JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: CONTROL ROD DRIVE EXERCISE

JPM NUMBER: JPM-C.4-B.01.03.C-003 **REV.** 0

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): Control Rod Drift / CR 200.226

K/A NUMBERS: 201003 A2.03 **Rating: SRO/RO:** 3.7/3.4

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [x]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [x] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: X

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: JPM-C.4-B.01.03.C-003

JPM Title: Control Rod Drive Exercise

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
State the following:
The task conditions are as follows:

- You are the Operator at the Controls.
- The reactor is APPROXIMATELY 42% power and stable.
- The weekly surveillance Control Rod Drive Exercise Test 0074 is required to be performed.

INITIATING CUES (IF APPLICABLE):
"[STATE OPERATOR'S NAME], perform Part A of Test 0074 (CONTROL ROD DRIVE EXERCISE). Follow the order of Table 1 Control Rod Exercise Data Sheet, for testing.

JPM PERFORMANCE INFORMATION

Required Materials:	COPY OF TEST 0074, CONTROL ROD DRIVE EXERCISE, MARKED UP TO INDICATE SRO APPROVAL TO PERFORM PART A WITH THE APPROPRIATE PREREQUISITES INITIALY OR AND/OR MARKED N/A.
General References:	TEST 0074, 5-A-27 CONTROL ROD DRIFT ARP, C.4-B.01.03.C CONTROL ROD DRIFTING
Task Standards:	PERFORM THE ACTIONS FOR THE CRD EXERCISE FOR THE FIRST CONTROL ROD AND RECOGNIZE AND PERFORM THE ACTIONS FOR A CONTROL ROD DRIFT FOR THE SECOND CONTROL ROD.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Operator reviews Test 0074 (CONTROL ROD DRIVE EXERCISE)
Standard:	Reviewed procedure
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Demand a computer scan of all control rod positions by selecting 3D Monicore Menu, and selecting a Control Rod Position Log. Operator demands log from SPDS by selecting 3-D M CRP pushbutton and then printing by depressing the HC pushbutton.
Standard:	Demanded and printed log
Evaluator Cue:	When candidate begins to demand the log, provide log to be used for this jpm.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	For each rod at Position 00, write NA in the corresponding blank on Table 1 Control Rod Drive Exercise Sheet. Operator writes NA for any control rods at position 00.
Standard:	Wrote NA for any control rods at position 00.
Evaluator Cue:	If asked, state the independent verification is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: Y**	Select a withdrawn or partially withdrawn control rod by depressing the appropriate rod select pushbutton. Verify that the selected rod select pushbutton is illuminated and the selected rod indicates selection on the full core display. Operator selects control rod 02-31 and verifies select light illuminated and selection on full core display and 4 Rod display.
Standard:	Selected control rod 02-31
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Insert the selected rod one notch and verify the rod position indication for the selected control rod in the single rod and four rod group display changes to the next lower latched position. Operator inserts Control Rod 02-31 1 notch by placing Rod Movement Control Switch 3A-S2 to the insert position and verifies proper indications on full core display and 4 Rod display.
Standard:	Inserted Control Rod to position 46.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Withdraw the selected rod one notch and verify the rod position indication for the selected control rod in the single rod and the four rod group display changes to the next higher latched position. Operator withdraws Control Rod 02-31 1 notch by placing Rod Movement Control Switch 3A-S2 to the withdraw position and verifies proper indications on full core display and 4 rod display.
Standard:	Withdrew CONTROL ROD TO POSITION 48.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	After completion of the first control rod, verify computer acknowledgement of the rod's change in position. (Alarm typer printout of rod identification and position changes. Operator observes rod position changes on the alarm typer printer..
Standard:	Verified typer printout
Evaluator Cue:	The alarm typer printout indicates proper rod identification and position changes (The alarm printer in the simulator does not simulate this function*).*
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	IF an abnormal condition is detected as a result of exercising a rod, THEN notify the Control Room supervisor, AND record the abnormality on Table 2 Control Rod Exercise Abnormalities. No abnormal condition identified.
Standard:	No action required.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Identify any control rods that appear to be slower or faster than the average on Table 2. No speeds appear faster or slower than average.
Standard:	No action required.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	Acknowledge completion of the rod exercise on Table 1 Operator places initials in blank by Control Rod 02-31 on Table 1.
Standard:	Initialed blank on Table 1.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	Repeat steps 3 through 9 for the remaining withdrawn and partially withdrawn control rods. Operator repeats STEPS 3 through 9
Standard:	Started with STEP 3
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: Y**	Select a withdrawn or partially withdrawn control rod by depressing the appropriate rod select pushbutton. Verify that the selected rod select pushbutton is illuminated and the selected rod indicates selection on the full core display. Operator selects control rod 02-27 and verifies select light illuminated and selection on full core display and 4 rod display.
Standard:	Selected control rod 02-27
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Y**	Insert the selected rod one notch and verify the rod position indication for the selected control rod in the single rod and four rod group display changes to the next lower latched position. Operator inserts Control Rod 02-27 1 notch by placing Rod Movement Control Switch 3A-S2 to the insert position and verifies proper indications on full core display and 4 rod display. Operator responds to annunciator 5-A-27 (ROD DRIFT) and enters procedure C.4-B.01.03.C (CONTROL ROD DRIFTING).
Standard:	Recognized Control Rod drift
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	Determines number of control rods drifting. Operator performs immediate operator action of C.4-B.01.03.C, from memory, by determining 02-27 is the only Control Rod drifting.
Standard:	From memory, Determined 1 control rod drifting
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical: Y**	Momentarily place Rod Select Power Switch 3A-S1 (Panel C-05) in OFF and return it to ON to de-energize the rod select matrix and de-select the drifting control rod. Operator performs immediate operator action of C.4-B.01.03.C, from memory, by placing Select Power Switch 3A-S1 to the off position and then back to the on position. Operator observes Control Rod 02-27 de-select.
Standard:	From memory, turned Rod Select Power Switch off and then back on. (Turning Rod Select Power Switch back to on is not critical.)
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical: Y**	IF Control Rod drifting continues, THEN re-select the drifting Control Rod and insert and maintain the Control Rod at position 00 using normal or emergency insert. Operator recognizes Control Rod has stopped drifting.
Standard:	Recognized Control Rod stopped Drifting.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 **Critical: N**	Notifies Control Room Supervisor that the Control Rod has stopped drifting.
Standard:	Notified Shift Supervision
Evaluator Cue:	Acknowledge report and state that the JPM is complete
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: **WHEN NOTIFIED THAT THE CONTROL ROD DRIFT HAS BEEN TERMINATED, STATE THAT THE JPM IS COMPLETE.**

Stop Time: _____

Simulator Set-up Instructions

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-246 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF RECIRC PUMP SHUTDOWN JPM AND OFF GAS STORAGE AND JPM AND THE EDG START JPM, ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:
From 60% power IC 123, perform the following:

- Insert Control Rods to establish approximately 42% power.
- Set Control Rod roller tape to the last Control Rod moved.
- Raise Recirc Pump speeds to approximately 55%
- Insert malfunction C14 RECIRC MG B HI VIBRATION
- Insert malfunction C-252 A11 STORAGE TANK ROOM TEMP LOW (CONDITIONAL TO THE #11 OFFGAS COMPRESSOR START PUSHBUTTON (ZD:COAN) trigger 1
- Select the #13 Offgas Storage Tank to be in fill and the #14 Tank to be in discharge
- Insert override A1M3-01 A510P04-03 for the 13 Tank pressure to 65
- Insert override A1M2-01 A510P04-02 for the 14 Tank pressure to 2
- Insert remote DG10 #11 Diesel Generator speed drop in
- When second Control Rod for test is inserted, **INSERT** malfunction CH06 (SCRAM OUTLET VALVE LEAKING) to 90%
- When the rod select power switch is taken to off, **IMMEDIATELY DELETE THIS MALFUNCTION.**

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: HPCI MANUAL INITIATION

JPM NUMBER: JPM-B.03.02-004 **REV. 7**

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): CR206.108
Manually Initiate HPCI

K/A NUMBERS: 206000 A2.14 **Rating: SRO/RO:** 3.3/3.4

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [x]

EVALUATION LOCATION:

In-Plant: [ ] Control Room: [ ]

Simulator: [x] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: JPM-B.03.02-004

JPM Title: HPCI Manual Initiation

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
State the following:
The task conditions are as follows:

- You are the Balance of Plant Operator.
- EOP 1100 (RPV CONTROL) and 1200 (CONTAINMENT CONTROL) have been entered.
- RCIC is un-available.
- The Reactor feedwater System is unavailable.
- HPCI did not Auto Start.
- The CRS had determined that a manual HPCI Injection is required.

