



JOB PERFORMANCE MEASURE (JPM)

SITE: PRAIRIE ISLAND

JPM TITLE: LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR

JPM NUMBER: AO-2F REV. 3

RELATED PRA
INFORMATION: NONETASK NUMBERS /
TASK TITLE(S): CRO 311 001 06 01 000 RESPONSE TO NUCLEAR POWER GENERATION /
ATWS

K/A NUMBERS: 001 K2.05 (3.1*/3.5)

APPLICABLE METHOD OF TESTING:

Discussion: ☐ Simulate/walkthrough: ☒ Perform: ☐EVALUATION LOCATION: In-Plant: ☒ Control Room: ☐Simulator: ☐ Other: ☐Lab: ☐

Time for Completion: 5 Minutes Time Critical: NO

Alternate Path: YES

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☒

Additional site-specific signatures may be added as desired.

Developed by:	Fredrick Collins	5/14/2014
	Developer	Date
Validated by:	Shawn Sarrasin	5/15/2014
	Validator	Date
	(See JPM Validation Checklist, Attachment 1)	
Approved by:	Travis Ouret	7/18/2014
	Training Supervisor	Date

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

AO-2F, LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR, REV. 3**JPM Number:** AO-2F**JPM Title:** LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR**Examinee:** _____**Evaluator:** _____**Job Title:** _____**Date:** _____**Start Time** _____**Finish Time** _____**PERFORMANCE RESULTS:****SAT:** **UNSAT:** **COMMENTS/FEEDBACK: (Make written comments 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.

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

AO-2F, LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR, REV. 3**JPM BRIEFING/TURNOVER**

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

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 reactor AND the turbine did NOT trip from the control room.
- The crew enters 1FR-S.1, Response to Nuclear Generation/ATWS.

INITIATING CUES:

- The SS directs you to locally open the UNIT 1 reactor trip breakers and locally trip the UNIT 1 turbine using 1FR-S.1, Step 5 RNO.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED UNLESS DIRECTED OTHERWISE.**

AO-2F, LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR, REV. 3

JPM PERFORMANCE INFORMATION

Required Materials: 1FR-S.1

General References: 1FR-S.1

Task Standards: BOTH 11 and 12 Rod Drive MG Set Motor AND Generator Breakers are OPEN and the turbine is TRIPPED.

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).

IMPORTANT: 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, per FP-T-SAT-73, Licensed Operator Requalification Program Examinations.

Performance Step:	1FR-S.1 Step 5a RNO
Critical <u>N</u>	Locally open reactor trip breakers.
Standard:	<ul style="list-style-type: none"> • Attempt to open both reactor trip breakers locally using the OPEN pushbutton. • Determine that neither trip breaker can be opened.
Evaluator Cue:	When the examinee simulates opening the trip breakers, inform the examinee that BOTH reactor trip breakers are still CLOSED and will NOT open.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

AO-2F, LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR, REV. 3

Performance Step:	1FR-S.1 Step 5a RNO
Critical <u>Y</u>	Locally open Rod Drive MG Set Motor and Generator breakers.
Standard:	BOTH 11 and 12 Rod Drive MG Set Motor and Generator breakers are open.
Evaluator Note:	Opening BOTH output breakers OR BOTH input breakers alone will trip the reactor and satisfy the critical step, however this does not fully comply with step 5a. If this occurs, it should be noted in the comments section.
Evaluator Cues:	<ul style="list-style-type: none"> • IF asked for reactor status, AND either MG set's output breaker AND input breaker are still closed, then inform the examinee that the reactor is still at power. • WHEN the examinee opens input or output breakers on BOTH MG sets, inform the examinee that a plant announcement stating "Reactor Trip" has been made.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step:	1FR-S.1 Step 5b RNO
Critical <u>Y</u>	Dispatch operator to locally trip turbine (local trip lever on turbine pedestal).
Standard:	Turbine is locally tripped using the local trip lever.
Evaluator Note:	The turbine may be tripped using the red button inside the DEHC Cabinet. This would satisfy the critical step.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: When BOTH 11 and 12 Rod Drive MG Set Motor and Generator Breakers are OPEN and the turbine is TRIPPED, then inform the examinee that the JPM is complete.

Stop Time: _____

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

TURNOVER SHEET

INITIAL CONDITIONS:

- The reactor AND the turbine did NOT trip from the control room.
- The crew enters 1FR-S.1, Response to Nuclear Generation/ATWS.

