NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: TRANSFER EDG COOLING FROM EDG-ESW TO SERVICE WATER

JPM NUMBER: B.08.01.02-05-001 **REV.** 1

RELATED PRA INFORMATION: NONE

TASK NUMBER(S) / TASK TITLE(S): CR264.107
Perform the Actions for a Failure of the EDG-ESW Equipment to Auto Initiate on EDG Start

K/A NUMBERS: 295018 AA1.01 **Rating: SRO/RO:** 3.4 / 3.3

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: 10 min

Alternate Path / Faulted: NO

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

Additional signatures may be added as needed.

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

JPM Number: JPM- B.08.01.02-05-001

JPM Title: Transfer EDG Cooling from EDG-ESW to Service Water

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:
- A plant transient has occurred
- D/W pressure has exceeded 2 psig
- Both EDGs have started
- A loss of off site power has occurred
- 11 ESW pump is degrading
- 11 EDG-ESW low flow annunciator is in alarm
- You are an extra plant operator

INITIATING CUES (IF APPLICABLE):
- The CRS directs you to transfer EDG cooling from EDG-ESW to Service Water.

JPM PERFORMANCE INFORMATION

Required Materials: B.08.01.02-05

General References:

Task Standards: Open SW-239-1 and then calls the control room to shutdown P111A, 11 ESW pump, within 10 minutes of valve opening.

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**	Obtain copy of procedure B.08.01.02-05
Standard:	Obtains copy of procedure
Evaluator Cue:	When procedure is obtained, provide a copy of procedure to operator.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	IF G-3A, 11 Emergency Diesel Generator, is to be cooled by Service Water, THEN perform the following: a. Verify OPEN AO-1575, Service Water to "A" ESW Isolation.
Standard:	Verifies AO-1575 is OPEN
Evaluator Cue:	State that the valve stem is up.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	IF G-3A, 11 Emergency Diesel Generator, is to be cooled by Service Water, THEN perform the following: b. If valve AO-1575 fails to OPEN, THEN perform the following (1) Close air isolation valve AI-1575, SW/ESW Cross-tie (2) Break air connection from SV-1575, Service Water to "A" ESW Isolation, to the air operator (to vent the operator) (3) Verify AO-1575 OPEN
Standard:	Not required as valve is verified to be open
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	IF G-3A, 11 Emergency Diesel Generator, is to be cooled by Service Water, THEN perform the following: c. Notify CRS to declare G-3A, 11 Emergency Diesel Generator inoperable and enter the applicable condition for Tech Spec 3.7.3
Standard:	Notifies CRS to declare No.11 EDG-ESW system inoperable and enter the applicable condition for Tech Spec 3.7.3.
Evaluator Cue:	Acknowledge the report
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	IF G-3A, 11 Emergency Diesel Generator, is to be cooled by Service Water, THEN perform the following: d. OPEN SW-239-1, Service Water Isolation to A ESW, AND perform Step e. below without delay.
Standard:	Opens valve SW-239-1
Evaluator Cue:	Valve hand wheel is turning, stem is rising, resistance is met (to simulate valve opening)
Critical Time Start:	Critical time start point when the operator acknowledges that SW-239-1 is OPEN.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	IF G-3A, 11 Emergency Diesel Generator, is to be cooled by Service Water, THEN perform the following: e. IF P-111A, 11 ESW Pump, is running, THEN STOP P-111A.
Standard:	Informs the control room to secure P-111A.
Evaluator Cue:	Acknowledge the report and state that P111A is shut down.
Critical Time Stop:	Critical time stop is when the operator reports to the control room that SW-239-1 is open and to shutdown pump P-111A.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	IF G-3A, 11 Emergency Diesel Generator, is to be cooled by Service Water, THEN perform the following: f. Verify flow greater than 370 gpm as read on FI-4224A, 11 EDG-ESW Low Flow Alarm.
Standard:	Verifies low flow alarm is clear
Evaluator Cue:	When observed, state the low flow annunciator is cleared.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	When the low flow alarm has been verified to be cleared, state that the JPM is completed
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When the low flow alarm has been verified to be cleared, state that the JPM is completed.