INITIATING CUES (IF APPLICABLE):

- **"[STATE OPERATOR'S NAME] initiate HPCI using the Hard Card in order to restore and maintain RPV Water Level to between 9 and 48 inches. Notify the CRS when injection to the RPV is established.**

JPM PERFORMANCE INFORMATION

Required Materials: NONE

General References: B.03.02-05.D.1 HPCI MANUAL INITIATION HARD CARD

Task Standards: TAKES MANUAL CONTROL OF HPCI AND INJECTS INTO THE RPV

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Obtains Hard Card (Procedure B.03.02-05.D.1) Operator obtains Hard Card and reviews precautions, limitations, and prerequisites.
Standard:	Obtains procedure.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Verify High Reactor Water Level trip reset light on. Operator observes High Reactor Water Level trip reset light on Panel C-03 is on.
Standard:	High Reactor Water Level trip reset light is on.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	Open CV-2065, HPCI Min Flow. Operator takes the Control Switch 23A-S10 for CV-2065 on Panel C-03 to OPEN and observes red light on and green light off.
Standard:	CV-2065 OPEN
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	Start HPCI Turbine Gland Seal Condenser Blower. Operator takes the Control Switch 23A-S18 for the HPCI Turbine Gland Seal Condenser Blower on Panel C-03 to RUN and observes red light on and green light off.
Standard:	HPCI Turbine Gland Seal Condenser running.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	OPEN MO-2068, HPCI DISCH INBD ISOL. Operator takes the Control Switch 23A-S6 for MO-2068 on Panel C-03 to OPEN and observes red light on and green light off.
Standard:	MO-2068 OPEN
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	OPEN MO-2067, HPCI DISCH OTBD ISOL Valve Operator takes the Control Switch 23A-A7 for MO-2067 on Panel C-03 to OPEN and observes red light on and green light off.
Standard:	MO-2067 OPEN
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	Place HPCI TURB AUX Oil Pump to RUN Operator takes the Control Switch 23A-S17 for the HPCI TURB AUX Oil Pump on Panel C-03 to RUN and observes red light on and green light off.
Standard:	HPCI AUX Oil Pump running.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	Open MO-2036, HPCI Steam Supply Valve Operator takes the Control Switch 23A-S1 for MO-2036 to OPEN on Panel C-03 and observes red light on and green light off.
Standard:	MO-2036 OPEN
Evaluator Cue:	NONE
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Adjust HPCI Injection Rate using pulser knob on FIC-23-108, HPCI Pump Flow Control. Operator observes HPCI Speed Low at ~2700 RPM on SI-7317, and/or flow rate at minimum on FIC-23-108, and/or HPCI DISCH Pressure < RPV Pressure. Operator may notify CRS that HPCI is running and not injecting.
Standard:	Observes HPCI running and not injecting.
Evaluator Cue #1:	If operator reports condition and takes no action, state "NAME" inject with HPCI to restore RPV Water Level to between 9 and 48 inches.
Evaluator Cue #2:	If operator requests permission to make manual control of HPCI Flow Controller, state "NAME" take manual control of HPCI and inject at 3000 GPM.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: Y**	Places FIC-23-108 in manual to initiate injection. Operator performs the following: • Depresses mode selector soft key to manual. • Adjust pulser knob to establish injection flow.
Standard:	HPCI injects into RPV
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.** Operator informs CRS that HPCI is injecting into the RPV.
Standard:	Reports HPCI injection.
Evaluator Cue:	Acknowledge task complete, state that JPM is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	**DO NOT PROMPT.**

Terminating Cues: **WHEN REPORTED THAT HPCI IS INJECTING INTO THE RPV, STATE THAT THE JPM IS COMPLETE.**

Stop Time: _____

SIMUALTOR SET-UP SHEET

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-245 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF THE H202 JPM AND ALTERNATE EMERGENCY DEPRESSURIZATION JPM ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:
From 100% power IC 125, perform the following:

- Insert malfunction HP02, HPCI AUTO START FAILURE
- Insert malfunction HP04A, HPCI SPEED FAILS LOW
- Trip both Reactor Feedwater Pumps
- Trip RCIC
- Trip the Main Turbine
- After the MSIVs close, place the Reactor Mode Switch in Shutdown.
- Insert malfunction MS04B to 5%
- Insert malfunction RR01A to 50%
- When RPV Water Level reaches -35 inches, delete RR01A and lower MS04 to 2%
- Start the Second CRD Pump
- Start 'B' SBLC Pump
- Inhibit ADS
- Place both Loops of RHR in Torus Cooling and Torus Sprays
- Override Control Switches for all SRVs to close
- Take Control Switches for all SRVs to open
- Insert malfunction PC07, MSIV ISOLATION EOP JUMPERS INSTALLED
- Override annunciator 3-B-34 to off

JPM-B.03.02-004, HPCI MANUAL INITIATION, Rev. 7

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: ALTERNATE RPV DEPRESSURIZATION WITH TURBINE BYPASS VALVES

JPM NUMBER: JPM-C.5-3303-001 **REV.** 1

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): CR314.117
Perform actions associated with Alternate RPV Depressurization

K/A NUMBERS: 295007, AA1.05 **Rating: SRO/RO:** 3.8/3.7

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [x]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [x] Other: [ ]
Lab: [ ]

Time for Completion: 25 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: JPM- C.5-3303-001

JPM Title: Alternate RPV Depressurization with Turbine Bypass Valves

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
State the following:

- You are the Balance of Plant Operator
- EOP 1100 (RPV CONTROL), EOP 1200 (PRIMARY CONTAINMENT CONTROL) and EOP 2002 (EMERGENCY DEPRESSURIZATION) HAVE BEEN ENTERED
- The CRS had determined that an emergency depressurization was required.
- No SRVs were able to be opened.
- The TSC has not been activated at this time.

INITIATING CUES (IF APPLICABLE):

- **"[STATE OPERATOR'S NAME] alternately depressurize the RPV per C.5-3303, Part "A"**

JPM PERFORMANCE INFORMATION

Required Materials: SIMULATOR

General References: C.5-3303, PART "A"