INITIATING CUES:

- The SS directs you to locally open the UNIT 1 reactor trip breakers and locally trip the UNIT 1 turbine using 1FR-S.1, Step 5 RNO.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED UNLESS DIRECTED OTHERWISE.**

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

AO-2F, LOCALLY TRIP THE REACTOR AND THE TURBINE GENERATOR, REV. 3**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 cover page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Have all special tools and equipment needed to perform the task been identified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12. Are all references identified, current, and accurate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

Number:	Title:	Revision Number:
1FR-S.1	RESPONSE TO NUCLEAR POWER GENERATION/ATWS	REV. 12

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>NOTE <i>Boration will stop when integrator setting is reached.</i></p>	
4	Initiate Normal Boration Of RCS At 12 To 15 GPM	<p>Establish emergency boration:</p> <ul style="list-style-type: none"> a. Transfer running Boric Acid Transfer pump to "FAST" speed. b. Open in-service BAST recirculation valve to 50% position. c. Open Emergency Boration valve (MV-32086). <p><u>IF</u> emergency boration can <u>NOT</u> be established, <u>THEN</u> align RWST to charging <u>AND</u> maximize charging flow.</p>
	<p>Caution <i><u>IF</u> an SI signal exists or occurs, <u>THEN</u> Attachment L of 1E-0, REACTOR TRIP OR SAFETY INJECTION should be performed while continuing with this procedure.</i></p>	
5	Check If The Following Trips Have Occurred:	
	<ul style="list-style-type: none"> a. Reactor trip - REACTOR TRIP AND BYPASS BREAKERS OPEN 	<ul style="list-style-type: none"> a. Dispatch operator to: <ul style="list-style-type: none"> • Locally open reactor trip breakers. <p style="text-align: center;">-OR-</p> <ul style="list-style-type: none"> • Locally open rod drive MG set motor and generator breakers.
	<ul style="list-style-type: none"> b. Turbine trip - BOTH TURBINE STOP VALVES CLOSED 	<ul style="list-style-type: none"> b. Dispatch operator to locally trip turbine (local trip lever on turbine pedestal).



JOB PERFORMANCE MEASURE (JPM)

SITE: PRAIRIE ISLAND

JPM TITLE: MANUALLY INITIATE THE CARDOX SYSTEM

JPM NUMBER: FP-5 REV. 2

RELATED PRA INFORMATION: FIRE IN RELAY ROOM (FA 18) 2.2%

TASK NUMBERS / TASK TITLE(S): NLO 086 040 01 04 000 / MANUALLY ACTUATE RELAY/COMPUTER ROOM CARDOX SYSTEM

K/A NUMBERS: 067 AA1.08 (3.4/3.7)

APPLICABLE METHOD OF TESTING:

Discussion: ☐ Simulate/walkthrough: ☒ Perform: ☐EVALUATION LOCATION: In-Plant: ☒ Control Room: ☐Simulator: ☐ Other: ☐Lab: ☐

Time for Completion: 7 Minutes Time Critical: NO

Alternate Path: NO

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☒

Additional site-specific signatures may be added as desired.

Developed by:	Shawn Sarrasin	4/3/2014
	Developer	Date
Validated by:	Fredrick Collins	5/19/2014
	Validator	Date
	(See JPM Validation Checklist, Attachment 1)	
Approved by:	Travis Ouret	7/18/2014
	Training Supervisor	Date

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

FP-5, MANUALLY INITIATE THE CARDOX SYSTEM, REV. 2

JPM Number: FP-5JPM Title: MANUALLY INITIATE THE CARDOX SYSTEM

Examinee: _____ Evaluator: _____

Job Title: _____ Date: _____

Start Time _____ Finish Time _____

PERFORMANCE RESULTS:

SAT: UNSAT: **COMMENTS/FEEDBACK: (Make written comments 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.

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

FP-5, MANUALLY INITIATE THE CARDOX SYSTEM, REV. 2**JPM BRIEFING/TURNOVER**

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

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 SS makes an announcement there is a fire in the Relay Room.
- The Cardox System has failed to actuate automatically.

INITIATING CUES:

- The SS directs you to manually actuate the Cardox System per step 5.17.3 of C31, Fire Protection & Detection Systems.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED UNLESS OTHERWISE DIRECTED.**

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

FP-5, MANUALLY INITIATE THE CARDOX SYSTEM, REV. 2

JPM PERFORMANCE INFORMATION

Required Materials: Consumable copy of Section 5.17.3 of C31.

