Step 8: Verify white light above EPR SETPOINT switch is extinguished</u> Standard: Observes white light above EPR Setpoint Switch OFF
SAT/UNSAT	<u>Step 9: On CRP 9-5, verify stable reactor pressure</u> Standard: Observes reactor pressure constant (as indicated on CRP 9-5)
SAT/UNSAT	<u>*Step 10: Using EPR SETPOINT switch, slowly RAISE the EPR SETPOINT, by going to RAISE. EPR OUTPUT STROKE will slowly decrease to zero with MPR in control</u> Standard: Rotates the EPR Setpoint Switch to the RAISE position until the EPR Output Stroke slowly lowers to zero
SAT/UNSAT	<u>*Step 11: EPR cutout switch may be placed in CUTOFF (OFF), if required.</u> Standard: Places EPR cutout switch in CUTOFF (OFF)
SAT/UNSAT	<u>Step 12: Verify alarm 7-G-2, "EPR CONTROL POWER LOSS/TROUBLE" is energized</u> Standard: Acknowledges annunciator 7-G-2 as a result of placing EPR cutout switch to CUTOFF
SAT/UNSAT	<u>Step 13: Adjust reactor pressure as necessary.</u> Standard: Checks reactor pressure and adjusts using the MPR as necessary
SAT/UNSAT	<u>Step 14: Place Keeping and STAR used consistently throughout.</u> Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

*Critical Step

TIME FINISH: _____

Terminating Cue: The MPR is in service and controlling reactor pressure in accordance with Procedure OP 2160, Section B.1.

Evaluator Comments: _____

System: 241000 **K/A:** A4.19

EXAMINEE HANDOUT

Initial Conditions:

- The plant is operating normally at power
- The EPR is controlling pressure and needs to be removed from service for maintenance. The MPR is available and operable.

Initiating Cues:

The CRS directs you to transfer control from the EPR to the MPR and remove the EPR from service using OP 2160, Section B.1

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Shift RPS Bus "A" Power Supply
Reference: OP 2134, Reactor Protection System
Task Number: 2127050101

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: [Signature]
Operations Training Instructor

11/30/04
Date

Reviewed by: [Signature]
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: [Signature]
Operations Training Superintendent

12/1/04
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** 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 at power, undergoing normal operation. Both RPS Buses are supplied from their normal sources. An AO is standing by to assist with this evolution.

Initiating Cues:

The CRS has directed you to place RPS Bus "A" on alternate power to allow for MG maintenance and reset the half scram per OP 2134 Section C.

Task Standards:

RPS Bus "A" power supply shifted to alternate power ~~in accordance with OP 2134 (Reactor Protection System.)~~

Required Materials:

OP 2134, Reactor Protection System (Section C) (latest revision)

Simulator Setup:

Any at power IC. No half scrams present. No LPRMs inoperable nor bypassed.

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure, review administrative limits, precautions, and prerequisites.

Standard: OP 2134 obtained; administrative limits, precautions, and prerequisites reviewed.

Interim Cue: If asked, all prerequisites have been met. If asked, a pre-job brief has been conducted.

SAT/UNSAT

Step 2: Ensure alternate power is available.

Standard: Observes alternate power supply available light on CRP 9-15 (above and to the right of the NORM/ALT switch) is on.

SAT/UNSAT

Step 3: Check the number of LPRMs bypassed on the companion APRM.

Standard: Observes on CRP 9-14 that each companion APRM has no more than 1 LPRM bypassed on shared channels that will remain energized during the transfer.

NOTE: APRMs A/D share LPRMs. APRMs C/F share LPRMs. APRMs B/E are independent of one another

SAT/UNSAT

Step 4: Check the number of LPRMs per level on the companion APRM.

Standard: Observes on CRP 9-14 that each companion APRM that will remain energized has at least 2 operable LPRMs per level.

SAT/UNSAT

***Step 5: Transfer the RPS BUS A PWR SUPP SEL Switch to ALTERNATE.**

Standard: Quickly transfers the RPS BUS A PWR SUPP SEL Switch to the ALTERNATE position.

SAT/UNSAT

Step 6: Check that the AEOG radiation monitor indicates correctly.

Standard: Checks that power has been restored to the AEOG recorder on CRP 9-2 and/or the AEOG meter on CRP 9-10.

Evaluation

Performance Steps

AT/UNSAT

Step 7: Instruct the AO to transfer the power supply for the RPS "A" APRMs from Alternate to Normal supply.

Standard: Instruct the AO to transfer power supply for the RPS "A" APRMs to the Normal supply IAW OP 2134, Section C.4.

Interim Cue: Return RPS "A" power supply to RESET using rfRP_10.

SAT/UNSAT

Step 8: Reset the half-scram.

Standard: Completes Section H of OP 2134

SAT/UNSAT

**Step 9: Verify the following:
All applicable scram initiation conditions have cleared.**

Standard: Reviews existing annunciators and determines all applicable scram initiation conditions have cleared.

SAT/UNSAT

**Step 10: Verify the following:
Both RPS buses energized.**

Standard: Verifies both RPS buses energized based on previous actions and reviews of 9-15 and 9-17.

SAT/UNSAT

**Step 11: Verify the following:
APRM power is being supplied from RPS.**

Standard: Verifies APRM power supplied from RPS based on previous action and annunciator 5-M-6 APRM BUS A/B ALT PWR SOURCE clear.

SAT/UNSAT

***Step 12: Place the SCRAM RESET switch to the "Group 2 and 3" position, then to the "Group 1 and 4" position.**

Standard: Positions Scram Reset Switch on CRP 9-5 positioned to Group 2,3; and 1,4.

SAT/UNSAT

***Step 13: If the TURB CTRL VLV FAST CLOSURE alarm (5-L-4) is energized, place the SCRAM RESET switch back to the Group 2 and 3 position.**

Standard: Positions Scram Reset Switch on CRP 9-5 positioned back to Group 2,3 then released.

Evaluation

Performance Steps

SAT/UNSAT

Step 14: Verify the following relays are Energized:
CRP 9-15 RY-5A-K13J, RY-5A-K14E, RY-5A-K14G, RY-5A-K13L
CRP 9-17 RY-5A-K13K, RY-5A-K14F, RY-5A-K14H, RY-5A-K13M

Standard: Verifies 9-15 and 9-17 relays energized.

SAT/UNSAT

Step 15: Reset Group III isolation per OP 2115.

Standard: Obtains OP 2115 in preparation for reset of Group III isolation.

Interim Cue: When Operator indicates he will reset the Group III isolation, inform him that another Operator will complete the remaining steps.

SAT/UNSAT

Step 16: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue: RPS "A" supplied from the alternate power supply and the half scram reset.

Evaluators Comments: _____

System: 262001 **K/A:** A1.05

EXAMINEE HANDOUT

Initial Conditions:

The plant is at power, undergoing normal operation. Both RPS Buses are supplied from their normal sources. An AO is standing by to assist with this evolution.

Initiating Cues:

The CRS has directed you to place RPS Bus "A" on alternate power to allow for MG maintenance and reset the half scram per OP 2134 Section C.

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Perform Alternate Reactor Injection Using the "A" RHR SW Pump
Failure Mode: RHR SW Relief Valve Lifts
Reference: OE 3107 OE Appendices, Appendix L
Task Number: 2057130401

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

11/30/04
Date

Reviewed by: [Signature] FOR T. SCHULTZ PER TELECON
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: [Signature]
Operations Training Superintendent

12/1/04
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:

LOCA condition exists, steps to control RPV water level are being carried out IAW EOP-1. RHR, and Condensate pumps are not available.