Task Standards: ALTERNATELY DEPRESSURIZE THE RPV

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Obtains C.5-3303
Standard:	Operator obtained procedure
Evaluator Cue:	State that Part 'A' of Step 1 (obtaining jumpers) is complete. If asked about local evacuation, state this is not required.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Verifies Turbine Aux Oil pump in service. Operator checks status of Turbine Aux Oil Pump on Panel C-07 by observing the red light on and green light off.
Standard:	Checks status of Turbine Aux Oil Pump
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	IF directed by Shift Supervision to bypass all Group 1 Isolations, THEN perform the following: • Panel C-15 in the Control Room o JUMPER TERMINALS B-36 TO B-37 o JUMPER TERMINALS E-36 TO E-37 • Panel C-17 in the Control Room o JUMPER TERMINALS A-36 TO A-37 o JUMPER TERMINALS D-36 TO D-37
Standard:	Jumpers terminals (No simulation for these relays, see Evaluator Cue below)
Evaluator Cue:	State that all Group 1 Isolations are bypassed with the jumpers installed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	IF MSIVs are open, THEN proceed to STEP 5. Operator observes all MSIVs are closed (red lights off and green lights on)
Standard:	Observed all MSIVs are closed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Open MSIVs by performing the following: • Place handswitches for all MSIVs in close. Operator places the control switches for all MSIVs to close. • Takes switches 16A-S1A-D to close for INBD valves • Takes switches 16A-S2A-D to close for OTBD valves
Standard:	Placed the Control Switches for all MSIVs to close.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Open MSIVs by performing the following: • Reset Group 1 Isolations using Main Steam Isolation reset pushbuttons (16A-S32A AND 16A-S32B). Operator pushes buttons 16A-S32A and 16A-S32B (simultaneously or one at a time) and observe white AC and DC lights on.
Standard:	Pushed Group 1 reset buttons.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	Open MSIVs by performing the following: • Open the following valves: o AO-2-86A, MAIN STEAM LINE ISOLATION-OUTBOARD o AO-2-86B, MAIN STEAM LINE ISOLATION-OUTBOARD o AO-2-86C, MAIN STEAM LINE ISOLATION-OUTBOARD o AO-2-86D, MAIN STEAM LINE ISOLATION-OUTBOARD o MO-2373, MAIN STEAM LINE DRAIN-INBOARD o MO-2374, MAIN STEAM LINE DRAIN-OUTBOARD o M0-2564, STEAM LINE DRAIN (not critical) Operator takes Control Switches 16A-S2A-D to open and OTBD valves and observe red light on and green light off. Operator takes switch 16A-S5 FOR MO-2373 to open and observe red light on and green light off. Operator takes switch 16A-S6 FOR MO-2374 to open and observe red light on and green light off. Operator observes MO-2564 is open by observing and observe red light on and green light off.
Standard:	Opened outboard MSIVs and Main Steam Line Drain valves.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	Open MSIVs by performing the following: • VERIFY CLOSED THE FOLLOWING VALVES: o MO-2565, STEAM LINE DRAIN ORIFICE BYPASS o MO-1180, MAIN STOP VALVE 1 DRAIN o MO-1181, MAIN STOP VALVE 2 DRAIN o MO-1182, MAIN STOP VALVE 3 DRAIN o MO-1183, MAIN STOP VALVE 4 DRAIN o MO-1739, BYPASS HEADER DRAIN o MO-1617, DEAERATING STEAM SUPPLY VALVE o MO-4000, MAIN STM EQUAL DRN o **MO-1045, STEAM SEAL FEED VALVE (critical step)** o MO-1046, STEAM SEAL BYPASS VALVE o TURBINE BYPASS VALVES Operator observes MO-2565 is closed by observing red light off and green light on. Operator observes MO-1180 is closed by observing red light off and green light on. Operator observes MO-1181 is closed by observing red light off and green light on. Operator observes MO-1182 is closed by observing red light off and green light on. Operator observes MO-1183 is closed by observing red light off and green light on. Operator observes MO-1739 is closed by observing red light off and green light on. Operator observes MO-1617 is closed by observing red light off and green light on. Operator observes MO-4000 is closed by observing red light off and green light on. Operator closes MO-1045 by taking H.S. 1045 to close and observing red light off and green light on Operator observes MO-1046 is closed by observing red light off and green light on. Operator observes Turbine Bypass Valves are closed by observing POI 1788 and 1789 INDICATE 0% open.
Standard:	Verified valves closed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: Y**	Open MSIVs by performing the following: • Close the following SJAE supply valves. o CV-1242, 11 SJAE PRESS CONTROL o CV-1243, 12 SJAE PRESS CONTROL Operator closes valves from PC-1246 / PC-1247 by taking the controller to manual and using the knob to close the valves or may dial the thumbwheel to the minimum signal of Panel C-06)
Standard:	Closed SJAE supply valves
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: Y**	Open MSIVs by performing the following: • Close the Recombiner Steam Supply Valves by performing the following: o Place controller PIC-7497A in manual, and close PCV-7497A, 11 OG STM SUPPLY PCV o Place controller PIC-7497B in manual, and close PCV-7497B, 12 OG STM SUPPLY PCV Operator closes by pushing PIC-7497A/B controllers manual/auto button to 'M' and turning the knob to reduce the signal to ≤0 for each controller
Standard:	Close Recombiner Steam Supply Valves.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: Y**	Open MSIVs by performing the following: • When Main Steam Line Pressure and RPV Pressure are withing100 psid, or as directed by Shift Supervision, then OPEN AO-2-80C, MAIN STEAMLINE ISOLATION INBOARD Operator observes PI 4274 on Panel C-04 and RPV Pressure from SPDS or RPV Pressure indicators 6-90A(B) on Panel C-05 and determines pressures are within 100 psig. Operator takes Control Switch 16A-S1C for AO-2-80C to open and observe red light on and green light off.
Standard:	When differential pressure was <100 psig, then opened “C” INBOARD MSIV.
Evaluator Cue:	If requested to open before 100 psid, state that the valve may be opened at any pressure less than 150 psid.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	Open MSIVs by performing the following: • When AO-2-80C, MAIN STEAM LINE ISOLATION-INBOARD, is open, or when the Main Steam Line Pressure and RPV Pressure are within 75 psid, then OPEN the following valves: o AO-2-80A, MAIN STEAM LINE ISOLATION-INBOARD o AO-2-80B, MAIN STEAM LINE ISOLATION-INBOARD o AO-2-80D, MAIN STEAM LINE ISOLATION-INBOARD Operator opens valves by taking Control Switches 16A-S1A (B) and (D) to open and observes the red light on and green light off.
Standard:	Opened remaining INBOARD MSIVs
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Y**	When at least one MSIV is open, then open the Turbine Bypass Valves, regardless of Main Condenser availability by performing the following: • IF vacuum trip 2 has tripped, THEN reset vacuum trip 2 as necessary to open or reopen the Turbine Bypass Valves. • Open the Turbine Bypass Valves. Operator resets vacuum Trip 2 by taking Control Switch MTS-2 to reset and observing green light on. Operator takes Control Switch for the Pressure Regulator Override to open and observe the red light on and the Turbine Bypass Valves begin to open. Operator continues taking the Pressure Regulator Override Switch to open until both Turbine Bypass Valves are 100% open as observed on POI-1788 and POI-1789.
Standard:	Opened Turbine Bypass Valves #1 and #2 100%
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge task complete, state that JPM is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	**DO NOT PROMPT.** _____

Terminating Cues: **WHEN INFORMED THAT THE TBPVs ARE OPEN, STATE THE JPM IS COMPLETE**

Stop Time: _____

SIMUALTOR SET-UP SHEET

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-245 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF THE H202 JPM AND HPCI MANUAL INJECTION JPM ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:
From 100% power IC 125, perform the following:

- Insert malfunction HP02, HPCI AUTO START FAILURE
- Insert malfunction HP04A, HPCI SPEED FAILS LOW
- Trip both Reactor Feedwater Pumps
- Trip RCIC
- Trip the Main Turbine
- After the MSIVs close, place the Reactor Mode Switch in Shutdown.
- Insert malfunction MS04B TO 5%
- Insert malfunction RR01A TO 50%
- When RPV water level reaches -35 inches, delete RR01A and lower MS04 TO 2%
- Start the Second CRD Pump
- Start 'B' SBLC Pump
- Inhibit ADS
- Place both loops of RHR in Torus Cooling and Torus Sprays
- Override Control Switches for all SRVs to close
- Take Control Switches for all SRVs to open.
- Insert malfunction PC07, MSIV ISOLATION EOP JUMPERS INSTALLED
- Override Annunciator 3-B-34 to off

Simulator operator may maintain RPV water level above –126 inches with feedwater as required.

JPM-C.5-3303-001, ALTERNATE RPV DEPRESSURIZATION WITH TBPVS, Rev. 1

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: SHUTDOWN OF ONE RECIRC PUMP WITH THE REACTOR AT POWER

JPM NUMBER: JPM-B.01.04-005 **REV.** 4

RELATED PRA INFORMATION: NONE

TASK NUMBER(S) / TASK TITLE(S): CR202.112

K/A NUMBERS: 202001 A4.08 **Rating: SRO/RO:** 3.2/3.1

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

JPM Number: JPM-B.01.04-005

JPM Title: Shutdown of One Recirc Pump with Reactor at Power

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
State the following:
The tasks conditions are as follows:

- You are the Operator at the Controls
- During power operations, annunciator 4-C-14 (RECIRC MG B HI VIBRATION) alarmed. Following further investigation, the No. 12 Reactor Recirculation Pump MG Set requires immediate shutdown to prevent damage to the MG set.
- Reactor Power is currently approximately 42%.
- Control Rods have been adjusted to avoid the buffer/exclusion regions per the Nuclear Engineer.

INITIATING CUES (IF APPLICABLE):
"[STATE THE OPERATOR'S NAME] the Control Room Supervisor directs you to Shutdown the No. 12 Reactor Recirculation Pump.