General References: C31, FIRE PROTECTION & DETECTION SYSTEMS.

Task Standards: Examinee manually actuates the Cardox System.

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).

IMPORTANT: 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, per FP-T-SAT-73, Licensed Operator Requalification Program Examinations.

Performance Step: C31, FIRE PROTECTION & DETECTION SYSTEMS, Step 5.17.3.A
Critical Y At the Cardox Pushbutton Station, pull door breaking seal and cover glass.

Standard: Examinee pulls door breaking seal and cover glass.

Evaluator Cue: When examinee simulates breaking cover glass, inform examinee the seal and cover glass is broken.

Performance: SATISFACTORY ☐ UNSATISFACTORY ☐

Comments: _____

Performance Step: C31, FIRE PROTECTION & DETECTION SYSTEMS, Step 5.17.3.B
Critical Y Depress the PB to start logic for alarming, isolation and discharge of Cardox Tank.

Standard: Examinee depresses the pushbutton.

Evaluator Cue: When examinee simulates depressing the pushbutton, inform examinee the Cardox alarm has sounded.

Performance: SATISFACTORY ☐ UNSATISFACTORY ☐

Comments: _____

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

FP-5, MANUALLY INITIATE THE CARDOX SYSTEM, REV. 2

Performance Step: Critical <u>N</u>	C31, FIRE PROTECTION & DETECTION SYSTEMS, Step 5.17.3.C Make an announcement over the plant paging system: "The Relay Room Cardox system has initiated stay clear of the Relay room and adjacent areas".
Standard:	Examinee makes announcement or requests the Control Room to make the announcement.
Evaluator Cue:	If examinee asks if Cardox actuated, then inform examinee 50 seconds have elapsed since initiation and Cardox HAS actuated.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step: Critical <u>N</u>	C31, FIRE PROTECTION & DETECTION SYSTEMS, Step 5.17.3.D Approx. 10 – 15 minutes after the CO ₂ system PB has actuated, break glass enclosing Pilot Control Valve and position the Manual Pilot Control Valve lever clockwise 135° from its CLOSED position.
Standard:	Examinee breaks glass enclosing Pilot Control Valve and positions the Manual Pilot Control Valve lever clockwise 135° from its closed position.
Evaluator Cues:	<ul style="list-style-type: none"> • Inform the examinee 10 – 15 minutes has elapsed. • When examinee simulates positioning the manual pilot control valve lever clockwise 135 from its closed position, then inform examinee the Cardox system has actuated a second time.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: When the examinee has manually actuated the Cardox System, then this JPM is complete.

Stop Time: _____

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

TURNOVER SHEET

INITIAL CONDITIONS:

- The SS makes an announcement there is a fire in the Relay Room.
- The Cardox System has failed to actuate automatically.

INITIATING CUES:

- The SS directs you to manually actuate the Cardox System per step 5.17.3 of C31, Fire Protection & Detection Systems.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED UNLESS OTHERWISE DIRECTED.**

FP-5, MANUALLY INITIATE THE CARDOX SYSTEM, REV. 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 cover page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Have all special tools and equipment needed to perform the task been identified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12. Are all references identified, current, and accurate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

C	FIRE PROTECTION & DETECTION SYSTEMS	NUMBER:
		C31
		REV: 55
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5.17 Cardox (Carbon Dioxide) System Actuation

REFERENCE USE

- *Procedure segments may be performed from memory.*
- *Use the procedure to verify segments are complete.*
- *Mark off steps within segment before continuing.*
- *Procedure should be available at the work location.*

An assumption is made that the detection systems (ion type) in the Relay/Computer Rooms would alarm before the thermal (140°F) detectors activate the system automatically. If this were to happen or if Auto Mode is bypassed, then manual actuation, after inspection of the area, would provide suppression gases to the room with the least time delay.

5.17.1 IF an alarm is received on Zone 12 (Relay Room), or Zone 14 (Computer Room), THEN **dispatch** personnel to the area for investigation.

5.17.2 IF the Cardox System has actuated, THEN **perform** the following from the Control Room:

- A. **Dispatch** an operator to verify personnel have evacuated the following areas AND **make** an announcement over the plant paging system "The Relay Room Cardox system has actuated. Stay clear of the Relay room and adjacent areas".
- Relay/Computer Rooms
 - Ground floor area of Turbine Oil Reservoirs and condenser pits
 - Auxiliary Feedwater (AFW) / Air Compressor Rooms
- B. Approx. 10 – 15 minutes after the CO₂ system has actuated, locally **break** glass enclosing Pilot Control Valve and **position** the Manual Pilot Control Valve lever clockwise 135° from its CLOSED position.