Initiating Cues:

The CRS has directed you to inject to the reactor vessel using A RHR system using the A RHRSW pumps ~~in accordance with OE 3107, Appendix L. Another operator will complete step 1 and isolate unnecessary Service Water loads concurrently.~~ The UPS FDR keylocks are in BLOCK.

See when asked

Task Standards:

RHRSW injected to the reactor vessel IAW OE 3107 Appendix L as indicated by RHR flow indication.

Required Materials:

OE 3107 OE Appendices, Appendix L

Simulator Set-up:

Any 100% power IC, enter RR01A at 100%

Terminate and prevent injection from:

- RHR (by placing all RHR pumps in PTL)
- Condensate/Feedwater place all Condensate pumps tripped

All four SW pumps operating

Reactor pressure < 120 psig

Wait 5 minutes for UPS FDR Block timer to time out and place UPS FDR keylocks in BLOCK

RX BLDG FLOOR DRN SUMP SOUTH LVL HI (4-L-6) annunciator malfunction AN04L6 on key 1 for SPURIOUS actuation. Enter after RHR-89A is fully closed.

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure, review prerequisites

Standard: OE 3107, Appendix L obtained, prerequisites reviewed

Interim Cue: If asked, all prerequisites are met.

SAT/UNSAT

Step 2: Isolate unnecessary Service Water loads

Standard: Determines Service Water isolation of unnecessary loads will be completed concurrently

Interim Cue: If asked, CRO is isolating unnecessary Service Water loads concurrently

SAT/UNSAT

Step 3: CLOSE/check CLOSED RHR 39A TORUS SPRAY/CLG

Standard: Observes green light ON, red light OFF.

SAT/UNSAT

Step 4: CLOSE/check CLOSED RHR 26A DWL SPRAY OUTBD

Standard: Observes green light ON, red light OFF.

SAT/UNSAT

Step 5: IF plant conditions allow, THEN CLOSE/check CLOSED RHR 27A LPCI INJECTION VALVE

Standard: Holds control switch to close until green light is On and red light is OFF.

SAT/UNSAT

Step 6: Start/verify running all available Service Water pumps

Standard: Verifies all Service Water pumps running.

SAT/UNSAT

***Step 7: If LPCI Signal is or was present, THEN position the RHRSW PP A & C (B&D) LPCI AUTOSTOP OVERRIDE keylock switch from AUTO to MANUAL OVERRIDE**

Standard: RHRSW Pump A&C keylock switch on CRP 9-3 vertical placed in manual override by rotating clockwise.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<p><u>*Step 8: Start one RHRSW pump A(C)</u></p> <p>Standard: RHRSW pump A (C) switch on CRP 9-3 vertical turned clockwise to the start position</p>
SAT/UNSAT	<p><u>*Step 9: Approximately 10 seconds later, start the other RHRSW pump C(A)</u></p> <p>Standard: RHRSW pump C (A) switch on CRP 9-3 vertical turned clockwise to the start position</p>
SAT/UNSAT	<p><u>Step 10: IF one of the following conditions exist: Reactor pressure is <100 psig. OR At least one RHRSW pump is running, THEN continue</u></p> <p>Standard: Verifies that at least one RHRSW pump is running.</p>
SAT/UNSAT	<p><u>*Step 11: OPEN RHR-184 EMERGENCY FILL</u></p> <p>Standard: RHR-184 keylock switch on CRP 9-3 horizontal section rotated clockwise to the open position.</p>
SAT/UNSAT	<p><u>*Step 12: Open RHR-183 EMERGENCY FILL</u></p> <p>Standard: RHR 183 keylock switch on CRP 9-3 horizontal section rotated clockwise to the open position.</p>
SAT/UNSAT	<p><u>Step13: When injection is required, THEN: OPEN/confirm OPEN RHR 25A INBD INJECTION.</u></p> <p>Standard: Verifies OPEN with green light OFF and red light ON.</p>
SAT/UNSAT	<p><u>*Step 14: When injection is required, THEN: OPEN RHR 27A OUTBD INJECTION</u></p> <p>Standard: RHR 27A control switch on CRP 9-3 horizontal rotated clockwise to the open position</p>
SAT/UNSAT	<p><u>*Step 15: CLOSE RHR-89A RHRSW DISCHARGE.</u></p> <p>Standard: RHR-89A control switch held in CLOSE position until green light on, red light off.</p>

Evaluation **Performance Steps**

SAT/UNSAT **Step 16: IF containment spray is required, THEN:**

Standard: Requests if containment spray is required from CRS

Interim Cue: If asked, containment spray is not required

SAT/UNSAT ***Step 17: IF a high sump alarm is received, THEN throttle open RHR-89A to maintain pump discharge pressure less than 350 psi as indicated locally**

Standard: RHR-89A control switch throttled OPEN until pump discharge pressure is less than 350 psi

Interim Cue: When contacted, the reactor building AO will report local pump discharge pressure is < 350 psi after the valve has been throttled OPEN

SAT/UNSAT **Step 18: Place Keeping and STAR used consistently throughout.**

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue: RHRSW injected to the reactor vessel IAW OE 3107 Appendix L as indicated by RHR flow indication and high sump alarm condition addressed.

Evaluators Comments: _____

System: 203000 K/A's: A1.01

EXAMINEE HANDOUT

Initial Conditions:

LOCA condition exists, steps to control RPV water level are being carried out IAW EOP-1. RHR, and Condensate pumps are not available.

Initiating Cues:

The CRS has directed you to inject to the reactor vessel using A RHR system using the A RHRSW pumps in accordance with OE 3107, Appendix L. Another operator will complete step 1 and isolate unnecessary Service Water loads concurrently. The UPS FDR keylocks are in BLOCK.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Reset a Group I Isolation
Failure Mode: N/A
Reference: OP 2115, Primary Containment
Task Number: 2000170501

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:  11/30/04
Operations Training Instructor Date

Reviewed by:  FOR T. SCHULTZ PER TELECON 11/30/04
SRO Licensed/Certified Reviewer Date

Approved by:  12/1/04
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 Group I isolation has occurred due to low main steam line pressure, OT 3100, scram procedure has been carried out, mode switch is in shutdown. Initiating signals are clear.

Initiating Cues:

The CRS directs you to reset the Group I logic ~~per OP 2115, Section G.~~

Task Standards:

Group I Logic reset

Required Materials:

OP 2115, Primary Containment

Simulator Setup:

Any power IC.

Insert malfunction RP03, then delete

Complete OT 3100 actions

Control pressure using SRVs 800-1000 psig

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain procedure, review administrative limits, precautions, and prerequisites

Standard: OP 2115 obtained, Section G administrative limits, precautions, and prerequisites reviewed

Interim Cue: If asked, inform operator that prerequisites are met. Sequence of switch verification is NOT critical.

SAT/UNSAT

Step 2: When a PCIS group isolation occurs, anytime prior to reset of the isolation, place control switches for the valves in the affected group listed below in the CLOSE position

Standard: May utilize the procedure or the Operator Aid on CRP 9-5 to verify the list of valves for Group 1 in the closed position.