JPM PERFORMANCE INFORMATION

Required Materials: NONE

General References: B.01.04-05

Task Standards: SHUTDOWN NO. 12 REACTOR RECIRCULATION PUMP WITH THE REACTOR AT POWER

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Locates procedure B.01.04-05.F.2 (SHUTDOWN OF ONE PUMP WITH REACTOR AT POWER).
Standard:	Located appropriate procedure.
Evaluator Cue:	If individual refers to ARP for 4-C-14 and asks what vibration levels are, the answer is 6 Gs.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Declare both LPCI Injection paths inoperable and enter a 72-hour LCO per Tech Spec 3.5.A.3.f. Operator informs the CRS that both LPCI Injection paths inoperable and enters a 72-hour LCO per Tech Spec 3.5.A.3.f.
Standard:	Declared both LPCI Injection paths inoperable and enters a 72-hour LCO per Tech Spec 3.5.A.3.f.
Evaluator Cue:	If notified, respond as CRS that the LPCI Injection paths are declared inoperable and a 72-hour LCO per Tech Spec 3.5.A.3.f has been completed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3	**CAUTION**
Critical: Y	**Reducing Reactor Power using Recirc Pumps alone such that Recirc Pumps speed is approximately 50% will result in an uncontrolled entry into the buffer or exclusion region of the power flow map.** Reduce Reactor Power until both Recirc pumps speeds are approximately 50%, using both Control Rods and Recirc Pumps and in a manner determined by Shift Supervision. Operator may check power flow map to determine present location relative to the buffer and exclusion regions. Operator momentarily places HS 2A-S18 A & B in the CCW direction until ≤50% speed is obtained on both Recirc MG Sets.
Standard:	Both Recirc Pumps speed at approximately 50%.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4	**CAUTION**
Critical: N	**To prevent a 30% runback, ensure that total feedwater flow is maintained greater than approximately 1.4 Mlb/hr (20%) when adjusting speeds on the running Recirc Pump.** Use either the RWM Rapid Power Reduction menu or specific Nuclear Engineer recommendations to insert Control Rods to ensure at least 5% (90 MWt) margin to the unanalyzed region. Operator verifies adequate margin exists to the unanalyzed region or relies upon information given by the Nuclear Engineer.
Standard:	Verified adequate margin exists to the unanalyzed region.
Evaluator Cue:	If asked, evaluator acts as Nuclear Engineer and states that current conditions are adequate to secure “B” Recirc Pump.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Reduce the speed of the pump to be shutdown to 30% of rated speed (minimum). Operator places HS 2A-S18 B in the CCW direction until 30% of rated speed is achieved on 12 Recirc Pump.
Standard:	Reduced Recirc speed to approximately 30%.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: N**	IF desired to limit cooldown of the idle loop, THEN reduce seal injection to the Recirc Pump to be shutdown to 1 GPM. Operator asks whether reduction of seal injection to the Recirc Pump is desired.
Standard:	Determined whether reduction of seal injection to the Recirc Pump is desired.
Evaluator Cue:	Reducing seal injection flow is not desired.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	If time permits, increase the gain on all APRMs such that ≤0.93. Operator asks whether APRM gain adjustment is desired.
Standard:	Determined whether APRM gain adjustment is desired.
Evaluator Cue:	Increasing the APRM GAIN is not required.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	**NOTE: Stopping one Recirculation Pump will cause a reduction in Reactor Power; be prepared to adjust for power reduction.** Place the MG Set drive motor control switch of pump to be shutdown to stop. Operator places the MG Set motor control switch (2A-S1B) for the No. 12 Recirc Pump to stop.
Standard:	Stopped No. 12 Recirc Pump.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Verify the drive motor breaker opened. Operator verifies the drive motor breaker opens by observing drive motor breaker red light off, green light on.
Standard:	Verified drive motor breaker opened.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	Verify the generator field breaker opened. Operator verifies the generator field breaker open by observing red light off, green light on.
Standard:	Verified the generator field breaker opened.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	Verify Stable Reactor water level. Operator observes RPV water level on LI2-3-85A and/or LI2-3-85B Panel C-05 to be stable.
Standard:	Verified Reactor Water Level is stable.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	**CAUTION** **Seal injection from CRD will pressurize a Recirc Pump if left on when pump is isolated.** IF the stopped pump is to be isolated, THEN perform the following: 1. Close the Recirc Pump suction valve. 2. IF recirc pump A is to be isolated, THEN close valve XR-22-1 11 RCP seal supply. 3. IF recirc pump B is to be isolated, THEN close valve XR-22-2 12 RCP seal supply. 4. Verify closed XR-28 RECIRC SEAL INJ XTIE. 5. IF recirc pump A is to be isolated, THEN close MO-2-53A 11 RECIRC PUMP DISCH. 6. IF recirc pump B is to be isolated, THEN close MO-2-53B 12 RECIRC PUMP DISCH. 7. Do not unisolate pump without plant management concurrence. Operator asks whether the stopped pump will be isolated.
Standard:	Asked if isolation is required.
Evaluator Cue:	Pump isolation is not required at this time.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Y**	IF the stopped pump is not to be isolated, THEN close the stopped pump Recirc Pump discharge valve. Operator closes the Recirc Pump discharge valve control switch 2A-S7B and observes red light off, green light on.
Standard:	Closed the Recirc Pump discharge valve.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	
Standard:	
Evaluator Cue:	When Recirc Pump discharge valve has been closed, inform the operator that the JPM is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	**DO NOT PROMPT.**

Terminating Cues: **WHEN RECIRC PUMP DISCHARGE VALVE HAS BEEN CLOSED, INFORM THE OPERATOR THAT THE JPM IS COMPLETE**

Stop Time: _____

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-246 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF EDG START JPM AND OFF GAS STORAGE AND JPM AND THE CRD EXERCISE JPM, ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:

From 60% power IC 123, perform the following:

- Insert Control Rods to establish approximately 42% power
- Set Control Rod roller tape to the last Control Rod moved.
- Raise Recirc Pump speeds to approximately 55%
- Insert malfunction C14 RECIRC MG B HI VIBRATION
- Insert malfunction C-252 A11 STORAGE TANK ROOM TEMP LOW (CONDITIONAL TO THE #11 OFFGAS COMPRESSOR START PUSHBUTTON (ZD:COAN) TRIGGER 1
- Select the #13 Offgas Storage Tank to be in fill and the #14 tank to be in discharge
- Insert override A1M3-01 A510P04-03 for the 13 Tank pressure to 65
- Insert override A1M2-01 A510P04-02 for the 14 Tank pressure to 2
- Insert remote DG10 #11 Diesel Generator Speed drop in
- When second Control Rod for test is inserted, insert malfunction CHO6 (SCRAM OUTLET VALVE LEAKING) to 100%
- When the Rod Select power switch is taken to off, **IMMEDIATELY DELETE THIS MALFUNCTION (CH06).**

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: H2/O2 Analyzer Operation C.5-3501

JPM NUMBER: JPM-C.5-3501-001 **REV. 0**

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): CR314.122
Operate H2/O2 Analyzer

K/A NUMBERS: 500000 EA1.01
EA1.02

Rating: SRO/RO: 3.3/3.4
3.2/3.3

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [x]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [x] Other: [ ]
Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

JPM Number: JPM- C.5-3501-001

JPM Title: H2/O2 Analyzer Operation C.5-3501

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
State the following:

- You are an extra licensed operator in the Control Room.
- EOP-1100 (RPV CONTROL) and EOP-1200 (PRIMARY CONTAINMENT CONTROL) have been entered.
- The CRS has determined that the 'A' H202 Analyzer is to be placed in service.

INITIATING CUES (IF APPLICABLE):

- **"[STATE OPERATOR'S NAME] place "A" H202 Monitor in service per C.5-3501 with the analyzer selected to sample the drywell.**
- **All other Control Room functions will be performed by other operators as required.**

JPM PERFORMANCE INFORMATION

Required Materials: NONE

General References: C.5-3501 (H2/O2 ANALYZER OPERATION)