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		REV: 55
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5.17.3 IF a fire exists, and the Cardox System has NOT actuated, THEN manually **initiate** Cardox discharge as follows:

- A. At the Cardox Pushbutton Station, **pull** door breaking seal and cover glass.

NOTE:	<ol style="list-style-type: none"> 1. A 50 to 60 second delay will occur between actuation and gas dump. 2. After actuation, move away from east relay room door as it will release and OPEN to allow a vent path for excess CO₂ gas pressure. The west relay room door will OPEN only if relay room pressure exceeds 14 inches.
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- B. **Depress** the PB to start logic for alarming, isolation and discharge of Cardox tank.
- C. **Make** an announcement over the plant paging system: "The Relay Room Cardox system has initiated stay clear of the Relay room and adjacent areas".
- D. Approx. 10 - 15 minutes after the CO₂ system PB has actuated, **break** glass enclosing Pilot Control Valve and **position** the Manual Pilot Control Valve lever clockwise 135° from its CLOSED position.

5.17.4 IF a fire exists, and manual actuation of the Cardox System is unsuccessful due to power or other failure, THEN **perform** the following:

NOTE:	Operation of the Manual Pilot Valve control lever bypasses all alarms. It does allow the doors to release for pressure control.
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- A. **Break** glass enclosing Pilot Control Valve and **position** the Manual Pilot Control Valve lever clockwise 135° from its CLOSED position.
- B. After approximately 4 minutes, **position** the Manual Pilot Valve lever to "OFF" (upper left position).
- C. Approx. 14 minutes after the Manual Pilot Control Valve CO₂ system has been turned "OFF" (upper left position) **position** Manual Pilot Control Valve lever back to the lower right position.

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NOTE:

Resetting system will stop all alarms and relatch door.

5.17.5 IF Cardox discharge was actuated, THEN **perform** the following:

- A. **OPEN** the door at the Cardox Control Cabinet **58410** and **lift** both reset levers. _____
- B. **Reset 16159**, 121/122 RELAY&CMPTR RM CO2 PS, by raising the plunger to the up position. _____
- C. **Position** the Pilot Manual Control Valve lever to the upper left. _____

NOTE:Use of an SCBA is required for entry to CO₂ flooded areas.

5.17.6 Wearing an appropriate breathing device, a member of the fire brigade **SHALL** inspect the room. _____

5.17.7 IF further suppression is needed, THEN **use** water or portable extinguishers (**refer** to F5, Appendix A). _____



JOB PERFORMANCE MEASURE (JPM)

SITE: PRAIRIE ISLAND

JPM TITLE: RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS

JPM NUMBER: VC-11 **REV.** 8

RELATED PRA INFORMATION: NONE

TASK NUMBERS / TASK TITLE(S): CRO 004 ATI 00 00 022 / ADJUST CHARGING FLOW (DURING S/D OUTSIDE CR)

K/A NUMBERS: 068 AA1.06 (4.1/4.2)

APPLICABLE METHOD OF TESTING:

Discussion: ☐ Simulate/walkthrough: ☒ Perform: ☐

EVALUATION LOCATION: In-Plant: ☒ Control Room: ☐
 Simulator: ☐ Other: ☐
 Lab: ☐

Time for Completion: 12 Minutes Time Critical: NO

Alternate Path: NO

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☒

Additional site-specific signatures may be added as desired.

Developed by:	Shawn Sarrasin	4/2/2014
	Developer	Date
Validated by:	Fredrick Collins	5/19/2014
	Validator	Date
	(See JPM Validation Checklist, Attachment 1)	
Approved by:	Travis Ouret	7/18/2014
	Training Supervisor	Date

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

VC-11, RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS, REV. 8

JPM Number: VC-11JPM Title: RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS

Examinee: _____

Evaluator: _____

Job Title: _____

Date: _____

Start Time _____

Finish Time _____

PERFORMANCE RESULTS:

SAT: UNSAT: **COMMENTS/FEEDBACK: (Make written comments 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.