SAT/UNSAT

Step 3: Verify RV 39 Control Switch is in CLOSE Position

Standard: Verify RV 39 control switch in CLOSE

SAT/UNSAT

Step 4: Verify RV 40 Control Switch is in CLOSE Position

Standard: Verify RV 40 control switch in CLOSE

SAT/UNSAT

***Step 5: Place MSIV 80A Control Switch to CLOSE**

Standard: MSIV 80A control switch to CLOSE

SAT/UNSAT

***Step 6: Place MSIV 80B Control Switch to CLOSE**

Standard: MSIV 80B control switch to CLOSE

SAT/UNSAT

***Step 7: Place MSIV 80C Control Switch to CLOSE**

Standard: MSIV 80C control switch to CLOSE

SAT/UNSAT

***Step 8: Place MSIV 80D Control Switch to CLOSE**

Standard: MSIV 80D control switch to CLOSE

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>*Step 9: Place MSIV 86A Control Switch to CLOSE</u> Standard: MSIV 86A control switch to CLOSE
SAT/UNSAT	<u>*Step 10: Place MSIV 86B Control Switch to CLOSE</u> Standard: MSIV 86B control switch to CLOSE
SAT/UNSAT	<u>*Step 11: Place MSIV 86C Control Switch to CLOSE</u> Standard: MSIV 86C control switch to CLOSE
SAT/UNSAT	<u>*Step 12: Place MSIV 86D Control Switch to CLOSE</u> Standard: MSIV 86D control switch to CLOSE
SAT/UNSAT	<u>Step 13: Ensure the Containment Isolation Reset Permissive lights for Group I are lit.</u> Standard: Operator verifies that Group I lights (14A and 16 A) are on. Located on CRP 9-5 lower right side of vertical panel
SAT/UNSAT	<u>*Step 14: When the initiating signal has cleared, when desired to reset the PCIS logic, perform the following.</u> <u>To reset Group 1:</u> <u>Position the GRP 1 SYSTEM ISOL RESET to INBD and then to OUTBD.</u> Standard: Group I isolation reset switch momentarily taken to the INBD and OTBD position and released. CRP 9-5 upper right side of horizontal panel
SAT/UNSAT	<u>Step 15: Place Keeping and STAR used consistently throughout.</u> Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

*Critical Step

TIME FINISH: _____

Terminating Cue: Group I logic reset.

Evaluators Comments: _____

System: 223002 **K/A's:** A4.03

EXAMINEE HANDOUT

Initial Conditions:

A Group I isolation has occurred due to low main steam line pressure, OT 3100, scram procedure has been carried out, mode switch is in shutdown. Initiating signals are clear.

Initiating Cues:

The CRS directs you to reset the Group I logic per OP 2115, Section G.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Restart SDC Following Short Term Shutdown
Failure Mode: N/A
Reference: OP 2124, "Residual Heat Removal System,"
Task Number: 2057090101

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: 10 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___

Prepared by: _____

Operations Training Instructor

Reviewed by: _____

SRO Licensed/Certified Reviewer

Approved by: _____

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 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:

- A Refuel Outage is in progress
- A core offload has just been completed
- The Reactor Water Cleanup System is shutdown for outage work
- Spent Fuel Pool temperature is 103 °F
- The "A" RHR Pump was secured from shutdown cooling 15 minutes ago due to a scheduled evolution in the outage schedule

Initiating Cues:

The CRS directs you to restart the "A" RHR Pump in shutdown cooling per OP 2124 Section I, and establish a flow of 5000 - 6000 gpm

Task Standards:

The SDC Pump is restarted in accordance with OP 2124 Section I

Required Materials:

OP 2124, "Residual Heat Removal," current revision

Simulator Setup:

- Reactor pressure below the SDC isolation interlock
- Reactor level > 185 inches (or state a value in the initial conditions)
- Reactor temperature < 190 °F (or state a value in the initial conditions)
- The "A" RHR Pump lined up in SDC and then secured per OP 2124 Section I.1.
- RHR-65A throttled shut
- RWCU secured

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain procedure OP 2124 and review Admin Limits, Precautions, and Prerequisites

Standard: OP 2124 obtained; admin limits, precautions, and prerequisites reviewed

Interim Cue:

Inform Operator that Prerequisites are SAT

SAT/UNSAT

Step 2: IF RWCU return to RHR SDC suction line is in service, return RWCU to normal alignment or secure RWCU system per OP 2112

Standard: Verifies RWCU system secured, based on initial conditions

SAT/UNSAT

Step 3: On CRP 9-3, confirm closed or close OUTBD INJECTION, RHR-27A

Standard: On CRP 9-3, observes RHR-27A closed, green light ON, red light OFF

SAT/UNSAT

***Step 4: On CRP 9-3, fully open HX BYPASS, RHR-65A**

Standard: On CRP 9-3, opens RHR-65A by holding the control switch to the OPEN position until valve indicates full open.

SAT/UNSAT

Step 5: Upon RHR pump start, adjust the following valves as necessary to control cooldown rate

Standard: Upon RHR pump start, adjusts the following valves as necessary to control the cooldown rate:

- HX Bypass RHR-65A
 - RHR HX Inlet RHR-23A
 - RHRSW Discharge RHR-89A
-

Interim Cue:

If asked, RHR-23A is fully open

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>*Step 6: Crack open OUTBD INJECTION, RHR-27A until intermediate indication is received (approximately one second)</u> Standard: On CRP 9-3, places the control switch for RHR-27A in the OPEN position for approximately one second; observes red and green light dual indication
SAT/UNSAT	<u>Step 7: On CRP 9-3, verify or establish a shutdown cooling suction path as follows: Verify or align RHR Loop A for shutdown cooling. Close PUMP SUCTION RHR-13A</u> Standard: On CRP 9-3, observes RHR-13A closed, green light ON, red light OFF
SAT/UNSAT	<u>Step 8: On CRP 9-3, verify or establish a shutdown cooling suction path as follows: Verify or align RHR Loop A for shutdown cooling. Close PUMP SUCTION RHR-13C</u> Standard: On CRP 9-3, observes RHR-13C closed, green light ON, red light OFF
SAT/UNSAT	<u>Step 9: On CRP 9-3, verify or establish a shutdown cooling suction path as follows: Verify or align RHR Loop A for shutdown cooling. Open PUMP SUCTION RHR-15A</u> Standard: On CRP 9-3, observes RHR-15A open, green light OFF, red light ON
SAT/UNSAT	<u>Step 10: On CRP 9-3, verify or establish a shutdown cooling suction path as follows: Verify or align RHR Loop A for shutdown cooling. Open PUMP SUCTION RHR-15C</u> Standard: On CRP 9-3, observes RHR-15C open, green light OFF, red light ON
SAT/UNSAT	<u>Step 11: Verify open or open S/D CLG SUCTION RHR-17</u> Standard: On CRP 9-3, observes RHR-17 open, green light OFF, red light ON
SAT/UNSAT	<u>Step 12: Verify open or open S/D CLG SUCTION RHR-18</u> Standard: On CRP 9-3, observes RHR-18 open, green light OFF, red light ON
SAT/UNSAT	<u>*Step 13: Start an RHR Pump in the selected loop</u> Standard: On CRP 9-3, places the control switch for the "A" RHR Pump to the START position

Evaluation

Performance Steps

SAT/UNSAT

***Step 14:** When approximately three minutes have elapsed, increase RHR flow to >4100 gpm by throttling open RHR-27A as follows: If the reactor is <190F, slowly adjust RHR flow to >4100 gpm as desired

Standard: After approximately three minutes, throttle open RHR-27A to a flow of >4100 gpm as indicated on FI-10-139A

Interim Cue:

Time compression can be used. Inform the operator that three minutes have elapsed

SAT/UNSAT

***Step 15:** On panel CRP 9-3, adjust RHRSW DISCHARGE, RHR-89A, to maintain RHRSW pressure in the heat exchanger at greater than 20 psid above RHR pressure and to achieve RHRSW heat exchanger flow as follows: During normal conditions, limit RHRSW flow to <3140 gpm

Standard: On CRP 9-3, throttles RHR-89A until RHRSW pressure is 20 psid above RHR pressure and RHRSW flow < 3140 gpm

