DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

2009 NRC JPM P-1

TITLE: Shift 125 VDC Battery Chargers

JOB PERFORMANCE MEASURE (JPM)

JPM TITLE: SHIFT 125 VDC BATTERY CHARGERS

JPM NUMBER: 2009 NRC JPM P-1 **REV.** 0

TASK NUMBER(S) / TASK TITLE(S): NSPEO 29.04 / Testing of the DC Distribution System

K/A NUMBERS: 295004 AA1.01 **K/A VALUE:** 3.3 / 3.4

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY: ☒ **RO** ☒ **SRO** ☐ **STA** ☐ **NSPEO** ☐ **SRO CERT**

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [X] Perform: [ ]

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

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 30 Minutes Time Critical: ☐ Yes ☒ No

Alternate Path [NRC]: ☐ Yes ☒ No

Alternate Path [INPO]: ☐ Yes ☒ No

Developed by:	Instructor	Date
Validated by:	Validation Instructor	Date
Reviewed by:	Plant Reviewer	Date
Approved by:	Training Supervisor	Date

Commitments: {C001} ACE 001729, Review recommendation 4 of OE 001501.
{C002} CA046394, Improvements needed for Operations Simulator JPMs.

2009 NRC JPM P-1, Shift 125 VDC Battery Chargers, Rev. 0
JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED 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.	Do 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.	Is justification provided for tasks with K/A values less than 3.0?	☐	☐	☐
11.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
12.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
13.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
14.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐
15.	Are all critical steps clearly identified by procedural guidance? If licensing, EP or other groups were needed to determine correct actions, then the answer should be NO. {C001}	☐	☐	☐
16.	If the JPM is to be administered to an ILT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge. {C001}	☐	☐	☐

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

RE-VALIDATION SIGNATURE

JPMs must be re-validated prior to use. Verify the above Review Statements are "YES" or "N/A". When it is determined that the JPM is still valid and can be performed as written, sign and date the form below.

Re-Validation Personnel Date	Re-Validation Personnel Date
Re-Validation Personnel Date	Re-Validation Personnel Date

SIMULATOR SET UP:

1. **No Simulator Setup Needed**

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION #	MALFUNCTION TITLE	ET	DELAY	F. SEV.	RAMP	I. SEV.

SIMULATOR OVERRIDES:

TIME	OVERRIDE ID	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION #	REMOTE FUNCTION TITLE	VALUE	RAMP

Required Materials: OI 302, 125 VDC POWER DISTRIBUTION SYSTEM

General References: OI 302, 125 VDC POWER DISTRIBUTION SYSTEM Revision 37

Task Standards:

1. Simulate opening 1D12, CKT 01.
2. Simulate opening 1D12, CKT 02.
3. Simulates opening 1D10 CKT 02 at Panel 1D10.
4. Simulates opening1B3201 at MCC 1B32
5. Simulates closing 1B3202 at Panel 1B32.
6. Simulates closing1B32X-02 at enclosure 1B32X42.
7. Simulates closing 1D10 CKT 03 at Panel 1D10.
8. Simulates sliding mechanical interlock for the DC OUTPUT circuit breakers 1D120 CKT 02 and 1D120 CKT 03 to the position that blocks 1D120 CKT 03 (1D20 supply) from being closed.
9. Simulates closing DC OUTPUT circuit breaker 1D120 CKT 02 (1D10 supply).
10. Simulates closing the AC POWER circuit breaker 1D120 CKT 01

TURNOVER SHEET

INITIAL CONDITIONS:

- The plant is operating at 100% power.
- Maintenance is planned on 125 VDC battery charger 1D12.

INITIATING CUES (IF APPLICABLE):

In accordance with OI 302, 125 VDC POWER DISTRIBUTION SYSTEM:

- Take battery charger 1D12 out of service.
- Place battery charger 1D120 on 1D10.
- Power 1D120 from 1B32.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

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 operating at 100% power.
- Maintenance is planned on 125 VDC battery charger 1D12.