Task Standards: PLACE THE 'A' H2/02 ANALYZER IN SERVICE SAMPLING THE DRYWELL

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Obtains C.5-3501 Operator obtains procedure and reviews precautions, limitations, and prerequisites. Operator verifies drywell temperature <280°F by observing SPDS.
Standard:	Verifies prerequisite is met by determining primary containment temperature is <280°F.
Evaluator Cue:	IF operator reports general note states that both analyzers should be placed in service, THEN state "NAME only "A" H2O2 analyzer will be placed in service and selected to sample the drywell."
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	IF a Group 2 isolation exists, THEN place INBD H202 valves close/isol bypass switch, and OTBD H202 valves close/isol bypass switch to isol bypass. Operator recognizes Group 2 Isolation due to high drywell pressure and momentarily places switch H.S. 4000A (1A) in the Isol/Bypass position.
Standard:	Group 2 Isolation bypassed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	Open selected inboard and outboard sample valves. Operator depresses pushbuttons S6A and observes SV-4020A and SV-4004A red light on and green light off. Operator depresses pushbuttons S7A and observes SV-4001A and SV-4005A red light on and green light off.
Standard:	Drywell inboard and outboard sample valves opened.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	Verify one H2O2 analyzer is selected to sample the Torus and the other is selected to sample the drywell. Operator verifies SV-4020A and SV-4001A are open by observing red light on and green light off.
Standard:	"A" analyzer lined up for drywell sampling.
Evaluator Cue:	IF operator questions this step, state "place 'A' H2O2 analyzer in service to sample the drywell."
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Place analyzer mode switch to analyze. Operator places switch AT-4018A in the analyze position and observes 02 0-25% range and H2 0-20% range red indicator lights on and the sample red indicator light on.
Standard:	Analyzer mode switch in the analyze position.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Depress remote selector pushbutton to take control at Control Room. Operator depresses remote selector pushbutton for "A" H2O2 analyzer. **NOTE TO EVALUATOR: No response can be observed from depressing this pushbutton.**
Standard:	H2O2 analyzer control transferred to the Control Room.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	Place function selector to zero. Operator places function selector to zero and observes zero red light on and sample red light off.
Standard:	Function selector in the zero position.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	Verify 02 dual range SWs on 0-25% range. Operator verifies 02 dual range switch on 0-25% range by observing red light on.
Standard:	Verifies 02 dual range switch on 0-25% range
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Verify H2 dual range SWs on 0-20% range, Operator verifies H2 dual range switch on 0-20% range by observing red light on.
Standard:	Verifies H2 dual range switch on 0-20% range.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	Place chart recorders in service. Operator verifies chart recorder is on by observing the power switch and recorder switch are in the on position. **<u>NOTE</u>: SWITCHES ARE LOCATED ON TOP AND TO THE SIDE OF RECORDER AND CAN ONLY BE ACCESSED WITH RECORDER PULLED PARTIALLY OUT. A STEP STOOL (LOCATED NEAR BY) MAY BE USED TO ACCESS THE SWITCH)**
Standard:	Verifies chart recorder is on.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	When analyzers have stabilized, then verify 02 concentrations are between 1/8 in. to the left of 0.0% and 1.0%, and verify H2 concentrations are between 1/8 in. to the left of 0.0% and 1.0%. Operator verifies stabilization VIA 02 and H2 indicators AI-4755A and AI-4018A by observing 02 concentrations are between 1/8 in. to the left of 0.0% and 1.0%, and verify H2 concentrations are between 1/8 in. to the left of 0.0% and 1.0%.
Standard:	VerifiedH2O2 analyzer stabilized indicating between the required values.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: Y**	Place function selector to span. Operator places function selector to span and observes the span red light on and zero light off.
Standard:	Function selector in span position.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Y**	When analyzers have stabilized, then verify O2 concentrations are between 19.0% and 21.0%, and verify H2 concentrations are between 17.0% and 19.0%. Operator observes indication on AI-4755A and determines 02 concentration is between 19% and 21%. Operator observes indication on AI-4018A and determines H2 concentration is between 17% and 19%
Standard:	Verify O2 and H2 concentrations are in the specified ranges.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: Y**	Place function selector to sample. Operator places function selector switch to sample and observes sample red light on and span red light off. Operator observes indications on AI-4755A and AI-4018A return to their original values.
Standard:	Function selector switch in the sample position.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical: N**	Select appropriate ranges for sample conditions. Operator selects low range by taking range switch to 0-10% position.
Standard:	Analyzer range switches selected to 0-10%.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge task complete, state that JPM is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	**DO NOT PROMPT.** _____

Terminating Cues: **WHEN INFORMED THAT THE H2O2 ANALYZER IS IN SERVICE AND SAMPLING THE DRYWELL, STATE THAT THE JPM IS COMPLETE.**

Stop Time: _____

SIMUALTOR SET-UP SHEET

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-245 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF THE HPCI MANUAL INJECTION JPM AND ALTERNATE EMERGENCY DEPRESSURIZATION JPM ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:

From 100% power IC 125, perform the following:

- Insert malfunction HP02, HPCI AUTO START FAILURE
- Insert malfunction HP04A, HPCI SPEED FAILS LOW
    - Trip both Reactor Feedwater Pumps
    - Trip RCIC
    - Trip the Main Turbine
    - After the MSIVs close, place the Reactor Mode Switch in Shutdown
    - Insert malfunction MS04B to 5%
    - Insert malfunction RR01A to 50%
    - When RPV Water Level Reaches -35 inches, delete RR01A and lower MS04 to 2%
    - Start the second CRD pump
    - Start ‘B’ SBLC pump
    - Inhibit ADS
    - Place both loops of RHR in Torus Cooling and Torus Sprays
    - Override Control Switches for all SRVs to close.
    - Take Control Switches for all SRVs to open.
    - Insert malfunction PC07, MSIV ISOLATION EOP JUMPERS INSTALLED.
    - Override Annunciator 3-B-34 to off.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: MANUALLY START NO. 11 EDG (CONTROL ROOM ACTIONS)

JPM NUMBER: JPM-B.09.08-001 **REV.** 8

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): CR264.101
Perform the 11(12) Emergency Diesel Generator Start and Load Test

K/A NUMBERS: 264000 **Rating: SRO/RO:** 3.7/3.7

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [ ]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]
Simulator: [X] Other: [ ]
Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: _____

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: JPM-B.09.08-001

JPM Title: Manually Start No. 11 EDG (Control Room Actions)

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
The task conditions are as follows:
- You are the Balance of Plant Operator.
- The Reactor is operating at Approximately 42% power.
- The Emergency Diesel Generator System Engineer has requested that No. 11 EDG be started and loaded to 2500 KW to perform an in-service inspection.

INITIATING CUES (IF APPLICABLE):
"[STATE OPERATOR'S NAME] manually start and load No. 11 EDG to 2500 Kw per the operations manual B.09.08-05.D.1. The Turbine Building Operator has completed the EDG In-plant Pre-Start Checks. Procedure STEPS 1 through 8 have been completed."

JPM PERFORMANCE INFORMATION

Required Materials: NONE

General References: B.09.08-05

Task Standards: START AND LOAD EDG TO 2500 KW

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Locate procedure B.09.08-05 D.1. (11 EMERGENCY DIESEL GENERATOR STARTUP). Operator obtains and reviews procedure.
Standard:	Obtained appropriate procedure.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	Perform the following simultaneously: 1. Place the Diesel Gen Control switch to START. 2. Verify the following annunciators did alarm: a. 8-B-24 (NO. 11 DIESEL ENG CRANKING) b. 8-B-34 (NO. 11 DIESEL ENG RUNNING) Operator places Diesel Gen Control switch (DG1/CS) to START and releases and acknowledges annunciators. **<u>NOTE TO EVALUATOR</u>: 8-B-3 #11 DIESEL GEN NOT AUTO DG1/152-502 will come in on start signal, alarm will reset immediately.**
Standard:	Started 11 EDG
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	Check Oil Pressure (PI-7005). It should build up within 90 seconds to above 44 psig.
Standard:	Contacted Turbine Building Operator to obtain status of Oil Pressure.
Evaluator Cue:	Report as Turbine Building Operator that Oil Pressure is 50 psig.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	Allow the engine to idle for 10 minutes. While idling: a. Check cylinder vent cocks for leakage. b. Check crankcase inspection covers for leakage. c. Check engine oil level. d. Observe engine, listen for any abnormal indications.
Standard:	Directed Turbine Building Operator to perform checks.
Evaluator Cue:	Turbine Building Operator reports that all EDG local parameters are normal at idle speed, STEP 11 is complete and then inform the operator that 10 minutes has lapsed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: N**	Perform the following to check the air box drain for proper operation: a. Remove the air box drain plug. b. Slowly crack OPEN the drain valve. c. Verify airflow from the air box drain line. d. CLOSE the air box drain valve. e. Re-install the air box drain plug.
Standard:	Contacted Turbine Building Operator to check the air box drain.
Evaluator Cue:	Turbine Building Operator reports Procedure Step 12 has been satisfactorily completed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Place 11 EDG Speed Droop knob to the scribe mark between 40 and 50 on the governor dial plate.
Standard:	Instructed Turbine Building Operator to place 11 EDG Speed Droop knob to scribe mark between 40-50 on governor dial plate.
Evaluator Cue:	Turbine Building Operator reports Speed Droop knob is to the scribe mark between 40 and 50 on the governor dial plate.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	Independently verify 11 EDG Speed Droop knob is at the scribe mark between 40 and 50 on the governor dial plate and log entry. Operator Requests for independent verification of previous step, and logs completion.
Standard:	Requested independent verification of previous step, and logs completion.
Evaluator Cue:	State that Independent verification is complete and is logged.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	Raise engine speed using speed adjust switch on C-O8. WHEN generator frequency meter comes on-scale, THEN release speed adjust switch. Operator Turns No. 11 EDG speed adjust (GSC-1/CS) to RAISE and holds in RAISE until frequency meter comes on-scale, then releases. **EVALUATOR NOTE: This takes approximately 1 minute to occur while holding the switch in the RAISE position.**
Standard:	Raised speed until frequency meter comes on scale.
Evaluator Cue:	If asked, local operator reports speed rising.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Parallel 11 EDG with 15 bus per the following: a. Adjust diesel speed until the frequency is approximately 60 Hz. Operator turns 11 EDG speed adjust control switch GSCI/CS to RAISE until frequency indicates approximately 60 Hz.
Standard:	Frequency approximately 60 HZ.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: Y**	b. Turn on synchronizing switch as frequency nears 60 Hz. Operator inserts synchronizing switch handle into SYNC 11 STBY DIESEL GEN to 15 BUS ACB 152-502 and turns ACB 152-502/SS to ON and observes SYNC scope rotation.
Standard:	SYNC switch on
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: Y**	The incoming indicates the diesel generator voltage. The running voltmeter indicates the bus voltage. c. Adjust the 11 EDG voltage adjust and speed adjust (C-08) to synchronize unit. Operator uses No. 11 EDG Voltage adjust switch (190-DG-1/CS), raise or lower voltage to match No. 11 EDG voltage (incoming voltage) to No. 15 Bus Voltage (running voltage). AND Operator uses No. 11 EDG speed adjust switch (GSC-1/CS), raise or lower No. 11 EDG speed until synchroscope rotates slowly in the clockwise direction.
Standard:	Matched voltage and SYNC scope rotated slowly in clockwise direction.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: Y**	**CAUTION 1** **Allow only one EDG to be paralleled to the system at a time. At no time should an EDG be tied to an off-site power system in anticipation of a loss of off-site power.** **CAUTION 2** **The Emergency Diesel Generator does not have synchroscope interlock and therefore can be paralleled out of phase. Ensure synchronous conditions are met when closing the EDG output breaker.** IF 12 EDG is NOT paralleled to the system, THEN close breaker 152-502 by operating breaker switch to CLOSE when synchronous conditions are met. Operator places ACB 152-502/CS to CLOSE position when meter synchronous conditions are met. Operator should observe the following indications: a. Breaker indication changes from green to red. b. No. 11 EDG AC Kilowatt meter indication slightly above O Kw. c. Synchroscope stops at 12 o'clock
Standard:	Closed EDG output breaker.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Y**	Using speed adjust switch, pickup load to 1875 KW. Hold at this load until local operator verifies engine is operating properly and temperature regulating valve opens. Operator adjusts speed adjust switch (GSC1/CS) in RAISE position until KW reaches 1875 KW Operator should observe the following as load is increased: a. KW indication increases to about 1875 KW. b. AC Amps increases. c. Directs operator to perform local inspections.
Standard:	Loaded EDG to approximately 1875 KW and directed Turbine Building Operator to perform local inspections.
Evaluator Cue:	Turbine Building Operator reports the following: 1. No. 11 EDG is operating properly. 2. Temperature regulating valve is open.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: Y**	Increase load as desired up to 2500 KW maximum. Adjust voltage until amperage reading is reduced to minimum (to prevent overload on generator). Operator adjusts speed adjust switch (GSC1/CS) in RAISE position until KW reaches 2400 – 2500 KW, AND Operator adjusts voltage adjust switch (190-DG1/CS) until Amperage indication lowers and does not raise.
Standard:	Loaded EDG to approximately 2500 KW and adjusted voltage to achieve minimum amperage.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical: N**	Turn off synchronizing switch. Operator places SYNC Control Switch 152-502/CS to off.
Standard:	SYNC switch off.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge Report
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	**DO NOT PROMPT!** _____