Stop Time: _____

Critical Time _____ (must be ≤ 10 minutes)

TURNOVER SHEET

INITIAL CONDITIONS:

- A plant transient has occurred
- D/W pressure has exceeded 2 psig
- Both EDGs have started
- A loss of off site power has occurred
- 11 ESW pump is degrading
- 11 EDG-ESW low flow annunciator is in alarm
- You are an extra plant operator

INITIATING CUES (IF APPLICABLE):

- The CRS directs you to transfer EDG cooling from EDG-ESW to Service Water.

SIMULATOR SET UP:
No simulator setup required; this is an in-plant JPM.

SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

SIMULATOR - REMOTE FUNCTIONS:

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

SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

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)

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: NO. 11 EDG OPERATION WITHOUT DIVISION I BATTERY

JPM NUMBER: JPM-B.09.08-008 **REV.** 4

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): AA1.02
K6.09

K/A NUMBERS: 295004
264000

Rating: SRO/RO: 3.3/3.5
3.8/4.1

APPLICABLE METHOD OF TESTING:

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

EVALUATION LOCATION:

In-Plant: [X] Control Room: [ ]

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: No

Alternate Path / Faulted: No

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

Additional signatures may be added as needed.

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

JPM Number: JPM-B.09.08-008

JPM Title: No. 11 Operation without Division I Battery

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

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 plant is at power with Div I 125 Vdc Battery inoperable. A severe thunderstorm strikes the subyard causing a loss of all offsite power. No. 12 EDG failed to start for unknown reasons.
- You are an extra operator on shift.

INITIATING CUES (IF APPLICABLE):

- The CRS directs you to perform STEPS 1 through 14 of Procedure B.9.8-05-H.5 (11 EDG Operation with Loss of Division I 125 Vdc Battery) in order to restore No. 11 EDG to service. STEP 15 will be completed by another Operator.
- The applicable tech spec conditions associated with the performance of this procedure have been addressed by shift supervision.
- The prerequisites are satisfied.
- All electrical circuit points have been check for dead and verified de-energized.
- Inform the CRS when the 11 EDG is in service.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED.**

Note to Evaluator: PRIOR TO CONDUCTING THIS JPM, NOTIFY THE CONTROL ROOM AND WORK CONTROL OF THE NEED TO OPEN PANEL C-91 TO SIMULATE JUMPER INSTALLATION (JPM STEP 6).

JPM PERFORMANCE INFORMATION

Required Materials:

General References: B.09.08-05.H.5 Rev. 26

Task Standards: Operate No. 11 EDG with Loss of Div I 125 Vdc Battery

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.H.5 (11 EDG Operation with Loss of Division I 125 Vdc Battery).
Standard:	Locates appropriate procedure.
Evaluator Cue:	Provide operator with copy of procedure.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 2 **Critical: Y**	1. At C-08, place No. 11 EDG Control Switch in PULL TO LOCK.
Standard:	Contacts Control Room and requests that STEP 1 be performed, No. 11 EDG control switch to PTL.
Evaluator Cue:	No. 11 EDG control switch is in PTL.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 3 **Critical: Y**	2. In the lower 4 KV Room, locally turn OFF the following circuits on D111: a. D111-11 b. D111-12 c. D111-22
Standard:	Places the listed circuits to OFF.
Evaluator Cue:	After the operator simulates positioning each circuit to OFF state that that circuit is pushed down and OFF.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 4 **Critical: Y**	3. In the upper 4 KV Room, locally turn OFF Circuit D211-12.
Standard:	Places D211-12 to OFF.
Evaluator Cue:	After the operator simulates positioning the circuit to OFF state that that circuit is pushed down and OFF.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 5 **Critical: Y**	4. In the 11 Diesel Generator Room, OPEN the following breakers located on Panel C-91: a. CB ALARM b. CB START 1 c. CB START 2 d. AC CONTROL e. DC CONTROL
Standard:	Places the listed breakers to the OPEN position.
Evaluator Cue:	After the operator simulates positioning each circuit to OFF state that that circuit is pushed down and OFF.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 6 **Critical: Y**	5. In Panel C-91, connect prestaged jumpers (located in box under tool box in 11 EDG Room) as follows to provide field flash and local electrical control for 11 EDG: a. From 35WL2 to 35WL4 b. From 35WL2 to 35WL5 c. From 35WR2 to 35WR4 d. From 35WR2 to 35WR5
Standard:	Places jumpers on correct terminals. **Doors are only to be opened with concurrence from operations and work control.**
Evaluator Cue:	When operator identifies location of jumpers, do not take jumpers from the designated location. After each jumper point has been identified, states that the jumpers have been positioned correctly.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 7 **Critical: Y**	6. Close the following breakers at C-91: a. CB START 2 b. AC CONTROL c. DC CONTROL
Standard:	Closes the listed breakers on C-91.
Evaluator Cue:	After the operator simulates positioning each breaker to CLOSE, state that the breaker is pushed up and CLOSED.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 8 **Critical: Y**	7. In the upper 4 KV Room, locally turn on Circuit D211-12.
Standard:	Places Circuit D211-12 to ON.
Evaluator Cue:	After the operator simulates positioning the circuit to ON, state that the circuit is ON.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 9 **Critical: N**	8. Station an operator in the Diesel Generator Room to monitor EDG operation.
Standard:	Operator may call Control Room to inform them that an operator is stationed in the EDG Room.
Evaluator Cue:	If requested, state that you are this operator.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 10 **Critical: Y**	9. At C-91, place the PREFERRED START selector switch in position 2.
Standard:	Places PREFERRED START switch to Position 2.
Evaluator Cue:	After the operator simulates placing the switch in position 2, state that the PREFERRED START switch is in Position 2.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 11 **Critical: Y**	**<u>NOTE</u>: Because it is anticipated that this procedure will be used in an emergency when time to restore power is critical, normal preparations to start the EDG are not required. If time allows, these items (such as barring over the engine and draining the air box) should be performed. See Procedure B.09.08-05.D.1, 11 Emergency Diesel Generator Startup.** 10. At C-08, place 11 EDG Control Switch momentarily to START and return to AUTO.
Standard:	Calls Control Room to inform them to complete STEP 10.
Evaluator Cue:	Control Switch is positioned to START. EDG RPM is rising.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 12 **Critical: N**	11. At C-93, check oil pressure (PI-7005). It should build up to >44 psig within 90 seconds.
Standard:	Verifies oil pressure is >44 psig on C-93.
Evaluator Cue:	When PI-7005 is monitored, state that it reads 49 psig.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 13 **Critical: N**	12. At C-91, close CB ALARM.
Standard:	At C-91 closes CB ALARM.
Evaluator Cue:	After the operator simulates placing the switch to close, state that CB ALARM breaker is pushed up and is closed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 14 **Critical: N**	13. At C-08, verify 11 EDG frequency is approximately 60 Hz and voltage is above 4000 Volts.
Standard:	Contacts Control Room and requests that STEP 13 be completed.
Evaluator Cue:	STEP 13 is complete. Frequency is 60 Hz, voltage is >4000.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 15 **Critical: N**	**<u>NOTE</u>: Operation of Breaker 152-502 may be by normal remote or local means, depending on the plant situation.** 14. Close Breaker 152-502, 11 EDG OUTPUT BREAKER.
Standard:	Contacts Control Room and requests that STEP 14 be completed.
Evaluator Cue:	STEP 14 is complete.
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:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	**DO NOT PROMPT.**

Terminating Cues: **When informed that the EDG output breaker is closed, the operator should inform the CRS that the task is complete. At that time, inform the operator that the JPM is complete.**

Stop Time: _____

TURNOVER SHEET

INITIAL CONDITIONS:

- The plant is at power with Div I 125 Vdc Battery inoperable. A severe thunderstorm strikes the subyard causing a loss of all offsite power. No. 12 EDG failed to start for unknown reasons.
- You are an extra operator on shift.

INITIATING CUES (IF APPLICABLE):

- The CRS directs you to perform STEPS 1 through 14 of Procedure B.9.8-05-H.5 (11 EDG Operation with Loss of Division I 125 Vdc Battery) in order to restore No. 11 EDG to service. STEP 15 will be completed by another Operator.
- The applicable tech spec conditions associated with the performance of this procedure have been addressed by shift supervision.
- The prerequisites are satisfied.
- All electrical circuit points have been check for dead and verified de-energized.
- Inform the CRS when the 11 EDG is in service.