INITIATING CUES (IF APPLICABLE):

In accordance with OI 302, 125 VDC POWER DISTRIBUTION SYSTEM:

- Take battery charger 1D12 out of service.
- Place battery charger 1D120 on 1D10.
- Power 1D120 from 1B32.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

JPM PERFORMANCE INFORMATION

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 approved copy of OI 302, 125 VDC POWER DISTRIBUTION SYSTEM.
Standard:	Candidate states that he can obtain an approved copy posted in the room, from the Control Room or from WCCS.
Evaluator Cue:	**When the Candidate states he would obtain the procedure by one of these methods, hand him the exam copy of OI 302.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical N** **Procedure Step** **OI 302 Note prior to Step 5.1.2**	Notify the control room of the anticipated annunciator 125 DC CHARGER 1D12 TROUBLE (1C08A, B-9).
Standard:	Simulates notifying the Control room.
Evaluator Cue:	**Role play as control room operator and acknowledge communications as necessary.**
Evaluator Note:	**The candidate refers to procedure section 5.1.2 for this JPM step though JPM step 7**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 3 **Critical Y** **Procedure Step** **OI 302 Step 5.1.2(1)**	Open the AC POWER circuit breaker 1D12 CKT 01 at Battery Charger-1D12.
Standard:	Simulates opening 1D12, CKT 01.
Evaluator Cue:	• **Acknowledge breaker positioning.** • **If the candidate checks the AC (white) light, inform him it is OFF.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 4 **Critical Y** **Procedure Step** **OI 302 Step 5.1.2(2)**	Open the DC OUTPUT circuit breaker 1D12 CKT 02 at Battery Charger-1D12.
Standard:	Simulates opening 1D12, CKT 02.
Evaluator Cue:	**Acknowledge breaker positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 5 **Critical N** **Procedure Step** **OI 302 Step 5.1.2(3)**	Verify 125 VDC CHARGER 1D12 TROUBLE (1C08A, B-9) annunciator is reset.
Standard:	Simulates calling the control room to verify 125 VDC CHARGER 1D12 TROUBLE (1C08A, B-9) annunciator is reset.
Evaluator Cue:	• **Acknowledge communication.** • **Inform the candidate that 125 VDC CHARGER 1D12 TROUBLE (1C08A, B-9) annunciator was in alarm and is now reset.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 6 **Critical Y**	Open circuit breaker 1D10 CKT 02 at Panel 1D10.
Procedure Step **OI 302 Step 5.1.2(4)**	
Standard:	Simulates opening 1D10 CKT 02 at Panel 1D10.
Evaluator Note:	**Panel 1D10 opening should be simulated for this JPM.**
Evaluator Cue:	• **If candidate simulates opening Panel 1D10, hand him Attachment 1 (1D10 Photograph) and Attachment 2 (1D10 Lineup).** • **Acknowledge breaker positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 7 **Critical Y**	Open breaker 1B3201 at MCC 1B32.
Procedure Step **OI 302 Step 5.1.2(5)**	
Standard:	Simulates opening1B3201 at MCC 1B32.
Evaluator Note:	**This step completes Section 5.1.2 for removing 1D12 from service. The remaining steps are from Section 6.1 of OI 302.**
Evaluator Cue:	**Acknowledge breaker positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 8 **Critical N** **Procedure Step** **OI 302 Step 6.1(2) (a)**	Verify the following on Battery Charger 1D120: (a) Float/equalize switch is in the FLOAT position.
Standard:	Verifies that the Float/equalize switch is in the FLOAT position.
Evaluator Cue:	**The Float / Equalize switch is in the FLOAT position.**
Evaluator Note;	**The candidate returns to procedure Section 6.1, Step 2 beginning at this JPM step**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 9 **Critical N** **Procedure Step** **OI 302 Step 6.1(2) (b)**	Verify the following on Battery Charger 1D120: (b) Equalizing charge time switch set at zero.
Standard:	Verifies that the equalizing charge time switch set at zero.
Evaluator Cue:	**The equalizing charge time switch is set at zero.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 10 **Critical N** **Procedure Step** **OI 302 Step 6.1(2) (c)**	Verify the following on Battery Charger 1D120: (c) AC POWER breaker 1D120 CKT 01 is in the OFF position.
Standard:	Verifies that the AC POWER breaker 1D120 CKT 01 is in the OFF position.
Evaluator Cue:	**AC POWER breaker 1D120 CKT 01 is in the OFF position.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 11 **Critical N** **Procedure Step** **OI 302 Step 6.1(2) (d)**	Verify the following on Battery Charger 1D120: (d) DC OUTPUT breakers 1D120 CKT 02 and 1D120 CKT 03 are in the OFF position.
Standard:	Verifies that the DC OUTPUT breakers 1D120 CKT 02 and 1D120 CKT 03 are in the OFF position.
Evaluator Cue:	• **1D120 CKT 02 is in the OFF position.** • **1D120 CKT 03 is in the OFF position.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 12 **Critical Y** **Procedure Step** **OI 302 Step 6.1(3)**	Close circuit breaker 1B3202 at panel 1B32.
Standard:	Simulates closing 1B3202 at Panel 1B32.
Evaluator Cue:	**Acknowledge breaker positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 13 **Critical Y** **Procedure Step** **OI 302 Step 6.1(4)**	Close circuit breaker 1B32X-02 at enclosure 1B32X42.
Standard:	Simulates sliding mechanical interlock and closing1B32X-02 at enclosure 1B32X42.
Evaluator Note:	**Enclosure 1B32X42 opening should be simulated for this JPM.**
Evaluator Cue:	• **If candidate simulates opening Enclosure 1B32X42, hand him Attachment 3 (Enclosure 1B32X42 Photograph).** • **Acknowledge sliding mechanical interlock and breaker positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 14 **Critical Y** **Procedure Step** **OI 302 Step 6.1(5)**	Close circuit breaker 1D10 CKT 03 at Panel 1D10.