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

VC-11, RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS, REV. 8**JPM BRIEFING/TURNOVER**

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

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 Control Room has been evacuated due to toxic gas.
- Cold Cal Pressurizer Level is 17% and lowering.
- 11 Charging Pump is running.
- 12 Charging Pump is NOT running.
- 13 Charging Pump is OOS.

INITIATING CUES:

- The Unit 1 SS directs you to perform steps 2.4.17.A through 2.4.17.D of 1C1.3 AOP1, Shutdown from outside the Control Room - Unit 1.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED UNLESS OTHERWISE DIRECTED.**

VC-11, RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS, REV. 8

JPM PERFORMANCE INFORMATION

Required Materials: Consumable Copy of 1C1.3 AOP1 Step 2.4.17.

General References: 1C1.3 AOP1, SHUTDOWN FROM OUTSIDE THE CONTROL ROOM – UNIT 1

Task Standards: Examinee starts and operates charging pump(s) using local controls to raise pressurizer level.

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).

IMPORTANT: 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, per FP-T-SAT-73, Licensed Operator Requalification Program Examinations.

Performance Step:	1C1.3 AOP1, Step 2.4.17
Critical <u>Y</u>	<p><u>IF</u> pressurizer level is NOT at or trending to programmed level, <u>THEN</u> perform the following:</p> <p>A. Transfer any non-running charging pump(s) to “LOCAL” control:</p> <ul style="list-style-type: none"> • 11 Charging Pump using the following: • 12 Charging Pump using the following: <ul style="list-style-type: none"> a. CS-7081001, 12 CHG PMP LCL/REM SEL SW (at 12 charging Pump Room) b. CS-7111501, 12 CHG PMP LCL/REM SEL SWI (at 71115, 12 CHG PMP VFD CAB) c. Energize 12 Charging Pump VFD by momentarily depressing CS-7081002, 12 CHG PMP STRT PB • 13 Charging Pump using the following:
Standard:	Examinee places CS-7081001 in “LOCAL”, CS-7111501 in “LOCAL”, and momentarily depresses CS-7081002.
Evaluator Cues:	<ul style="list-style-type: none"> • If examinee asks the status of 12 CHG PMP STOP IL GRN (7081005) prior to energizing 12 Charging Pump VFD, then inform examinee the green light is flashing. • After examinee has energized 12 Charging Pump VFD, inform them that the green light has stopped flashing and is LIT.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

VC-11, RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS, REV. 8

Performance Step:	1C1.3 AOP1, Step 2.4.17
Critical <u>Y</u>	<p><u>IF</u> pressurizer level is NOT at or trending to programmed level, <u>THEN</u> perform the following:</p> <p>B. Start one idle charging pump by momentarily depressing the appropriate control switch:</p> <ul style="list-style-type: none"> • CS-5151603, 11 CHG PMP STRT PB • CS-7081002, 12 CHG PMP START PB • CS-5151403, 13 CHG PMP STRT PB
Standard:	Examinee momentarily depresses CS-7081002.
Evaluator Cue:	After examinee has started 12 Charging Pump, inform them that 12 Charging Pump is running and the red light is lit.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Performance Step:	1C1.3 AOP1, Step 2.4.17
Critical <u>N</u>	<p><u>IF</u> pressurizer level is NOT at or trending to programmed level, <u>THEN</u> perform the following:</p> <p>C. <u>IF</u> necessary, <u>THEN</u> stop one or both charging pumps running "REMOTE" by transferring pump control to "LOCAL":</p>
Standard:	Examinee determines no charging pumps should be stopped due to lowering trend on Pressurizer Level.
Evaluator Cue:	IF examinee asks if it is necessary to turn off any running Charging pumps, THEN inform the examinee that 11 Charging pump should be maintained running.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