Interim Cue:

Inform the operator that another operator will monitor cool down from this point onward

SAT/UNSAT

Step 16: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue:

The "A" RHR Pump running in SDC, with proper system flows and differential pressure

Evaluator Comments: _____

EXAMINEE HANDOUT

Initial Conditions:

- A Refuel Outage is in progress
- A core offload has just been completed
- The Reactor Water Cleanup System is shutdown for outage work
- Spent Fuel Pool temperature is 103 °F
- The "A" RHR Pump was secured from shutdown cooling 15 minutes ago due to a scheduled evolution in the outage schedule

Initiating Cues:

The CRS directs you to restart the "A" RHR Pump in shutdown cooling per OP 2124 Section I, and establish a flow of 5000 - 6000 gpm

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Respond to a Rod Drift Alarm
Failure Mode: Multiple Rod Drifts
Reference: OT 3167 Control Rod Drift
Task Number: 2010050401

Task Performance: AO/RO/SRO ___ RO/SRO X SRO O1

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: 15 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___

Time Required: _____

Prepared by: [Signature]
Operations Training Instructor

11/30/04
Date

Reviewed by: [Signature]
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: [Signature]
Operations Training Superintendent

12/1/04
Date

SIM
JPMs

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure OT 3167.

Standard: OT 3167 obtained.

SAT/UNSAT

Step 2: If the control rod is drifting out:

Standard: Determines control rod has drifted out based on initial conditions and ROD DRIFT alarm

SAT/UNSAT

Step 3: Observe drive water flow.

Standard: Operator observes flow on FI-3-305.

SAT/UNSAT

Step 4: Select Control Rod 14-35.

Standard: Operator turns Rod Select Power turned to ON and depresses rod select pushbutton 14-35

SAT/UNSAT

Step 5: Make one attempt to insert control rod 14-35 to its original position.

Standard: Operator positions RMCS switch to NOTCH IN and determines the control rod did not respond.

SAT/UNSAT

*Step 6: If the control rod did not respond to the insert signal or continued to drift, then manually SCRAM the control rod by placing the individual rod scram switch at 9-16 to the FULL DOWN position.

Standard: Operator positions 14-35 rod scram switch at CRP 9-16 to the FULL DOWN position.

SAT/UNSAT

Step 7: Reduce core flow to 27.5 – 29 Mlbm/hr at a rate not to exceed 10% RTP/min.

Standard: Verifies recirc flow is between 27.5 and 29 Mlbm/hr

SAT/UNSAT

Step 8: Notify Reactor Engineering

Standard: Notifies Reactor Engineering

Interim Cue: Reactor Engineering will acknowledge the notification

Evaluation **Performance Steps**

SAT/UNSAT **Step 9: Enter OT 3166, Mispositioned Control Rod**

Standard: Informs CRS to enter OT 3166

Interim Cue: If the operator enters OT 3166, provide cue that the CRS will enter and direct actions

SAT/UNSAT **Step 10: Contact Reactor Engineering to determine that if the control rod drifts to position 48, it will not cause any operational concerns and to plan for its recovery if the collet is at fault**

Standard: Contacts Reactor Engineering for their assessment on the control rod

Interim Cue: Reactor Engineering will report there are no operational concerns with the control rod drifting to 48 in the current rod configuration and is already planning for its recovery.

SAT/UNSAT **Step 11: Close DRIVE WATER INSERT HCU-101 for control rod 14-35**

Standard: Directs AO to close DRIVE WATER INSERT HCU-101 for control rod 14-35

Interim Cue: The AO will report DRIVE WATER INSERT HCU-101 for control rod 14-35 was closed

SAT/UNSAT **Step 12: Close DRIVE WATER WITHDRAW HCU-102 for control rod 14-35**

Standard: Directs AO to close DRIVE WATER WITHDRAW HCU-102 for control rod 14-35

Interim Cue: The AO will report DRIVE WATER WITHDRAW HCU-102 for control rod 14-35 was closed

SAT/UNSAT ***Step 13: Place the individual rod scram switch at CRP 9-16 for control rod 14-35 to the UP position**

Standard: Operator positions 14-35 rod scram switch at CRP 9-16 to the UP position.

SAT/UNSAT **Step 14: Observe the rod for drift**

Standard: Observes rods 14-35 and 14-11 are drifting out.

Evaluation

Performance Steps

SAT/UNSAT

***Step 15: If multiple control rods are drifting or scrammed, then manually SCRAM the reactor and enter OT 3100, Scram Procedure.**

Standard: Initiates immediate operator actions to manually scram the reactor by depressing both scram pushbuttons

Interim Cue: Following reactor scram, the CRS will direct another operator to complete the remaining scram actions

SAT/UNSAT

Step 16: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue: Reactor scram initiated

Evaluators Comments: _____

System: 201003 **K/A's:** A2.03

EXAMINEE HANDOUT

Initial Conditions:

Power is 75% following a Rod Pattern Exchange. Recirculation flow is 27-27.5 Mlbm/hr. You are a spare CRO on shift. ROD DRIFT annunciator is received in the Control Room. Control Rod 14-35 was at position 34 and has drifted out to position 48.

Initiating Cues:

The CRS directs you to respond to the drifting control rod in accordance with OT 3167.

VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET

Task Identification:

Title: Secure Standby Gas Treatment
Failure Mode: N/A
Reference: OP 2117, Standby Gas Treatment
Task Number: 2610060101

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: 10 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___ Time Required: _____

Prepared by: [Signature]
Operations Training Instructor

11/30/04
Date

Reviewed by: [Signature]
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: [Signature]
Operations Training Superintendent

12/1/04
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 secure SBGT Train "A", and then SBGT Train "B", and establish torus vent path through SBGT Train "A" per 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:

Any IC
Start both trains of SBGT per OP 2117 Section B

Evaluation

Performance Steps

TIME 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.

SAT/UNSAT

Step 2: Verify initiating signal has cleared

Standard: Verifies initiating signal cleared based on initial conditions.

Interim Cue: If asked, restate the initial conditions

SAT/UNSAT

Step 3: Ensure reactor building HVAC is running per OP 2192

Standard: Ensures reactor building HVAC is running based on initial conditions.

Interim Cue: If asked, restate the initial conditions

SAT/UNSAT

***Step 4: Momentarily place SBTG Fan A(B) control switch to STOP**

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

SAT/UNSAT

Step 5: Verify SBTG A(B) Stopped

Standard: Observe red light Off and green light On for SBTG A(B) on CRP 9-26.

SAT/UNSAT

Step 6: Close/verify closed SGT-2A(B)

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.

<u>Evaluation</u>	<u>Performance Steps</u>
SAT/UNSAT	<u>Step 7: Close/verify closed SGT-3A(B)</u> Standard: 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.
SAT/UNSAT	<u>*Step 8: Close SGT-1A(B)</u> Standard: Operator takes control switch on CRP 9-26 to CLOSE AUTO-OP.
SAT/UNSAT	<u>Step 9: Verify SGT-1A(B) closed</u> Standard: Observe red light Off and green light On for SGT-1A(B) on CRP 9-26..
SAT/UNSAT	<u>Step 10: Ensure reactor building HVAC is running per OP 2192</u> Standard: Ensures reactor building HVAC is running based on initial conditions.
<hr/>	
Interim Cue: If asked, restate the initial conditions	
<hr/>	
SAT/UNSAT	<u>*Step 11: Secure the second train by momentarily placing SGBT Fan B(A) control switch to STOP</u> Standard: Operator momentarily places SGBT FAN B(A) REF 2-B(A) control switch to STOP on CRP 9-26.
SAT/UNSAT	<u>*Step 12: Close/verify closed SGT-2B(A)</u> Standard: Operator closes SGT-2B(A) by repositioning control switch to CLOSE AUTO-OP and observing green light On and red light Off on CRP 9-26.
SAT/UNSAT	<u>*Step 13: Close/verify closed SGT-3B(A)</u> Standard: Operator closes SGT-3B(A) by repositioning control switch to CLOSE AUTO-OP and observing green light On and red light Off on CRP 9-26.
SAT/UNSAT	<u>*Step 14: Close SGT-1B(A)</u> Standard: Operator takes SGT-1B(A) control switch on CRP 9-26 to CLOSE AUTO-OP.
SAT/UNSAT	<u>Step 15: Verify SGT-1B(A) closed</u> Standard: Observe red light Off and green light On for SGT-1B(A) on CRP 9-26.