Standard:	Simulates closing 1D10 CKT 03 at Panel 1D10.
Evaluator Note:	**Candidate should simulate Panel 1D10 operations using Attachments 1 and 2, as before.**
Evaluator Cue:	**Acknowledge breaker positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 15 **Critical Y/N - (See Evaluator Note)** **Procedure Step** **OI 302 Step 6.1(6)**	On Charger 1D120, slide the mechanical interlock for the DC OUTPUT circuit breakers 1D120 CKT 02 and 1D120 CKT 03 to the position that blocks 1D120 CKT 03 (1D20 supply) from being closed.
Standard:	Simulates sliding mechanical interlock for the DC OUTPUT circuit breakers 1D120 CKT 02 and 1D120 CKT 03 to the position that blocks 1D120 CKT 03 (1D20 supply) from being closed.
Evaluator Note:	**This step depends on actual position of the interlock in the plant. If the interlock is already in the correct position, the candidate may just mark the step complete.** **If the interlock does not need to be repositioned THEN the step is NOT critical**
Evaluator Cue:	**Acknowledge mechanical interlock positioning.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 16 **Critical N** **Procedure Step** **OI 302 Note prior to Step 6.1(7)**	Notify the control room of the anticipated annunciator 125 DC CHARGER 1D120 TROUBLE (1C08A, C-9).
Standard:	Simulates notifying the control room.
Evaluator Cue:	**Role play as control room operator and acknowledge communications as necessary.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 17 **Critical Y** **Procedure Step** **OI 302 Step 6.1(7)**	Close DC OUTPUT circuit breaker 1D120 CKT 02 (1D10 supply).
Standard:	Simulates closing DC OUTPUT circuit breaker 1D120 CKT 02 (1D10 supply).
Evaluator Cue:	• **Acknowledge breaker positioning.** • **If the candidate simulates contacting the control room for the status of annunciator 125 DC CHARGER 1D120 TROUBLE (1C08A, C-9), role play that the annunciator is in alarm.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 18 **Critical N** **Procedure Step** **OI 302 Step 6.1(8)**	Check that the DC VOLTS meter on Charger 1D120 reads approximately the same value as the DC VOLTS meter on Panel 1D10.
Standard:	Checks that the DC VOLTS meter on Charger 1D120 reads approximately the same value as the DC VOLTS meter on Panel 1D10.
Evaluator Cue:	**Voltage readings are approximately equal.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 19 **Critical N**	Confirm that the DC AMPERES meter on Charger 1D120 reads zero after an initial surge.
Procedure Step **OI 302 Step 6.1(9)**	
Standard:	States that the DC amps will surge and drop to zero.
Evaluator Cue:	**The DC amps surge and drop to zero.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 20 **Critical N**	Check battery charger 1D120 grounds before placing unit in service by placing the Ground Detector switch to POS GRD position and note voltmeter reading.
Procedure Step **OI 302 Step 6.1(10)**	
Standard:	Simulates placing the Ground Detector switch to POS GRD and NEG GRD positions and notes the readings to determine the difference.
Evaluator Note:	**The candidate should state that the reading should be around 60-65 volts in each position.**
Evaluator Cue:	**When the candidate indicates he is reading the meter, it reads "64 volts" in POS and "62 volts" in NEG.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 21 **Critical N**	If the difference between the positive and negative is 7 or greater, notify CRS immediately.
Procedure Step **OI 302 Step 6.1(10)(a)**	
Standard:	Determines that the difference between the positive and negative is less than 7.
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 22 **Critical Y** **Procedure Step** **OI 302 Step 6.1(11)**	Close the AC POWER circuit breaker 1D120 CKT 01 at Charger 1D120 and confirm AC ON light on front panel is energized.
Standard:	Simulates closing the AC POWER circuit breaker 1D120 CKT 01.
Evaluator Note:	**125 VDC CHARGER 1D120 TROUBLE (1C08A, C 9) annunciator will remain energized for approximately 40 seconds after starting the charger.**
Evaluator Cue:	• **Acknowledge breaker positioning.** • **If the candidate checks the AC (white) light, inform him it is ON.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 23 **Critical N** **Procedure Step** **OI 302 Step 6.1(12)**	If the state of charge of Battery 1D1 is low, confirm that the DC AMPERES meter on Charger 1D120 indicates an upscale value; i.e., battery is charging.
Standard:	Candidate states that the DC Amps meter may be charging a little.
Evaluator Note:	**Charger will be carrying the Division 1 load as well as slightly charging the battery.**
Evaluator Cue:	**When the candidate checks the DC AMPERES meter on Charger 1D120, state that it reads 200 amperes and lowering slowly.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 24 **Critical N**	Verify 125 VDC CHARGER 1D120 TROUBLE (1C08A, C-9) annunciator is reset.
Procedure Step **OI 302 Step 6.1(13)**	
Standard:	Simulates calling the control room and verifying that 125 VDC CHARGER 1D120 TROUBLE (1C08A, C-9) annunciator is reset.
Evaluator Cue:	• **Acknowledge communication.** • **Inform the candidate that 125 VDC CHARGER 1D120 TROUBLE (1C08A, C-9) annunciator is reset.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Terminating Cues: Charger 1D120 has been placed on Battery 1D1 (simulated) per OI 302 section 6.1