ALL OPERATOR ACTIONS ARE TO BE SIMULATED.

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)

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: STARTUP OF AIR DRIVEN COMPRESSORS FOR MAIN AIR SUPPLY TO OUTBOARD MSIVS

JPM NUMBER: B.02.04.05-003 **REV.** 0

RELATED PRA INFORMATION: NONE

TASK NUMBER(S) / TASK TITLE(S): NL999.240
Main Steam Isolation Valve (MSIV) System

K/A NUMBERS: 239001 K1.12 **Rating: SRO/RO:** 2.6 / 2.5

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path / Faulted: NO

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

Additional signatures may be added as needed.

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

JPM Number: B.02.04.05-003

JPM Title: Startup of Air Driven Compressors for Main Air Supply to Outboard MSIVs

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:
- Plant is operating in MODE 1
- Annunciator 3-B-34, OUTB MSIV LOW AIR PRESSURE, is in alarm
- You are an extra plant operator

INITIATING CUES (IF APPLICABLE):
- The CRS directs you to perform a Startup of Air Driven Compressors for Main Air Supply to Outboard MSIVs per B.02.04.
- Procedure Steps 1 and 2 have been performed by another operator.

JPM PERFORMANCE INFORMATION

Required Materials: B.02.04.05

General References:

Task Standards: Startup of Air Driven Compressors for Main Air Supply to Outboard MSIVs

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**	Obtain copy of procedure B.02.04.05
Standard:	Obtains copy of procedure
Evaluator Cue:	When procedure is obtained, provide a copy of procedure to operator.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	OPEN the following compressor process air valves: a. AI-733, K-5B (Air Driven Cmprs) Process Supply Isol b. AI-765, K-5A (Air Driven Cmprs) Process Supply Isol
Standard:	OPENS valves
Evaluator Cue:	State that the valve operator rotates 90° to align with piping.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	OPEN the following compressor drive air valves: a. AI-734, Isol for Drive Supply to K-5B (Air Driven Cmprs) b. AI-766, Isol for Drive Supply to K-5A (Air Driven Cmprs)
Standard:	OPENS valves
Evaluator Cue:	State that the valve operator rotates 90° to align with piping.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: Y**	Adjust PCV-4920, Otbd MSIV Main Air Supply PCV (from K-5A/B), until 275-285 psig air pressure is obtained as indicated on PI-4919.
Standard:	Raises air pressure to 275-285 psig
Evaluator Cue:	State that the PCV control knob is turning in the clockwise direction. State that PI-4920 indicates 280 psig.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	OPEN the following compressor discharge valves: a. AI-739, Inbd Isol Vlv for K-5A/B Disch (Air Driven Cmprs) b. AI-740, Otbd Isol Vlv for K-5A/B Disch (Air Driven Cmprs)
Standard:	OPENS valves
Evaluator Cue:	State that the valve operator rotates 90° to align with piping.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: N**	Observe until system pressure increase is detected.
Standard:	Verifies system pressure increase.
Evaluator Cue:	State that PI-4919 indication is rising. PI-4919 now indicates 280 psig. Report as Lead Operator that annunciator 3-B-34 has cleared.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	Report to the Control Room that the Air Driven Compressors are in service.
Standard:	Reports task complete
Evaluator Cue:	Acknowledge report. State that JPM is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When report is made that task is complete, state JPM is complete.

Stop Time: _____

Critical Time ___N/A____

TURNOVER SHEET

INITIAL CONDITIONS:

- Plant is operating in MODE 1
- Annunciator 3-B-34, OUTB MSIV LOW AIR PRESSURE, is in alarm
- You are an extra plant operator

INITIATING CUES (IF APPLICABLE):

- The CRS directs you to perform a Startup of Air Driven Compressors for Main Air Supply to Outboard MSIVs per B.02.04.
- Procedure Steps 1 and 2 have been performed by another operator.

SIMULATOR SET UP:
No simulator setup required; this is an in-plant JPM.

SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

SIMULATOR - REMOTE FUNCTIONS:

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

SIMULATOR - OVERRIDES:

	OVERRIDE ID.	OVERRIDE DESCRIPTION	DELAY	RAMP	EVENT	VALUE	FINAL
1.							
2.							