Evaluation

Performance Steps

SAT/UNSAT

***Step 16: Establish torus vent path by opening/checking open the following valves:**

- **SGT-2A**
- **SGT-3A**

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

SAT/UNSAT

Step 17: Verify SGT-2A and SGT-3A open

Standard: Observe red light On and green light Off for SGT-2A and SGT-3A on CRP 9-26.

SAT/UNSAT

Step 18: Close/check closed SGT-1A

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

SAT/UNSAT

Step 19: Verify normal standby valve lineup

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

SAT/UNSAT

Step 20: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

* Critical Step

TIME FINISH: _____

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

Evaluator Comments: _____

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

EXAMINEE HANDOUT

Initial Conditions:

Both trains of SBT 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 secure SBT Train "A", and then SBT Train "B", and establish torus vent path through SBT Train "A" per OP 2117 Section D.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Isolate and Vent the Scram Air Header
Failure Mode: N/A
Reference: OE 3107 OE Appendices, Appendix D
Task Number: 20070405

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 Perfor

Setting: Classroom Simulator Plant

Performance Expected Completion Time: 8 minutes

*Plant
JPMs*

Evaluation Results:

Performance: PASS FAIL

Time Required: _____

Prepared by: _____
Operations Training Instructor

11/30/04
Date

Reviewed by: _____
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: _____
Operations Training Superintendent

12/1/04
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:

Actions are being carried out IAW EOP-2. The reactor is at 1000 psig and all control rods have failed to insert.

Initiating Cues:

CRS directs you to isolate and vent the Scram Air Header per OE 3107, Appendix D.

Task Standards:

Scram Air Header isolated and vented in accordance with OE 3107, Appendix D.

Required Materials:

OE 3107, OE Appendices, Appendix D

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure

Standard: OE 3107 Appendix D obtained

SAT/UNSAT

Step 2: If reactor pressure is <500 psi. THEN OPEN/confirm OPEN CRD-56 Charging Water Header Isolation valve

Standard: Determines reactor pressure is >500 psig based on initial conditions or calls the control room to confirm reactor pressure.

Interim Cue: When requested inform the operator that reactor pressure is at 1000 psi.

SAT/UNSAT

***Step 3: CLOSE/checked CLOSED the following**

- a. *** CRD-A1 Air filter inlet valve**
- b. *** CRD-A4 Air filter inlet valve**

Standard: CRD-A1 and CRD-A4, Air filter inlet valve, handwheels are taken to the clockwise direction until the valve is shut or resistance is felt.

Interim Cue: CRD-A1 and CRD-A4 Valve handwheels rotates freely in the clockwise direction and the valve stem lowers until resistance is felt and the handwheel stops moving.

SAT/UNSAT

***Step 4: OPEN/check OPEN following:**

- a. *** CRD-A2 Air filter outlet valve**
- b. *** CRD-A3 Air filter outlet valve**

Standard: CRD-A2 and CRD-A3 Air filter outlet valve, are Open, handwheel taken to the clockwise direction, then counter-clockwise until full open.

Interim Cue: CRD-A2 and CRD-A3 valve moves freely in the clockwise direction, then counter-clockwise until resistance is felt and the handwheel stops moving. The valve stem moves first inward then outward while the valve is moving.

Note: One valve is already aligned in the OPEN position for normal plant operations

Evaluation

Performance Steps

SAT/UNSAT

***Step 5: Open Air Filter Cartridge Drains to vent the scram air header**

- a. *** Open CRD-A12 Air filter drain valve**
- b. *** Open CRD-A13 Air filter drain valve**

Standard: CRD-A12 and CRD-A13 Air Filter Cartridge drains valves are petcocks located on the underside of the air filters, are rotated counter-clockwise

Interim Cue: CRD-A12 and CRD-A13 valves rotated counter-clockwise to stop parallel to the vent/drain line. The sound of air rushing out is heard.

SAT/UNSAT

Step 6: Verify the scram air header is depressurized by observing decreasing pressure on scram valve pilot air pressure gauge PI-3-229

Standard: Air pressure decreasing on PI-3-229, located on the wall above the air filter.

Interim Cue: When the operator locates PI-3-229 inform him that the air pressure is decreasing.

SAT/UNSAT

Step 7: Inform the CRS that the Scram Air Header has been isolated and vented

Standard: The operator informs the CRS that the scram air header has been isolated and vented

Interim Cue: Acknowledge the report to the CRS that the scram air header is isolated and vented. No additional actions will be required.

SAT/UNSAT

Step 8: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each simulated manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue: Scram Air Header isolated and vented LAW OE 3107 Appendix D.

Evaluators Comments: _____

System: 201001 **K/A:** K1.09

EXAMINEE HANDOUT

Initial Conditions:

Actions are being carried out IAW EOP-2. The reactor is at 1000 psig and all control rods have failed to insert.

Initiating Cues:

CRS directs you to isolate and vent the Scram Air Header per OE 3107, Appendix D.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Alternate Shutdown Appendix D, Diesel Start
Failure Mode: Diesel Fails to Auto Start
Reference: OP 3126 Appendix D Rev 16
Task Number: 2640090101

Task Performance: AO/RO/SRO X RO/SRO 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 X Performance Discuss

Setting: Classroom Simulator Plant X

Performance Expected Completion Time: 12 minutes

Evaluation Results:

Performance: PASS FAIL Time Required: _____

Prepared by: [Signature] 11/30/4
Operations Training Instructor Date

Reviewed by: [Signature] FOR T. SCHULTZ PER TELECOM 11/30/4
SRO Licensed/Certified Reviewer Date

Approved by: [Signature] 12/1/04
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 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:

A plant shutdown from outside the control room is in progress. The Vernon tie is NOT available.

Initiating Cues:

The SM directs you to start and load the A Diesel Generator using Appendix D of OP 3126 starting at step 12c. Steps 12a and 12b are complete and you are in radio contact with the SM.

Task Standards:

The A Diesel is started and powering 4KV Bus 4.

Required Materials:

OP 3126 Appendix D

Simulator Setup:

N/A

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain Procedure OP 3126 and review Admin Limits, Precautions, and Prerequisites, and steps prior to step 12c as necessary.

Standard: OP 3126 Appendix D obtained, admin limits, precautions and prerequisites reviewed.

Interim Cue: Inform operator Prerequisites are SAT.

SAT/UNSAT

***Step 2: Establish the following conditions at the DG-1-1A GENERATOR PANEL:**
1) DIESEL GEN ALTERNATE SHUTDOWN TRANSFER SS611A IN "EMERG"

Standard: At the side of the generator panel, places switch SS611A (front switch) in the EMERG position by turning the switch.

Interim Cue: Inform operator SS611A is in the 9 O'Clock position.