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

Stop Time: _____

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Examinee: _____ **Evaluator:** _____

☐ **RO** ☐ **SRO** ☐ **STA** ☐ **NSPEO** ☐ **SRO CERT** **Date:** _____

☐ **ILT RO** ☐ **ILT SRO**

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

Remediation required: **YES** ☐ **NO** ☐

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

EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.

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.

2009 NRC JPM P-1, Shift 125 VDC Battery Chargers, Rev. 0

Attachment 1

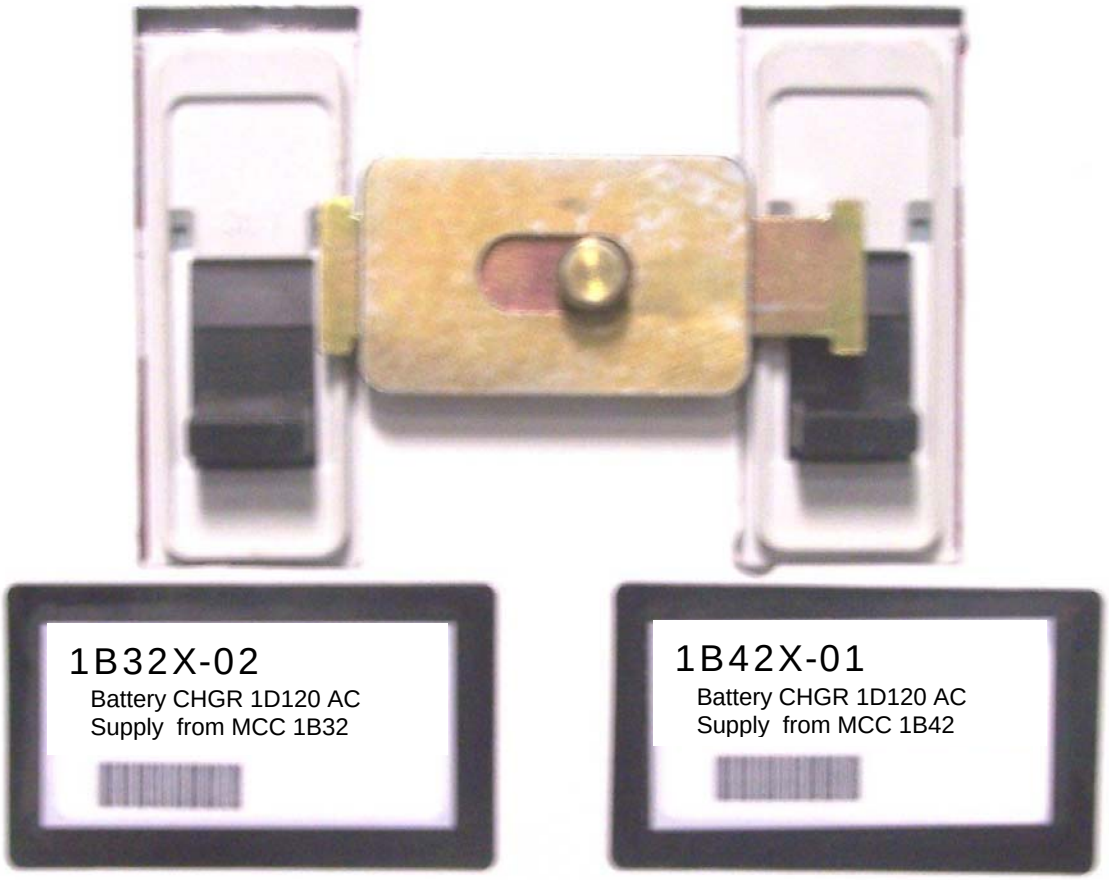
125 VDC ELECTRICAL PANEL 1D10 LOAD LISTING