Terminating Cues: **AFTER D/G IS AT 2500 KW AND REPORT IS MADE, STATE THAT THE JPM IS COMPLETE.**

Stop Time: _____

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-246 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF RECIRC PUMP SHUTDOWN JPM AND OFF GAS STORAGE AND JPM AND THE CRD EXERCISE JPM, ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:
From 60% power IC 123, perform the following:

- Insert Control Rods to establish approximately 42% power.
- Set Control Rod roller tape to the last Control Rod moved.
- Raise Recirc pump speeds to approximately 55%.
- Insert malfunction C14 Recirc MG B HI Vibration.
- Insert malfunction C-252 A11 Storage Tank Room temp low (Conditional to the #11 Offgas compressor start pushbutton (ZD:COAN) Trigger 1.
- Select the #13 Offgas Storage Tank to be in fill and the #14 Tank to be in discharge.
- Insert override A1M3-01 A510P04-03 for the 13 tank pressure to 65.
- Insert override A1M2-01 A510P04-02 for the 14 tank pressure TO 2.
- Insert remote DG10 #11 Diesel Generator speed drop in.
- When second Control Rod for test is inserted, insert malfunction CHO6 (SCRAM OUTLET VALVE LEAKING) to 100%.
- When the rod select power switch is taken to off, **IMMEDIATELY DELETE THIS MALFUNCTION (CH06).**

JPM-B.09.08-001, MANUALLY START NO. 11 EDG (CONTROL ROOM ACTIONS), Rev. 8

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: VERIFY RWM OPERABILITY

JPM NUMBER: JPM-B.05.02-001 **REV.** 7

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): CR201.104

K/A NUMBERS: 201006 A3.02 **Rating: SRO/RO:** 3.4/3.5

APPLICABLE METHOD OF TESTING:
Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION:
In-Plant: [ ] Control Room: [ ]
Simulator: [X] Other: [ ]
Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

JPM Number: JPM-B.05.02-001

JPM Title: Verify RWM operability

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
The task conditions are as follows:

- A reactor startup is to begin next shift.
- The prestart checklist states that a RWM Operability Test 0212 is to be performed.
- You are the Operator at the Controls.

INITIATING CUES (IF APPLICABLE):
"[STATE OPERATOR'S NAME] perform Part A of Test No. 0212 (ROD WORTH MINIMIZER OPERABILITY TEST). The Nuclear Engineer will perform Step 1 when requested".

JPM PERFORMANCE INFORMATION

Required Materials: INITIALIZE THE SIMULATOR TO IC-102.
MOVE THE MODE SWITCH TO THE REFUEL POSITION.
PLACE THE SEQUENCE ROLLER TAPE ON STEP 1.

FILL OUT 0212 AS FOLLOWS:
- SIGN SHIFT SUPV APPROVAL TO COMMENCE
- REASON FOR PERFORMING PROCEDURE IS # 1.
- INITIAL ALL PREREQUISITES, ROD SEQUENCE IS A2R4
- N/A STEPS 13-32

Have a copy of the RWM sequence steps listing ready for step 1.

General References: TEST 0212

Task Standards: COMPLETE TEST 0212

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: N**	Manually obtain the sequence loaded in the RWM, OR utilizing the RWM services function, print the sequence desired at a local printer by performing the following: Operator requests Nuclear Engineer to perform STEP 1.
Standard:	Obtained print out from Nuclear Engineer.
Evaluator Cue:	Provide operator with a copy of the loaded sequence. This step must be done by the Nuclear Engineer since it cannot be done on the simulator.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Verify sequence loaded in the RWM is identical to sequence on roller tape. Operator verifies sequence loaded in the RWM is identical to sequence on roller tape by comparing the sequence to the roller tape.
Standard:	Verified sequence loaded in RWM is identical to sequence on roller tape.
Evaluator Cue:	Evaluator should stop the Operator after proficiency has been demonstrated (STOP AFTER STEP 3).
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	IF a benchmark critical sequence is being tested, THEN place the RWM OD keylock switch in test, and select the Special Test mode.
Standard:	None
Evaluator Cue:	State this sequence is not a benchmark critical sequence.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	On the RWM Operators Display (OD), top status line, verify that Self-Test: is followed by OK. Operator verifies that on the RWM Operators Display (OD), top status line, Self-Test: is followed by OK. On the RWM Operators Display (OD), top status line, verify that Self-Test: is followed by OK.
Standard:	Verified Self-Test is followed by OK.
Evaluator Cue:	If required, state that the Self-Test is followed by OK. **NOTE Simulator RWM OD does not have the words "SELF-TEST" it does have "OK".**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	**NOTE: Mode switch position changes require log entry.** Verify the Reactor Mode Switch is in STARTUP (Panel C-05). Operator places the Reactor Mode Switch 5A-S1 is in STARTUP and makes a log enty indicating mode switch position change and acknowledges alarm 5-A-03, ROD WITHDRAWAL BLOCK.
Standard:	Placed Reactor Mode Switch in Startup.
Evaluator Cue:	Acknowledge log entry.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: N**	On the OD, top status line, verify that Sequence: is followed by the specified (in Prerequisite 2) Control Rod Sequence identifier (e.g., A1R0, B2R1, SPCL). Operator verifies that the RWM OD “SEQUENCE” is followed by the proper identifier by observing Rod Worth Minimizer screen.
Standard:	Verified that the RWM OD “SEQUENCE” is followed by the proper identifier.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	Withdraw the first permissible rod to Position 02. Operator selects the first control rod listed on the sequence using the rod select matrix. (This should be rod 22-27.) Operator places the Rod movement control switch 3A-S2 in the Rod Out Notch position momentarily. Operator verifies that selected control rod moves out to and stops at notch 02 on full core display and/or 4 rod display. Operator requests the step be verified.
Standard:	Selected the first control rod and withdraws to Notch 2.
Evaluator Cue:	When requested, act as verifier for this step. Simply state, “Verification is complete”.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	.