VC-11, RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS, REV. 8

Performance Step:	1C1.3 AOP1, Step 2.4.17
Critical <u>Y</u>	<p><u>IF</u> pressurizer level is NOT at or trending to programmed level, <u>THEN</u> perform the following:</p> <p>D. Adjust speed of charging pump(s) in “LOCAL” control to maintain Cold-cal level at 18% to 21%:</p> <ul style="list-style-type: none"> • For 11 Charging Pump, perform the following: • For 12 Charging Pump, perform the following: <ol style="list-style-type: none"> a. Verify CS-7111503, 12 CHG PMP SPEED CONT KEYPAD, is on the default screen (display showing MODE-DEMD-FREQ-RPM-OAMP) by momentarily depressing the SHIFT key and then the CANCEL key as necessary. b. Adjust speed using keypad CS-7111503 Up (↑) and Down (↓) arrow keys as necessary. • For 13 Charging Pump, perform the following:
Standard:	Examinee adjusts charging flow using CS-7111503 Up (↑) arrow keys.
Evaluator Cues:	<ul style="list-style-type: none"> • If examinee asks the status of CS-7111503, inform examinee it is on the default screen. • IF examinee seeks to obtain Pressurizer level trend either locally or from supervision PRIOR to manually adjusting speed, THEN inform the examinee pressurizer level continues to lower. • IF examinee seeks to obtain Pressurizer level trend either locally or from supervision AFTER manually adjusting speed, THEN inform the examinee pressurizer level is rising.
Performance:	SATISFACTORY <input type="checkbox"/> UNSATISFACTORY <input type="checkbox"/>
Comments:	_____

Terminating Cues: When the examinee has started and operated charging pump(s) using local controls to raise pressurizer level, then this JPM is complete.

Stop Time: _____

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

TURNOVER SHEET

INITIAL CONDITIONS:

- The Control Room has been evacuated due to toxic gas.
- Cold Cal Pressurizer Level is 17% and lowering.
- 11 Charging Pump is running.
- 12 Charging Pump is NOT running.
- 13 Charging Pump is OOS.

INITIATING CUES:

- The Unit 1 SS directs you to perform steps 2.4.17.A through 2.4.17.D of 1C1.3 AOP1, Shutdown from outside the Control Room - Unit 1.
- **ALL OPERATOR ACTIONS ARE TO BE SIMULATED UNLESS OTHERWISE DIRECTED.**

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

VC-11, RAISE PRESSURIZER LEVEL USING LOCAL CONTROLS, 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 cover page filled in correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Has the JPM been reviewed and validated by SMEs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. If the task is NOT time critical, has the completion time been established based on validation data or incumbent experience?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is the Licensee level appropriate for the task being evaluated if required? Not applicable to Non-Licensed Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required? Not applicable to Non-Licensed Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Have all special tools and equipment needed to perform the task been identified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12. Are all references identified, current, and accurate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Retention: Life of Plant

Retain in: Training Record

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

C	SHUTDOWN FROM OUTSIDE THE CONTROL ROOM - UNIT 1	NUMBER: 1C1.3 AOP1
		REV: 14
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NOTE:

Transferring a charging pump between "REMOTE" and "LOCAL" will result in the trip of a running charging pump. Transferring charging pump control to "LOCAL" in the following step should be performed such that at least one pump is maintained running to provide RCP seal injection, maintain pressurizer level, and maintain letdown flow.

2.4.17 IF pressurizer level is NOT at or trending to programmed level, THEN **perform** the following:

A. **Transfer** any non-running charging pump(s) to "LOCAL" control:

- 11 Charging Pump using the following:
 - a. **CS-51515**, 11 CHG PMP LCL/REM SEL SW _____
 - b. **CS-7111401**, 11 CHG PMP LCL/REM SEL SW (at **71114**, 11 CHG PMP VFD CAB) _____
 - c. **Energize** 11 Charging Pump VFD by momentarily depressing **CS-5151603**, 11 CHG PMP STRT PB _____
- 12 Charging Pump using the following:
 - a. **CS-7081001**, 12 CHG PMP LCL/REM SEL SW (at 12 Charging Pump Room) _____
 - b. **CS-7111501**, 12 CHG PMP LCL/REM SEL SWI (at **71115**, 12 CHG PMP VFD CAB) _____
 - c. **Energize** 12 Charging Pump VFD by momentarily depressing **CS-7081002**, 12 CHG PMP STRT PB _____

C	SHUTDOWN FROM OUTSIDE THE CONTROL ROOM - UNIT 1	NUMBER: 1C1.3 AOP1
		REV: 14
		Page 10 of 19

(Step 2.4.17 continued from previous page. . .)