REVISION: **0** DATE: **7/1/99**
PAGE: **1** of **1**

125 VDC Panel No.: 1D10	Location: CB, 757, G12			Feed: 125 VDC Battery 1D1
Load Description	CKT		CKT	Load Description
Feed From 125 VDC Battery 1D1	1			BLANK
125 VDC Battery Charger 1D120	3		2	125 Battery Charger 1D12
125 VDC RCIC MCC 1D14	5		4	125 VDC Distribution Panel 1D13
Instrument AC Inverter 1D15 Supply	7		6	125 VDC Distribution Panel 1D11
BLANK	9		8	BLANK

References:
1. BECH-E027

Attachment 3



DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

2009 NRC JPM P-2

TITLE: Manually Initiate Cable Spreading Room $C0_2$

JOB PERFORMANCE MEASURE (JPM)

JPM TITLE: Manually Initiation Cable Spreading Room CO2

JPM NUMBER: DAEC 2009 NRC JPM P-2 **REV.** 0

TASK NUMBER(S) / TASK TITLE(S): NSPEO 9.08 / Manually Initiate Cable Spreading Room CO2 Flood System

K/A NUMBERS: 286000 2.1.30 **K/A VALUE:** 4.4 / 4.0

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY: ☒ **RO** ☒ **SRO** ☐ **STA** ☐ **NSPEO** ☐ **SRO CERT**

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [X] Perform: [ ]

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

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 40 Minutes Time Critical: ☐ Yes ☒ No

Alternate Path [NRC]: ☒ Yes ☐ No

Alternate Path [INPO]: ☒ Yes ☐ No

Developed by:	Instructor	Date
Validated by:	Validation Instructor	Date
Reviewed by:	Plant Reviewer	Date
Approved by:	Training Supervisor	Date

Commitments: {C001} ACE 001729, Review recommendation 4 of OE 001501.
{C002} CA046394, Improvements needed for Operations Simulator JPMs.

NRC JPM P-2, MANUALLY INITIATE CABLE SPREADING ROOM C02, Rev 0
JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED 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. Do 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. Is justification provided for tasks with K/A values less than 3.0?	☐	☐	☐
11. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
13. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐
15. Are all critical steps clearly identified by procedural guidance? If licensing, EP or other groups were needed to determine correct actions, then the answer should be NO. {C001}	☐	☐	☐
16. If the JPM is to be administered to an ILT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge. {C001}	☐	☐	☐

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

RE-VALIDATION SIGNATURE

JPMs must be re-validated prior to use. Verify the above Review Statements are "YES" or "N/A". When it is determined that the JPM is still valid and can be performed as written, sign and date the form below.

Re-Validation Personnel Date	Re-Validation Personnel Date
Re-Validation Personnel Date	Re-Validation Personnel Date

SIMULATOR SET UP:

1. **No Simulator Setup Required**

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION #	MALFUNCTION TITLE	ET	DELAY	F. SEV.	RAMP	I. SEV.

SIMULATOR OVERRIDES:

TIME	OVERRIDE ID	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION #	REMOTE FUNCTION TITLE	VALUE	RAMP

Required Materials: OI 513, FIRE PROTECTION, **Section 5**

General References: OI 513, FIRE PROTECTION, Rev 96

Task Standards:

1. Proceeds to alternate initiation method.
2. Breaks the glass and opens the Master Pilot Valve Controller SV-8521.
3. Verifies CABLE SPREADING ROOM SUPPLY and EXHAUST FANS have tripped.

TURNOVER SHEET

INITIAL CONDITIONS:

- You are the NSPEO.
- The plant is operating at full power.
- 1C40 annunciator F-6 (CARDOX PRE-INITIATION ALARM) was received and acknowledged. A report of smoke was received from the second floor admin bldg. After approximately 1 minute, annunciator 1C40 G-6 (CARDOX INITIATED) had still NOT been received.
- Cable Spreading Room has been verified to be unoccupied.

INITIATING CUES (IF APPLICABLE):

- Manually initiate Cable Spreading Room CO2 using the normal initiation method, in accordance with OI 513, FIRE PROTECTION, Section 5.3.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

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:

- You are the NSPEO.
- The plant is operating at full power.
- 1C40 annunciator F-6 (CARDOX PRE-INITIATION ALARM) was received and acknowledged. A report of smoke was received from the second floor admin bldg. After approximately 1 minute, annunciator 1C40 G-6 (CARDOX INITIATED) had still NOT been received.
- Cable Spreading Room has been verified to be unoccupied.