Performance Step: 8 **Critical: Y**	Attempt to withdraw the first rod in the next group in the sequence. Operator selects the first control rod listed in the next group on the sequence using the rod select matrix. (This will be step 4 of the sequence, Rod 14-27.) Operator places the Rod movement control switch in the Rod Out Notch position momentarily Operator requests the step be verified
Standard:	Selected the first control rod listed and attempts to withdraw 1 notch.
Evaluator Cue:	When requested, act as verifier for this step. Simply state, “Verification is complete”.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 9 **Critical: N**	Verify the following: a. Rod movement is prevented. b. On the RWM OD top status line blocks: is followed by WITHDRAW. c. The first line of the RWM OD lower display shows the selected rod, followed by SE WB (Select Error and Withdraw Block). Operator verifies the following: 1. Rod movement is prevented 2. On the RWM OD top status line blocks: is followed by WITHDRAW 3. The first line of the RWM OD lower display shows the selected rod, followed by SE WB (Select Error and Withdraw Block)
Standard:	Verified Rod Movement is prevented.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: Y**	Using the printed sequence obtained in STEP 1: a. Select one rod from each Rod Group, except group presently permitted to be withdrawn (listed in left hand vertical column). b. Verify first line of RWM OD lower display shows selected rod followed by SE WB (Select Error and Withdraw Block). Operator uses the printed sequence obtained in STEP 1: 1. Select one rod from each Rod Group, except group presently permitted to be withdrawn (listed in left hand vertical column) 2. Verify first line of RWM OD lower display shows selected rod followed by SE WB (Select Error and Withdraw Block)
Standard:	Selected one rod from next group and tested satisfactorily.
Evaluator Cue:	After candidate performs this step for 1 rod group inform them that the entire step is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: Y**	Insert all withdrawn control rods to 00. Operator selects the first control rod used with the rod select matrix. Operator places the Rod movement control switch in the Rod In Notch position momentarily. Operator verifies selected rod is at position 00. Operator requests the step be verified.
Standard:	All Control Rods are at position 00.
Evaluator Cue:	When requested, act as verifier for this step. Simply state, "Verification is complete".
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	IF Reactor Mode Switch was moved for this procedure, AND no other testing is required, THEN place Reactor Mode Switch in the desired position, AND log in the Monticello Station Log.
Standard:	Operator inquires if other testing will be done.
Evaluator Cue:	Other testing will be done, leave the mode switch in Start Up.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge Report
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: WHEN REPORT IS MADE THAT TASK IS COMPLETE, STATE THAT THE JPM IS COMPLETE.

Stop Time: _____

SIMULATOR SET UP: (*Modify table as necessary)*

Simulator Setup Instructions:

- INITIALIZE THE SIMULATOR TO IC-102.
- MOVE THE MODE SWITCH TO THE REFUEL POSITION.

	EVENT NUMBER	EVENT FILE NAME	EVENT WORD DESCRITPTION
1.			
2.			

SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.		None	00:00:00	00:00:00			
2.			00:00:00	00:00:00			
3.			00:00:00	00:00:00			
4.			00:00:00	00:00:00			

SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.		None	00:00:00	00:00:00			
2.							
3.							
4.							

SIMULATOR - REMOTE FUNCTIONS:

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

JPM-B.05.02-001, VERIFY RWM OPERABILITY, Rev. 7

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

_____ _____

Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: SWAPPING OFF-GAS STORAGE TANKS

JPM NUMBER: JPM-B.07.02.02-003 **REV.** 1

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): CR271.122

K/A NUMBERS: 271000 A4.09 **Rating: SRO/RO:** 3.2/3.3

APPLICABLE METHOD OF TESTING:
Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION:
In-Plant: [ ] Control Room: [ ]
Simulator: [X] Other: [ ]
Lab: [ ]

Time for Completion: 30 Minutes Time Critical: NO

Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO: _____ SRO/RO: X SRO/RO/NLO: _____

Additional signatures may be added as needed.

Developed by:		
	Instructor	Date
Validated by:		
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

JPM Number: JPM-B.07.02.01-003

JPM Title: Swapping Off-gas storage tanks

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

JPM BRIEFING/TURNOVER
(See MTCP-03.32, Figure 6.2)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:
State the following:
The task conditions are as follows:

- You are the Balance of Plant Operator
- The plant is approximately 42% power.
- Off-gas storage tank # 13 is being filled and # 14 is being discharged.
- Stack filter # 11 is in service.
- An APEO has already been dispatched to the off-gas storage building.

INITIATING CUES (IF APPLICABLE):
"[STATE OPERATOR'S NAME], the Control Room Supervisor directs you to swap off-gas storage tanks per B.07.02.02-05 E.1 (SWAPPING OFF-GAS STORAGE TANKS) so that # 14 tank is being filled and # 15 tank is being discharged."

JPM PERFORMANCE INFORMATION

Required Materials: Initialize the simulator to any IC with the plant at 100% power (IC-124-126). Ensure Off-gas Storage tank # 13 is being filled and #14 is being discharged. Ensure # 11 Off-gas compressor is running.