- 13 Charging Pump using the following:
 - a. **CS-51513**, 13 CHG PMP LCL/REM SEL SW _____
 - b. **CS-7111601**, 13 CHG PMP LCL/REM SEL SW (at **71116**, 13 CHG PMP VFD CAB) _____
 - c. **Energize** 13 Charging Pump VFD by momentarily depressing **CS-5151403**, 13 CHG PMP STRT PB _____

- B. **Start** one idle charging pump by momentarily depressing the appropriate control switch:
 - **CS-5151603**, 11 CHG PMP STRT PB _____
 - **CS-7081002**, 12 CHG PMP START PB _____
 - **CS-5151403**, 13 CHG PMP STRT PB _____

- C. IF necessary, THEN **stop** one or both charging pumps running in "REMOTE" by transferring pump control to "LOCAL":
 - 11 Charging Pump using the following:
 - a. **CS-51515**, 11 CHG PMP LCL/REM SEL SW _____
 - b. **CS-7111401**, 11 CHG PMP LCL/REM SEL SW (at **71114**, 11 CHG PMP VFD CAB) _____
 - c. **Energize** 11 Charging Pump VFD by momentarily depressing **CS-5151603**, 11 CHG PMP STRT PB _____

C	SHUTDOWN FROM OUTSIDE THE CONTROL ROOM - UNIT 1	NUMBER: 1C1.3 AOP1
		REV: 14
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(Step 2.4.17 continued from previous page. . .)

- 12 Charging Pump using the following:
 - a. **CS-7081001**, 12 CHG PMP LCL/REM SEL SW (at 12 Charging Pump Room) _____
 - b. **CS-7111501**, 12 CHG PMP LCL/REM SEL SW (at **71115**, 12 CHG PMP VFD CAB) _____
 - c. **Energize** 12 Charging Pump VFD by momentarily depressing **CS-7081002**, 12 CHG PMP STRT PB _____
- 13 Charging Pump using the following:
 - a. **CS-51513**, 13 CHG PMP LCL/REM SEL SW _____
 - b. **CS-7111601**, 13 CHG PMP LCL/REM SEL SW (at **71116**, 13 CHG PMP VFD CAB) _____
 - c. **Energize** 13 Charging Pump VFD by momentarily depressing **CS-5151403**, 13 CHG PMP STRT PB _____

D. **Adjust** speed of charging pump(s) in “LOCAL” control to maintain Cold-cal level at 18% to 21%:

NOTE:

A 30 rpm change in charging pump speed results in approximately 1 gpm change in flow.

- For 11 Charging Pump, **perform** the following:
 - a. **Verify CS-7111403**, 11 CHG PMP SPEED CONT KEYPAD, is on the default screen (display showing MODE-DEMD-FREQ-RPM-OAMP) by momentarily depressing the SHIFT key and then the CANCEL key as necessary. _____
 - b. **Adjust** speed using keypad **CS-7111403** Up (↑) and Down (↓) arrow keys as necessary. _____

C	SHUTDOWN FROM OUTSIDE THE CONTROL ROOM - UNIT 1	NUMBER: 1C1.3 AOP1
		REV: 14
		Page 12 of 19

(Step 2.4.17 continued from previous page. . .)

- For 12 Charging Pump, **perform** the following:
 - a. **Verify CS-7111503**, 12 CHG PMP SPEED CONT KEYPAD, is on the default screen (display showing MODE-DEMD-FREQ-RPM-OAMP) by momentarily depressing the SHIFT key and then the CANCEL key as necessary. _____
 - b. **Adjust** speed using keypad **CS-7111503** Up (↑) and Down (↓) arrow keys as necessary. _____
- For 13 Charging Pump, **perform** the following:
 - a. **Verify CS-7111603**, 13 CHG PMP SPEED CONT KEYPAD, is on the default screen (display showing MODE-DEMD-FREQ-RPM-OAMP) by momentarily depressing the SHIFT key and then the CANCEL key as necessary. _____
 - b. **Adjust** speed using keypad **CS-7111603** Up (↑) and Down (↓) arrow keys as necessary. _____
- E. **Start** additional charging pumps transferred to “LOCAL” control and **control** speed as necessary by depressing the appropriate control switch:
 - **CS-5151603**, 11 CHG PMP STRT PB _____
 - **CS-7081002**, 12 CHG PMP START PB _____
 - **CS-5151403**, 13 CHG PMP STRT PB _____
- F. **Repeat** Step 2.4.17 substeps as necessary. _____

2.4.18 Verify RCS pressure at or trending to 2235 psig:

- 1PI-709A**, U1 LOOP A RCS WIDE RANGE PI (Train A)
- 1PI-709B**, U1 LOOP A RCS WIDE RANGE PI (Train B)
- 1PI-710A**, U1 LOOP B RCS WIDE RANGE PI (Train A)
- 1PI-710B**, U1 LOOP B RCS WIDE RANGE PI (Train B) _____