INITIATING CUES (IF APPLICABLE):

- Manually initiate Cable Spreading Room CO2 using the normal initiation method, in accordance with OI 513, FIRE PROTECTION, Section 5.3.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

JPM PERFORMANCE INFORMATION

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 Procedure
Standard:	Candidate states that he/she would obtain procedure from Control Room, WCCS or approved printer depending on location when ordered to initiate Cardox.
Evaluator Cue:	**When the Candidate states how to obtain procedure, hand him/her the copy provided.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical N**	Ensure all personnel are out of the Cable Spreading Room before operating either pilot selector valve.
Procedure Step **OI 513 Step 5.3.1(1)**	
Standard:	Turnover item – No additional action required.
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 3 **Critical N**	At the Cable Spreading Room South door, pull out the locking pin and depress the green START pushbutton.
Procedure Step **OI 513 Step 5.3.1(2)(a)**	
Standard:	Locking pin pulled out and START pushbutton depressed.
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 4 **Critical N**	Verify the local horn sounds at Panel 1C179.
Procedure Step **OI 513 Step 5.3.1(2)(b)**	
Standard:	Candidate listens for horn sounding.
Evaluator Note:	**Candidate may contact CRS at this time to state CO2 initiation failure and obtain permission to go to Section 5.3.2. If so, then go to Performance Step 7. Steps 5 & 6 may be N/A'd.**
Evaluator Cue:	**When Candidate listens for horn sounding at Panel 1C179, inform Candidate that no horn sound is heard.** **If asked, inform Candidate that no audible sound of CO_2 discharge is heard (even after 24 second time delay has expired).** **If Candidate checks status of red light at 1C179, inform operator it is OFF.** **If asked, role play as Control Room to inform Candidate that CRS permission is granted for OI 513, section 5.3.2,"Alternate Initiation."**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 5 **Critical N** **Procedure Step** **OI 513 Step 5.3.1(2)(c)**	Verify on Panel 1C26 in the control room that the CABLE SPREADING ROOM SUPPLY FAN 1V-AC-32 and CABLE SPREADING ROOM EXH FAN 1V-EF-33 have Auto tripped by observing the green OFF lights turn on.
Standard:	Candidate attempts to verify Green OFF lights are ON by going to 1C26 or calls control room.
Evaluator Note:	**Candidate may contact CRS at this time to state CO2 initiation failure and obtain permission to go to Section 5.3.2. If so, then go to Performance Step 7. Step 6 may be N/A'd**
Evaluator Cue:	**If asked, inform Candidate either** • **CABLE SPREADING ROOM SUPPLY and EXHAUST FANS are still running (role play as control room) or** • **Green lights are OFF and Red running lights are ON (panel 1C26).** **If asked, role play as Control Room to inform Candidate that CRS permission is granted for OI 513, section 5.3.2,"Alternate Initiation."**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 6 **Critical N** **Procedure Step** **OI 513 Step 5.3.1(2)(d)**	Verify discharge using audible indication at Cable Spreading Room access or CO_2 tank pressure and level decrease.
Standard:	Candidate attempts to verify CO2 Discharge by audible indications or tank pressure or level decrease.
Evaluator Note:	**Candidate may contact CRS at this time to state CO2 initiation failure and obtain permission to go to Section 5.3.2. If so, then go to Performance Step 7.**
Evaluator Cue:	**If asked, there is no audible indication of CO_2 discharge, no tank pressure decrease, and/or tank level decrease.** **If asked, role play as Control Room to inform Candidate that CRS permission is granted for OI 513, section 5.3.2,"Alternate Initiation."**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 7 **Critical Y** **Procedure Step** **OI 513 Step 5.3.1(2)(e)**	If no discharge occurs, proceed to Section 5.3.2 (Alternate Initiation Method).
Standard:	Candidate proceeds with Alternate Initiation Method.
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 8 **Critical Y**	At North Cable Spreading Room door, break or remove the glass cover on the Pilot box (SV-8522).
Procedure Step **OI 513 Step 5.3.2(1)(a)**	
Standard:	Pilot box located and glass simulated to be broken.
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 9 **Critical Y**	Place Pilot Control Valve SV-8522 handle in the OPEN position.
Procedure Step **OI 513 Step 5.3.2(1)(a)1.**	
Standard:	Simulates placing SV-8522 handle in the OPEN position.
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 10 **Critical N**	If Cardox initiates (evidenced by the noise of CO2 discharging into the Cable Spreading Room), perform the following: (N/A if Cardox did not initiate)
Procedure Step **OI 513 Step 5.3.2(1)(a)2.**	
Standard:	Candidate attempts to verify CO2 Discharge by audible indications, N/A's remaining portion of step when none is heard and proceeds to next step.
Evaluator Cue:	**If asked, there is no audible indication of CO_2 discharge.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 11 **Critical Y**	Proceed to the Master Pilot Valve Controller SV-8521 at the CARDOX unit. Break the glass. Inform the control room that you are about to initiate Cardox.
Procedure Step **OI 513 Step 5.3.2(1)(b)**	
Standard:	Locates Master Pilot Valve Controller; simulates breaking or removing glass, and calls control room.
Evaluator Note:	**Only breaking or removal of glass is critical.**
Evaluator Cue:	**Role play as control room and acknowledge that Cardox is about to be initiated.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 12 **Critical Y**	Place the pilot control valve SV-8521 handle in the OPEN position.
Procedure Step **OI 513 Step 5.3.2(1)(b)1.**	
Standard:	Simulates placing SV-8521 in OPEN position.
Evaluator Note:	**Note time SV-8521 was opened:** _____
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 13 **Critical N** **Procedure Step** **OI 513 Step 5.3.2(1)(b)2.**	Verify CO_2 discharge by observing CO_2 tank indicators.
Standard:	Observes tank level and/or pressure gauges or listens for flow noise to verify discharge of Cardox.
Evaluator Cue:	**If asked, the Cardox tank level and/or pressure are lowering; sound of Cardox flow is heard.**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 14 **Critical Y** **Procedure Step** **OI 513 Step 5.3.2(1)(b)3.**	Verify on Panel 1C26 in the control room that the CABLE SPREADING ROOM SUPPLY 1V-AC-32 and EXHAUST 1V-EF-33 FANS have auto tripped by observing the green OFF lights turn ON.
Standard:	Operator goes to 1C26 or calls Control Room to verify fans have tripped.
Evaluator Cue:	**If asked, inform Candidate either** • **CABLE SPREADING ROOM SUPPLY and EXHAUST FANS are NOT running (role play as control room) or** • **Green lights are ON and Red running lights are OFF (panel 1C26).**
Performance:	**SATISFACTORY UNSATISFACTORY** _____
Comments:	_____