SAT/UNSAT

***Step 3: 2) DIESEL GEN ALTERNATE SHUTDOWN TRANSFER SS611B IN "EMERG"**

Standard: At the side of the generator panel, places switch SS611B (back switch) in the EMERG position by turning the switch.

Interim Cue: Inform operator SS611B is in the 9 O'Clock position

SAT/UNSAT

Step 4: 3) SS 611 MAN/AUTO CNTRL SW FOR ALT SHUTDOWN IN AUTO

Standard: In the center of the front of the generator panel, verifies switch SS611 in the AUTO position

Interim Cue: Inform operator SS611 is AS-IS.

Evaluation

Performance Steps

SAT/UNSAT

**Step 5: Request Operator #1 to perform the following:
If available close STATION SERVICE WATER PUMP P-7-1C
breaker 4KV Bus 4-2).**

Standard: Contacts Operator #1 and request the C SW pump breaker be closed.

Interim Cue: Inform operator that the C SW pump breaker is CLOSED.

SAT/UNSAT

**Step 6: Close the STATION SERVICE TRANSF T-9-1A (49) breaker (4KV
Bus 4-3).**

Standard: Operator contacts Operator #1 and directs him to close the 49 breaker.

Interim Cue: Inform the operator that the 49 breaker is CLOSED.

SAT/UNSAT

**Step 7: Close the MAIN (99) breaker (480V Bus 9). Hold in pushbutton for ~5
seconds.**

Standard: Operator requests that Operator #1 close the 99 breaker.

Interim Cue: Inform the operator that the 99 breaker is CLOSED.

SAT/UNSAT

***Step 8: Request Operator #1 install/check installed the “TRIP” and
“CLOSE” fuses for DIESEL GENERATOR DG-1-1A breaker (4KV
Bus 4-8).**

Standard: Operator contacts Operator #1 and directs him to install the TRIP and
CLOSE fuses for the A EDG Output breaker.

Interim Cue: Inform the operator that TRIP and CLOSE fuses have been installed.

Evaluation

Performance Steps

SAT/UNSAT

**Step 9: Verify the following occur:
“A” Diesel Generator starts.**

Interim Cue: Inform the operator that he does NOT hear the Diesel start.

Standard: Operator contacts Operator #1 and informs him that the Diesel did not start.

Interim Cue: Inform the operator that he should attempt to start the Diesel.

SAT/UNSAT

**Step 10: If DG-1-1A fails to auto start, manually start DG-1-1A as follows:
1) Check DG-1-1A GENERATOR PANEL for start failure
annunciators.**

Standard: Operator checks for alarms on Generator Alarm Panel.

Interim Cue: Inform the operator that no alarms are present.

SAT/UNSAT

Step 11: Report the status of annunciators to the Shift Manager.

Standard: Operator informs the SM that there are no abnormal alarms.

Interim Cue: Request the operator to continue to attempt to start the Diesel.

SAT/UNSAT

***Step 12: At the DG-1-1A INSTRUMENT PANEL place the REMOTE/AT
ENGINE control switch to “AT ENGINE” position to remove auto
start capabilities.**

Standard: Operator goes to the ENGINE Panel and turn the control switch to the AT ENGINE position.

Interim Cue: Inform the operator that the switch is now in 2 O’Clock position. LOCAL ENGINE CONTROL (G-1) alarm is annunciating at the generator control panel.

Evaluation

Performance Steps

SAT/UNSAT

Step 13: Assist in resolving the cause for the failure to start.

Interim Cue: Inform the operator that any cause for the failure to start has been eliminated.

SAT/UNSAT

Step 14: Reset any lockouts

Standard: Operator checks on Generator Panel the position of the LOCKOUT relay.

Interim Cue: Inform the operator that the lockout relay is in its present position (not tripped).

SAT/UNSAT

***Step 15: Depress the SHUTDOWN RELAY RESET pushbutton to rest the shutdown relay (DG-1-1A INSTRUMENT PANEL).**

Standard: At the ENGINE panel, the operator momentarily presses the “Shutdown Relay Reset” pushbutton.

Interim Cue: Inform the operator that the pushbutton was depressed.

SAT/UNSAT

***Step 16: Wait approximately 100 seconds for the Shutdown Relay to time out.**

Standard: Operator waits for about 100 seconds.

Interim Cue: Time compression can be used, inform the operator that two minutes have elapsed.

SAT/UNSAT

***Step 17: At the DG-1-1A INSTRUMENT PANEL, auto start the diesel by placing the REMOTE/AT ENGINE control switch to “REMOTE” position.**

Standard: At the ENGINE panel, the operator places the REMOTE/AT ENGINE control switch to the REMOTE position by turning the switch to REMOTE.

Interim Cue: Inform the operator that the switch is in 10 O’Clock position. He hears the Diesel start and come up to speed.

Evaluation

Performance Steps

SAT/UNSAT

Step 18: Report the status of the diesel to the Shift Manager

Standard: Operator informs the SM that the diesel starts.

Interim Cue: SM acknowledges the report.

SAT/UNSAT

Step 19: Verify auto closure of the DG-1-A output breaker.

Standard: Operator checks the position of the output breaker on the generator panel or asks Operator #1 the status of the breaker by visual indication in the switchgear room at Bus 4.

Interim Cue: Inform the operator that the lights indicate, Red light ON, Green light OFF.

SAT/UNSAT

Step 20: Verify that DIESEL GEN ROOM EXHAUST FAN TEF-2 operates as required.

Standard: Operator checks status of TEF-2 at the controller and visually.

Interim Cue: Inform the operator that TEF-2 is operating normally.

SAT/UNSAT

Step 21: Adjust generator voltage as necessary to maintain between 4000 to 4200 volts.

Standard: Operator checks on the Generator Panel for Diesel and/or Bus 4 voltage.

Interim Cue: Inform the operator that voltage reads 4100V. Another operator will complete remaining section of Appendix D.

SAT/UNSAT

Step 22: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each simulated manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue: The A Diesel Generator is running supplying 4KV Bus 4.

Evaluators Comments: _____

System: 264000 **K/As:** A4.04

EXAMINEE HANDOUT

Initial Conditions:

A plant shutdown from outside the control room is in progress. The Vernon tie is NOT available.

Initiating Cues:

The SM directs you to start and load the A Diesel Generator using Appendix D of OP 3126 starting at step 12c. Steps 12a and 12b are complete and you are in radio contact with the SM.

**VERMONT YANKEE
JOB PERFORMANCE MEASURE
WORKSHEET**

Task Identification:

Title: Operate RCIC From the Alternate Shutdown Panel
Failure Mode: N/A
Reference: OP 3126, Shutdown Using Alternate Shutdown Methods; Appendix C (Revision 16)
Task Number: 2007170501

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

Sequence Critical: Yes X No _____

Time Critical: Yes ___ No X

Operator Performing Task: _____

Examiner: _____

Date of Evaluation: _____

Activity Code: _____

Method of Testing: Simulation X Performance ___ Discuss ___

Setting: Classroom ___ Simulator ___ Plant X

Performance Expected Completion Time: 20 minutes

Evaluation Results:

Performance: PASS ___ FAIL ___

Time Required: _____

Prepared by: [Signature]
Operations Training Instructor

11/30/04
Date

Reviewed by: [Signature]
SRO Licensed/Certified Reviewer

11/30/04
Date

Approved by: [Signature]
Operations Training Superintendent

12/1/04
Date

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Read to the person being evaluated:

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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 Control Room is inaccessible. The reactor is scrammed and all initial actions have been completed prior to evacuating the Control Room. The first 3 steps of Appendix C **have** been completed.