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)

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: DEPRESSURIZE THE SCRAM AIR HEADER LOCALLY PER C.5-3101, PART B

JPM NUMBER: JPM-C.5-3101-002 **REV.** 7

RELATED PRA INFORMATION: None

TASK NUMBER(S) / TASK TITLE(S): NL314.101
Perform actions associated with Alternate Rod Insertion

K/A NUMBERS: 295037 EA1.03 **Rating: SRO/RO:** 4.1/4.1

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 10 Minutes Time Critical: No

Alternate Path / Faulted: No

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

Additional signatures may be added as needed.

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

JPM Number: JPM-C.5-3101-002

JPM Title: Depressurize the Scram Air Header Locally per C.5-3101, Part B

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 Main Turbine tripped from 100% power and a valid scram signal exists.
- The scram bus lights are off, but no control rod movement has been observed.
- Other methods of control rod insertion have been unsuccessful.
- You are an extra operator on shift

INITIATING CUES (IF APPLICABLE):

- Control Room Supervisor directs you to depressurize the scram air header locally using C.5-3101, PART B.

JPM PERFORMANCE INFORMATION

Required Materials: None

General References: Plant

Task Standards: C.5-3101 Part B, Rev. 6

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**	IF the scram air header is to be depressurized locally, AND the Reactor Building is accessible, THEN perform the following: a. Verify the scram air header is pressurized (local pressure indicator PI 3/229).
Standard:	Locates PI 3/229 and observes pressure.
Evaluator Cue:	1. Reactor Building is accessible. 2. PI 3/229 indicates 65 psig, or as indicated on PI3/229.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	IF the scram air header is to be depressurized locally, AND the Reactor Building is accessible, THEN perform the following: b. CLOSE AI-15, SCRAM AIR FILTER INLET.
Standard:	Closes AI-15.
Evaluator Cue:	Valve turns clockwise. Resistance is felt and valve is tight.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	IF the scram air header is to be depressurized locally, AND the Reactor Building is accessible, THEN perform the following: c. Remove the Scram Air Hdr Disconnect Coupling.
Standard:	Disconnects the Scram Air Header Disconnect Coupling.
Evaluator Cue:	Wrench turns coupling in counterclockwise direction until coupling is removed. You hear air bleed-off through coupling and PI 3/229 now indicates 0 psig. **(Dedicated wrenches are staged at the scam air header vicinity.)**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	IF the scram air header is to be depressurized locally, AND the Reactor Building is accessible, THEN perform the following: d. WHEN the control rods no longer move inward, THEN restore the Scram Air Header by performing the following: 1. Reconnect the Scram Air Header Disconnect Coupling. 2. OPEN AI-15, SCRAM AIR FILTER INLET.
Standard:	1. Asks if control rods are moving inward. 2. Connects the Scram Air Header Disconnect Coupling. 3. Opens AI-15.
Evaluator Cue:	1. Evaluator reports all control rods have fully inserted. 2. Wrench is turning Coupling in the clockwise direction, resistance felt, coupling tight. 3. AI-15 moves CCW, stem moving outward, resistance felt and valve is tight. PI 3/229 indicates 67 psig, or as indicated on PI3/229.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When report is made that task is complete, state JPM is complete.

Stop Time: _____

Critical Time ___N/A____

TURNOVER SHEET

INITIAL CONDITIONS:

- The Main Turbine tripped from 100% power and a valid scram signal exists.
- The scram bus lights are off, but no control rod movement has been observed.
- Other methods of control rod insertion have been unsuccessful.
- You are an extra operator on shift

INITIATING CUES (IF APPLICABLE):

- Control Room Supervisor directs you to depressurize the scram air header locally using C.5-3101, PART B.

SIMULATOR SET UP:
No simulator setup required; this is an in-plant JPM.

SIMULATOR - MALFUNCTIONS:

	MALF ID	MALFUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL.
1.							
2.							

SIMULATOR - REMOTE FUNCTIONS:

	REMOTE FUNC. No.	REMOTE FUNCTION TITLE	DELAY	RAMP	EVENT	VALUE	FINAL
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Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)