Performance Step: 15 **Critical Y** **Procedure Step** **OI 513 Step 5.3.2(1)(b)4.**	After 3 minutes 30 seconds of Cardox release, place the pilot control valve SV-8521 handle in the CLOSED position.
Standard:	SV-8521 in CLOSED position in no less than 3 minutes 30 seconds of release.
Evaluator Note:	**Note time SV-8521 was closed: _____** **The critical portion is for the candidate to wait at least 3.5 minutes prior to closing SV-8521**
Evaluator Cue:	**If asked, the Cardox tank level and/or pressure have stabilized; sound of Cardox flow has stopped.**
Performance:	**SATISFACTORY UNSATISFACTORY _____**
Comments:	_____

Performance Step: 16 **Critical N** **Procedure Step** **OI 513 Step 5.3.2(1)(b)5.**	Notify control room that the manual initiation process for the Cardox System is complete.
Standard:	Calls control room to report completion of manual initiation.
Evaluator Cue:	**Role play as control room and acknowledge completion of manual Cardox initiation.** **If asked about the status of the fire; state that the fire is out.**
Performance:	**SATISFACTORY UNSATISFACTORY _____**
Comments:	_____

Terminating Cues: When the Candidate notifies the control room that the manual initiation process for the Cardox System is complete, inform the Candidate that another operator will complete the procedure and that the JPM is complete.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

Stop Time: _____

NRC JPM P-2, MANUALLY INITIATE CABLE SPREADING ROOM C02, Rev 0

Examinee: _____ **Evaluator:** _____

☐ **RO** ☐ **SRO** ☐ **STA** ☐ **NSPEO** ☐ **SRO CERT** **Date:** _____

☐ **ILT RO** ☐ **ILT SRO**

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

Remediation required: **YES** ☐ **NO** ☐

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

EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.

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.