Initiating Cues:

The SM has appointed you as Operator #3. You are to inject to the vessel with RCIC to control reactor level from the Alternate Shutdown Panel in accordance with OP 3126, Appendix C, starting at Step 4.

Task Standards:

Reactor vessel level rising in accordance with OP 3126

Required Materials:

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

Evaluation

Performance Steps

TIME START: _____

SAT/UNSAT

Step 1: Obtain and review OP 3126 Appendix C

Standard: OP 3126, Appendix C obtained and reviewed.

Interim Cue: If asked, all prerequisites have been met.

SAT/UNSAT

Step 2: At the RCIC Corner Room (Rx Bldg 213' level) on ALTERNATE SHUTDOWN ADS SAFETY RELIEF VALVES panel B1300SII perform the following: Check/place SAFETY RELIEF VALVE RV2-71A control switch to CLOSE

Standard: Operator verifies that the control switch for SRV 71A on panel B1300S11(RCIC Room SRV control panel 213' level), is in CLOSE

Interim Cue: Inform Operator that the control switch for SRV 71A is as-is

SAT/UNSAT

Step 3: Check/place SAFETY RELIEF VALVE RV2-71B control switch to CLOSE

Standard: Operator verifies that the control switches for SRV 71B on panel B1300S11 (RCIC Room SRV control panel 213' level), is in CLOSE

Interim Cue: Inform Operator that the control switch for SRV 71B is as-is

SAT/UNSAT

***Step 4: At the APPENDIX R SRV ALT SHUTDOWN PANEL (RCIC Corner Room 232' level), place the ADS TRANSFER SS-752, switch to EMER**

Standard: Operator places the Appendix R ADS Transfer Switch in the RCIC Corner Room 232' in EMERGENCY

Interim Cue: Inform Operator that the Appendix R ADS Transfer Switch is in the 10 O'Clock position

Evaluation

Performance Steps

SAT/UNSAT

***Step 5: At the RCIC Corner Room (Rx Bldg 213' level) perform the following:
Transfer 125V DC MANUAL RCIC TRANSFER SWITCH MTS-13-1 to EMERGENCY by turning counter-clockwise.**

Standard: Operator rotates MTS-13-1 counter-clockwise to EMERGENCY.

Interim Cue: Inform Operator that MTS-13-1 rotates counterclockwise and the pointer points to the 12 O'Clock 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:**

SS1178A

SS1178B

SS1178C

Standard: Operator transfers the switches on CP-82-1 to EMERGENCY in sequence: SS1178A → SS1178B → SS1178C

Interim Cue: Inform Operator, as each switch is positioned to the 10 O'Clock position

SAT/UNSAT

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

Standard: Operator transfers the SRV Control Power Knifeswitch in Panel 1300BSII to EMERGENCY

Interim Cue: When operator informs you that he will open the panel, hand him a photo of the inside of panel 1300BSII, Inform Operator that the SRV Control Power kniveswitch is in EMERGENCY.

Evaluation

Performance Steps

SAT/UNSAT

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

Standard: Operator observes the position/status indicating lights for all valves/motors on CP-82-1 to determine if fuse replacement is necessary.

Interim Cue: Provide the operator with a picture of CP-82-1 with all appropriate position/status indicating lights are energized with the exception of RCIC-131; neither the green nor red light is lit

SAT/UNSAT

Step 10: Obtain and review OP 3126 Appendix E for fuse replacement

Standard: OP 3126, Appendix E obtained and reviewed

SAT/UNSAT

**Step 11: To replace an MCC control power fuse:
Determine the compartment location for the affected equipment and the fuse size from the attached list**

Standard: Determines the MCC for RCIC-131 is MCC-DC-2B and the fuse size is 1 amp from the attached list in Appendix E

SAT/UNSAT

***Step 12: Position the MCC control switch for the affected equipment to the OFF position**

Standard: Positions MCC for RCIC-131 on MCC-DC-2B to OFF

Interim Cue: Inform Operator MCC for RCIC-131 on MCC-DC-2B is in the OFF position

SAT/UNSAT

***Step 13: Open the compartment door.**

Standard: Opens compartment door for MCC for RCIC-131 on MCC-DC-2B

Interim Cue: Inform Operator the compartment door for MCC for RCIC-131 on MCC-DC-2B is open

Evaluation **Performance Steps**

SAT/UNSAT ***Step 14: Replace the control power fuse.**

Standard: Obtains a 1 amp fuse and fuse puller from the red tool box staged in the RCIC room. Replaces the control power fuse for MCC for RCIC-131 on MCC-DC-2B

Interim Cue: When the operator indicates where he would obtain the 1 amp fuse and fuse puller, inform Operator a 1 amp fuse and fuse puller have been obtained. Inform operator, the control power fuse for MCC for RCIC-131 on MCC-DC-2B has been replaced

SAT/UNSAT **Step 15: Close the compartment door.**

Standard: Closes compartment door for MCC for RCIC-131 on MCC-DC-2B

Interim Cue: Inform Operator the compartment door for MCC for RCIC-131 on MCC-DC-2B is closed

SAT/UNSAT ***Step 16: Position the MCC control switch to the ON position**

Standard: Positions the MCC for RCIC-131 on MCC-DC-2B to ON

Interim Cue: Inform Operator the control switch for MCC for RCIC-131 on MCC-DC-2B is ON

SAT/UNSAT **Step 17: Verify RCIC-131 valve position indication on CP-82-1**

Standard: Verifies RCIC-131 valve position indication on CP-82-1

Interim Cue: Provide picture of CP-82-1 with RCIC-131 valve position indication illuminated with Green light ON, Red light OFF

Evaluation

Performance Steps

SAT/UNSAT

***Step 18: On CP-82-1, RCIC ALTERNATE SHUTDOWN SYSTEM operate RCIC as follows:**
Close/check closed the following valves:

RCIC V13-30 TEST BYPASS TO COND. STG. TANK

Standard: Positions RCIC-30 control switch to close

Interim Cue: RCIC-30 initial position Green light OFF – Red light ON. After taking switch to close indications shift to Green light ON – Red light OFF

SAT/UNSAT

Step 19: On CP-82-1, RCIC ALTERNATE SHUTDOWN SYSTEM operate RCIC as follows:
Close/check closed the following valves:

RCIC V13-131 STEAM TO TURBINE

Standard: Operator verifies RCIC RCIC-131 valve position indication Green light On / Red light Off on CP-82-1.

Interim Cue: As each valve is addressed, inform Operator that the Green light is On/Red light is Off. If the operator failed to address the RCIC-131 fuse failure in the previous step, indicate there are no lights lit for RCIC-131.

SAT/UNSAT

Step 20: On CP-82-1, RCIC ALTERNATE SHUTDOWN SYSTEM operate RCIC as follows:
Close/check closed the following valves:

RCIC V13-27 MINIMUM FLOW BYP TO SUPP. CHAMBER

Standard: Operator verifies RCIC RCIC-27 valve position indication Green light On / Red light Off on CP-82-1

Interim Cue: As each valve is addressed, inform Operator that the Green light is On/Red light is Off.

Evaluation

Performance Steps

SAT/UNSAT

Step 21: On CP-82-1, RCIC ALTERNATE SHUTDOWN SYSTEM operate RCIC as follows:
Close/check closed the following valves:

RCIC V13-41 PUMP SUCTION FROM SUPP CHAMBER

Standard: Operator verifies RCIC RCIC-41 valve position indication Green light On / Red light Off on CP-82-1

Interim Cue: As each valve is addressed, inform Operator that the Green light is On/Red light is Off.