FORM 2168 APPROPRIATELY FILLED OUT AND POSTED AT PANEL C-252A

General References: B.07.02.02-05, C.6-252-A-11

Task Standards: SWAPS STORAGE TANKS AND BYPASSES OFF-GAS STORAGE

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: Y**	Isolate filled tank as follows: a. WHEN a storage tank pressure reaches 200 psig to 275 psig, OR annunciator Off-Gas Full Storage Tank (C-07) alarms, or when directed by Shift Supervisor, THEN dispatch an operator to the Compressed Gas Storage Building. b. Momentarily depress the OFF pushbutton (Panel C-252A) to remove the operating compressor from service. Operator depresses the OFF pushbutton for C-1001A, 11 OG CMPSR (HS-C252-HM) and observes the Off-Loaded-On green light on, red light off on upper Panel 252A MIMIC display.
Standard:	Removed Compressor from service.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	**NOTE: The drain traps on the storage tanks leak by and are normally isolated. This step will blow any condensation out of the filled tank before it is placed in STORE.** c. OPEN OG-82, Hold Up Tk Drn Hdr Stop. d. Slowly throttle OPEN the drain trap bypass valve on the filled tank for approximately 5 to 10 seconds and then CLOSE the same valve: OG-81-1, 11 OGST DRN TRAP BYP OR OG-81-2, 12 OGST DRN TRAP BYP **OR OG-81-3, 13 OGST DRN TRAP BYP** OR OG-81-4, 14 OGST DRN TRAP BYP OR OG-81-5, 15 OGST DRN TRAP BYP e. CLOSE OG-82.
Standard:	1. Directs APEO to: a. OPEN OG-82 b. OPEN for 5-10 seconds then CLOSE OG-81-3 c. CLOSE OG-82
Evaluator Cue:	**State as Outplant Operator:** OG-82 is open. OG-81-3 has been opened for 5-10 seconds and is now closed. OG-82 is closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	**NOTE: Moving the handswitch out of the FILL position starts the 12 hour interlock timer. The discharge valve cannot be opened until this timer times out.** f. Place the handswitch for the filled tank in the STORE position. Operator places the handswitch HS-7651 storage tank #13 Control Switch in the STORE position and observes green light off.
Standard:	Placed control switch in STORE.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: Y**	g. Close the Holdup Tank Inlet Isolation valve for the appropriate tank: OG-76-1 OR OG-76-2 **OR OG-76-3** OR OG-76-4 OR OG-76-5 h. Close the Tank Header Isolation Valve for the appropriate tank: OG-77-1 OR OG-77-2 **OR OG-77-3** OR OG-77-4 OR OG-77-5
Standard:	Directed Outplant Operator to close OG-76-3 & OG-77-3.
Evaluator Cue:	**State as Outplant Operator:** OG-76-3 and OG-77-3 are closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	2. Isolate discharged tank as follows: a. Place handswitch for discharged tank in STORE position. Places Control Switch HS-7659 Storage tank #14 Control Switch in the STORE position and observe red light off.
Standard:	Placed #14 Tank in STORE
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	b. CLOSE the Holdup Tank Discharge valve: OG-78-1 OR OG-78-2 OR OG-78-3 **OR OG-78-4** OR OG-78-5 c. Close the Tank Header Isolation valve: OG-77-1 OR OG-77-2 OR OG-77-3 **OR OG-77-4** OR OG-77-5
Standard:	Directs APEO to close OG-78-4 & OG-77-4.
Evaluator Cue:	**State as Outplant Operator:** OG-78-4 and OG-77-4 are closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	**CAUTION** **Only one tank at a time should be in the FILL mode; otherwise, off-gas will flow between tanks.** 3. Select tank to be filled as follows: a. Refer to Form 2168 (STORAGE TANK STATUS). b. Select the tank with the lowest reading, normally the one just discharged. c. WHEN isolation of filled storage tank is complete, THEN depressurize the storage tank inlet header by momentarily cracking open the operating compressor's discharge header pressure bleed valve. 1) OG-75-1, 2) OR OG-75-2. Operator refers to form 2168 (posted on panel C-252A). The tank that is to be discharged has been directed by the Control Room Supv. Operator directs the Outplant Operator to momentarily OPEN and then CLOSE OG-75-1
Standard:	Determine storage tank #14 to be discharged.
Evaluator Cue:	**State as Outplant Operator:** OG-75-1 has been cracked open and is now closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	**<u>NOTE</u>: The holdup tank stop valves, OG-77-1, OG-77-2, OG-77-3, OG-77-4 and OG-77-5, can function as check valves preventing flow into the tank if their tank is selected with the inlet header pressurized.** d. Open the selected holdup tank header isolation valve: OG-77-1 OR OG-77-2 OR OG-77-3 **OR OG-77-4** OR OG-77-5 e. OPEN the holdup tank header isolation valve for the tank selected: OG-76-1 OR OG-76-2 OR OG-76-3 **OR OG-76-4** OR OG-76-5
Standard:	Directs the Outplant Operator to open OG-77-4 and OG-76-4.
Evaluator Cue:	**State as Outplant Operator:** OG-77-4 AND OG-76-4 are open.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: Y**	f. Place handswitch for the selected tank in the FILL position (Panel C-252A). Places handswitch HS-7659 for storage tank #14 in the fill position and observes green light on.
Standard:	Placed #14 Tank to fill.
Evaluator Cue:	NOne
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: Y**	g. Momentarily depress the operating compressor RESET pushbutton to restore to service. Operator momentarily depresses the compressor RESET pushbutton for # 11 compressor by depressing C-1001a 11 OG CMPSR ON, PBHS-252A-JM.
Standard:	Reset #11 Compressor
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: Y**	h. Momentarily depress the operating compressor ON pushbutton (Panel C-252A). Operator momentarily depresses the compressor RESET pushbutton for # 11 compressor by depressing C-1001a 11 OG CMPSR ON, PBHS-252A-HL. Observes red light on, green light off (white loading light may come on). Indication located on upper panel C-252 MIMIC.
Standard:	Started #11 Compressor
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	**CAUTION** **Only one tank at a time can be in DISCHARGE mode; otherwise, off-gas will flow between tanks.** 4. Select the tank to be discharged by the following method. a. IF the storage tank room temperature is less than 55°F as indicated by an alarm on annunciator 252-A-11 (STORAGE TANK ROOM TEMP LOW), THEN discharge storage tank IAW procedure C.6-252-A-11. Operator should respond to alarm 252-A-11 and reference ARP C.6-252-A-11.
Standard:	Respond to Alarm
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Y**	1. Dispatch an Operator to verify TI-7713 indicates low temperature. 2. IF the storage tank vault ambient temperature cannot be maintained above 55°F, THEN terminate the release of storage tanks, AND bypass the Compressed Gas Storage System per B.07.02.02 (OFF-GAS HOLDUP SYSTEM). 3. Notify Shift Supervision. Operators directs APEO to verify low temperature on TI-7713. Refers to section G.1. of B.07.02.02-05
Standard:	Dispatch Outplant Operator to verify temperature.
Evaluator Cue:	**State as Outplant Operator:** TI-7713 indicates 54°F.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	(Operator enters procedure B.07.02.02-05.G.1) 1. IF loss of the storage system is NOT due to out-of-spec recombiner outlet gases, THEN proceed to step 5 to begin the bypass of the storage system. Operator reviews procedure and recognizes need to begin at STEP 5.
Standard:	Began at STEP 5
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical: Y**	**<u>NOTE</u>: Steps 5.a. through 5.h. direct the actual bypassing of the storage system.** 5. Bypass the storage system. **<u>NOTE</u>: If the current release rate is > 9,000 uci/sec, the release rate may increase to a value greater than the instantaneous release rate limit of 90,000 uci/Sec upon bypass of the storage system.** a. Isolate the Off-Gas Compressor Suction Filters from the 42″ Diameter Delay Line. 1) CLOSE 11 COMP SUCT FILTER INLET, OG-59-1 2) CLOSE 12 COMP SUCT FILTER INLET, OG-59-2 Operator observes on Panel C-257 stack WRGM release rate is <9000 uci/sec Direct Outplant Operator to close OG-59-1 AND OG-59-2
Standard:	Verified stack release rate <9000 uci/sec and directed Outplant Operator to close valves.
Evaluator Cue:	**State as Outplant Operator:** OG-59-1 and OG-59-2 are closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical: Y**	b. Verify Off-Gas Compressors are shutdown. Operator depresses the Off pushbutton for C-1001A, 11 OG CMPSR (HS-C252-HM) and observes the Off-Loaded-on green light on, red light off on upper Panel 252A MIMIC display.
Standard:	Stopped #11 Compressor
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 **Critical: Y**	c. Verify all storage tanks in the STORE mode. Operator takes the following handswitches to store and observes no light on. • HS-7667, STORAGE TANK #15 • HS-7659, STORAGE TANK #14 • HS-7651, STORAGE TANK #13 • HS-7643, STORAGE TANK #12 • HS-7635, STORAGE TANK #11
Standard:	Placed storage tank #14control switch in the STORE position.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 **Critical: Y**	**NOTE: This will prevent reverse flow through the stack filters and into the 42" delay line when the bypass valve HCV-7583 is opened.** d. Perform the following: 1) IF filter 11 is in service, THEN CLOSE OG-5-1, 11 STACK FILTER INLET. 2) IF filter 12 is in service, THEN CLOSE OG-5-2, 12 STACK FILTER INLET.
Standard:	Directs the APEO to CLOSE OG-5-1.
Evaluator Cue:	**State as Outplant Operator:** OG-5-1 is closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 19 **Critical: Y**	e. WHEN the 42" Diameter Delay Line pressure increases to 14.5 psia as indicated on PI-7539A (C-252B) or PI-7539B (Panel C-252C), THEN place the bypass keylocked handswitch HCS-7583 (Panel C-252A) in the OPEN position. Operator monitors pressure on PI-7539A and PI-7539B and when pressures is 14.5 psia then places the bypass keylocked handswitch HCS-7583 in the OPEN position. Observes the red light on for HCV-7583 on the upper mimic.
Standard:	Placed bypass switch to open.
Evaluator Cue:	Wait ≈ 30 seconds then tell the operator that both pressure indicators are at 14.5 psia. Once operator has placed keylock switch to OPEN then terminate the JPM at this point by stating, "This JPM is complete".
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: See above.

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

THE SIMULATOR SETUP FOR THIS JPM IS SAVED TO IC-246 TO SUPPORT THE 2005 ILT EXAM. THIS JPM SETUP IS DESIGNED TO ALSO SATISFY THE NEEDS OF RECIRC PUMP SHUTDOWN JPM AND EDG START AND JPM AND THE CRD EXERCISE JPM, ALSO INCLUDED IN THIS EXAMINATION.

SET UP INSTRUCTIONS:
From 60% power IC 123, perform the following:

- Insert Control Rods to establish approximately 57% power.
- Set Control Rod roller tape to the last Control Rod moved.
- Raise Recirc Pump speeds to approximately 55%
- Insert malfunction C14 RECIRC MG B HI VIBRATION
- Insert malfunction C-252 A11 STORAGE TANK ROOM TEMP LOW (CONDITIONAL TO THE #11 OFFGAS COMPRESSOR START PUSHBUTTON (ZD:COAN) trigger 1
- Select the #13 Offgas Storage Tank to be in fill and the #14 Tank to be in discharge
- Insert override A1M3-01 A510P04-03 for the 13 Tank pressure to 65
- Insert override A1M2-01 A510P04-02 for the 14 Tank pressure to 2
- Insert remote DG10 #11 Diesel Generator speed drop in
- When second Control Rod for test is selected, inset conditional malfunction CHO6 (SCRAM OUTLET VALVE LEAKING) to the Rod Control switch to 100%
- When the rod select power switch is taken to off, **IMMEDIATELY DELETE THIS MALFUNCTION.**

JPM-B.07.02.02-003, SWAPPING OFF-GAS STORAGE TANKS Rev. 1

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)