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

2009 NRC JPM P-3

TITLE: Vent the Scram Air Header

JOB PERFORMANCE MEASURE (JPM)

JPM TITLE: Vent the Scram Air Header

JPM NUMBER: DAEC 2009 NRC JPM P-3 **REV.** 0

TASK NUMBER(S) / TASK TITLE(S): NSPEO 47.01 / Vent the Scram Air Header

K/A NUMBERS: 295037 EA1.05 **K/A VALUE:** 3.9 / 4.0

Justification (FOR K/A VALUES <3.0):

TASK APPLICABILITY: ☒ **RO** ☒ **SRO** ☐ **STA** ☒ **NSPEO** ☒ **SRO CERT**

APPLICABLE METHOD OF TESTING: Simulate/Walkthrough: [X] Perform: [ ]

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

Simulator: [ ] Other: [ ]

Lab: [ ]

Time for Completion: 10 Minutes Time Critical: ☐ Yes ☒ No

Alternate Path [NRC]: ☐ Yes ☒ No

Alternate Path [INPO]: ☐ Yes ☒ No

Developed by:	Instructor	Date
Validated by:	Validation Instructor	Date
Reviewed by:	Plant Reviewer	Date
Approved by:	Training Supervisor	Date

Commitments: {C001} ACE 001729, Review recommendation 4 of OE 001501.
{C002} CA046394, Improvements needed for Operations Simulator JPMs.

NRC JPM P-3, Vent the Scram Air Header, Rev. 0
JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED 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. Do 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. Is justification provided for tasks with K/A values less than 3.0?	☐	☐	☐
11. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
13. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐
15. Are all critical steps clearly identified by procedural guidance? If licensing, EP or other groups were needed to determine correct actions, then the answer should be NO. {C001}	☐	☐	☐
16. If the JPM is to be administered to an ILT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge. {C001}	☐	☐	☐

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

RE-VALIDATION SIGNATURE

JPMs must be re-validated prior to use. Verify the above Review Statements are "YES" or "N/A". When it is determined that the JPM is still valid and can be performed as written, sign and date the form below.

Re-Validation Personnel Date	Re-Validation Personnel Date
Re-Validation Personnel Date	Re-Validation Personnel Date

SIMULATOR SET UP:

1. **No Simulator Setup Required**

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION #	MALFUNCTION TITLE	ET	DELAY	F. SEV.	RAMP	I. SEV.

SIMULATOR OVERRIDES:

TIME	OVERRIDE ID	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION #	REMOTE FUNCTION TITLE	VALUE	RAMP

Required Materials: Adjustable wrench for pipe plug removal (posted at location)
RIP 101.3

General References: RIP 101.3, Rev. 2

Task Standards: V-17-61 is CLOSED (simulated).
The pipe plug is removed (simulated).
V-17-174 is OPEN (simulated).

TURNOVER SHEET

INITIAL CONDITIONS:

- The reactor has failed to scram via RPS auto, manual, and ATWS signals.
- EOP ATWS has been entered.

INITIATING CUES (IF APPLICABLE):

- Vent the scram air header in accordance with RIP 101.3.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

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 has failed to scram via RPS auto, manual, and ATWS signals.
- EOP ATWS has been entered.

INITIATING CUES (IF APPLICABLE):

- Vent the scram air header in accordance with RIP 101.3.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

JPM PERFORMANCE INFORMATION

Start Time: _____

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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**	Close V-17-61, SCRAM PILOT AIR HEADER ISOLATION.
Procedure Step **RIP 101.3 Step (1)**	
Standard:	Locates and demonstrates closing V-17-61.
Evaluator Cue:	After several turns, the valve no longer rotates in the closed direction.
Performance:	**SATISFACTORY**_____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical Y**	Remove the pipe plug located downstream of V-17-174, PI-1841/PS-1842 TEST CONNECTION ISOLATION.
Procedure Step **RIP 101.3 Step (2)**	
Standard:	Locates pipe plug and adjustable wrench. Simulates removal of the plug.
Evaluator Note:	The wrench is hanging on the post at the location near the header isolation valve. There are two plugs, removal of either will accomplish the task of venting the scram air header.
Evaluator Cue:	The plug is removed
Performance:	**SATISFACTORY**_____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 3 **Critical Y** **Procedure Step** **RIP 101.3 Step (3)**	Open V-17-174, PI-1841/PS-1842 TEST CONNECTION ISOLATION.
Standard:	Locates and demonstrates opening V-17-174.
Evaluator Note:	There is an air gauge near the pipe plugs. When the scram air header pressure is lowering, that gauge would be showing the lowering of the air pressure.
Evaluator Cue:	Air is heard exiting from the connection.
Performance:	**SATISFACTORY_____ UNSATISFACTORY _____**
Comments:	_____

Terminating Cues: Another operator will perform the restoration section of RIP 101.3.

NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator. {C002}

Stop Time: _____

NRC JPM P-3, Vent the Scram Air Header, Rev. 0

Examinee: _____ **Evaluator:** _____

☐ **RO** ☐ **SRO** ☐ **STA** ☐ **NSPEO** ☐ **SRO CERT** **Date:** _____

☐ **ILT RO** ☐ **ILT SRO**

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

Remediation required: **YES** ☐ **NO** ☐

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

EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.

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.