SAT/UNSAT

Step 22: On CP-82-1, RCIC ALTERNATE SHUTDOWN SYSTEM operate RCIC as follows:
Close/check closed the following valves:

RCIC V13-39 PUMP SUCTION FROM SUPP CHAMBER

Standard: Operator verifies RCIC RCIC-39 valve position indication Green light On / Red light Off on CP-82-1

Interim Cue: As each valve is addressed, inform Operator that the Green light is On/Red light is Off.

SAT/UNSAT

***Step 23: Open/check open the following valves:**

RCIC V13-132 TURBINE COOLING WATER SUPPLY

Standard: Positions RCIC-132 control switch to open

Interim Cue: RCIC-132 initial position Green light ON – Red light OFF. After taking switch to open indications shift to Green light OFF – Red light ON.

Evaluation

Performance Steps

SAT/UNSAT

Step 24: Open/check open the following valves:

RCIC V13-18 PUMP SUCTION FROM COND STG TANK

Standard: Operator verifies RCIC RCIC-18 valve position indication Green light Off / Red light On on CP-82-1

Interim Cue: As each valve is addressed, inform Operator that the Red light is On / Green light is Off.

SAT/UNSAT

Step 25: Open/check open the following valves:

RCIC V13-20 PUMP DISCHARGE VALVE

Standard: Operator verifies RCIC RCIC-20 valve position indication Green light Off / Red light On on CP-82-1.

Interim Cue: As each valve is addressed, inform Operator that the Red light is On / Green light is Off.

SAT/UNSAT

***Step 26: Open/check open the following valves:**

RCIC V13-21 PUMP DISCHARGE VALVE

Standard: Positions RCIC-21 control switch to open

Interim Cue: RCIC-21 initial position Green light ON – Red light OFF. After taking switch to open indications shift to Green light OFF – Red light ON.

SAT/UNSAT

Step 27: Open/check open the following valves:

RCIC TURBINE TRIP THROTTLE VALVE

Standard: Operator verifies RCIC TURBINE TRIP THROTTLE VALVE valve position indication Green light Off / Red light On on CP-82-1.

Interim Cue: As each valve is addressed, inform Operator that the Red light is On / Green light is Off.

Evaluation

Performance Steps

SAT/UNSAT

Step 28: Start the RCIC GLAND SEAL VACUUM PUMP

Standard: RCIC gland seal vacuum pump control switch on CP-82-1 positioned to START.
Verifies RCIC gland seal vacuum pump running by observing Red light On / Green light Off on CP-82-1.

Interim Cue: Inform Operator that the RCIC gland seal vacuum pump control switch is in START. Inform Operator that the RCIC gland seal vacuum pump Red light is On, Green light is Off

SAT/UNSAT

Step 29: Operate the RCIC GLAND SEAL VAC. TANK CONDENSATE PUMP as necessary to maintain vacuum tank level within the sightglass

Standard: Operator verifies mid-level indicated in sightglass.

Interim Cue: When checked, inform Operator that vacuum tank level is mid-level within the sightglass.

SAT/UNSAT

***Step 30: Set the RCIC TURBINE SPEED potentiometer to zero by turning counter-clockwise**

Standard: Operator rotates the RCIC potentiometer fully counter-clockwise

Interim Cue: Inform Operator that the RCIC potentiometer is fully counter-clockwise.

SAT/UNSAT

Step 31: Open RCIC V13-27 MINIMUM FLOW BYPASS TO SUPP CHAMBER

Standard: Operator places the RCIC-27 control switch on CP-82-1 to OPEN. Operator verifies RCIC-27 OPEN by observing Red light On / Green light Off on CP-82-1

Interim Cue: Inform Operator that the RCIC-27 control switch is in OPEN
Inform Operator that RCIC-27 Red light is On / Green light is Off

Evaluation

Performance Steps

SAT/UNSAT

Step 32: Monitor CST Level on CONDENSATE STORAGE TANK LEVEL LI-107-12A

Standard: Operator monitors CST level on CP-82-1 using LI-107-12A.

Interim Cue: CST level is as indicated

SAT/UNSAT

Step 33: Monitor Torus Level on TORUS WATER LEVEL LI-16-19-10A

Standard: Operator monitors Torus level on CP-82-1 using LI-16-19-10A.

Interim Cue: Torus level is as indicated

SAT/UNSAT

***Step 34: Start the RCIC turbine by opening RCIC V13-131 STEAM TO TURBINE and increasing the RCIC potentiometer so turbine accelerates to greater than 2000 rpm immediately.**

Standard: RCIC-131 control switch on CP-82-1 positioned to OPEN.

Interim Cue: Inform Operator that the RCIC-131 control switch is in OPEN. RCIC-131 Red light is On/
Green light is Off

SAT/UNSAT

***Step 35: Immediately increase RCIC Turbine Speed to >2000 rpm**

Standard: Immediately rotates RCIC potentiometer clockwise to raise RCIC turbine speed to > 2000 rpm.

Interim Cue: Inform Operator that RCIC turbine speed rises to 2200 rpm and stabilizes.

Evaluation

Performance Steps

SAT/UNSAT

***Step 36: Adjust RCIC potentiometer to obtain 400 gpm at <4500 rpm as indicated on local instrument dpis/FI-13-61.**

Standard: Potentiometer on CP-82-1 adjusted to achieve RCIC rpm at <4500 rpm as indicated by RPM meter on CP-82-1 and RCIC flow at 400 gpm as indicated by RCIC flow DPIS-13-61 located on the instrument rack next to the RCIC Alternate Shutdown Panel.

Interim Cue: Inform Operator that RCIC speed is 4300 and stable. When DPIS-13-61 is checked, inform Operator that indicated flow is 400 gpm.

SAT/UNSAT

***Step 37: When RCIC flow increases above 80 gpm, close RCIC V13-27 MINIMUM FLOW BYPASS TO SUPP. CHAMBER**

Standard: When report is received that flow is > 80 gpm, Operator manually closes RCIC-27 by taking control switch on CP-82-1 to CLOSE.

Interim Cue: Inform Operator that RCIC-27 control switch is in CLOSE.
Inform Operator that RCIC-27 Green light is On / Red light is Off

SAT/UNSAT

Step 38: Maintain RCIC turbine speed < 4500 rpm.

Standard: Operator adjusts RCIC potentiometer as necessary to maintain RCIC turbine speed < 4500 rpm

Interim Cue: Inform Operator that RCIC speed has stabilized at 4300 rpm.

SAT/UNSAT

Step 39: Adjust RCIC flow with the potentiometer as necessary to maintain Reactor Water Level 137" and 167" as read on RPV WATER LEVEL LI-2-3-72C

Standard: Operator adjusts potentiometer to maintain level between 137" and 167" while monitoring level on LI-2-3-72C.

Interim Cue: Inform Operator that RPV level is 138" and slowly rising. Another operator will complete the remaining steps in Appendix C

Evaluation

Performance Steps

SAT/UNSAT

Step 40: Place Keeping and STAR used consistently throughout.

Standard: Steps are circled as performed, crossed out as completed and N/A'd as appropriate. STAR used consistently for each manipulation.

* Critical Step

TIME FINISH: _____

Terminating Cue: Reactor level rising and being maintained using RCIC in accordance with OP 3126 Appendix C.

Evaluator Comments: _____

System: 217000 **K/A:** A4.05

EXAMINEE HANDOUT

Initial Conditions:

The Control Room is inaccessible. The reactor is scrammed and all initial actions have been completed prior to evacuating the Control Room. The first 3 steps of Appendix C **have** been completed.

Initiating Cues:

The SM has appointed you as Operator #3. You are to inject to the vessel with RCIC to control reactor level from the Alternate Shutdown Panel in accordance with OP 3126, Appendix C, starting at Step 4.