FINAL AS-ADMINISTERED WALKTHROUGH JPMS

FOR THE DUANE ARNOLD EXAMINATION - NOVEMBER 2002

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: DAEC

TASK TITLE: SLO/ Recirc power reduction/ Recirc MG lube oil high temperature alarm/Recirc pump trip/Scram

JPM NUMBER: 202002-xx **REV.** 0

RELATED PRA INFORMATION:

TASK NUMBERS: 100.19 Respond to Loss of Two Reactor Recirculation Pumps

K/A NUMBERS: 202002 A4.09(3.2/3.3) 2.1.32(3.4/3.8) 2.1.33(3.4/4.0) 2.2.22(3.4/4.1)

B.1.a

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [X] Other: [ ]

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path / Faulted: YES

TASK APPLICABILITY: SRO/RO

Additional signatures may be added as needed.

Developed by: _____ 9/15/02
Instructor Date

Validated by: _____ 9/16/02
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by:	Dean Curtland	9/17/02
	Training Supervisor	Date

JPM Number: 202002-xx

JPM Title: SLO/ Recirc power reduction/ Recirc MG lube oil high temperature alarm/Recirc pump trip/Scram

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
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *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 plant is in single loop with the "B" Recirc Loop in operation.
- The "A" Recirc Pump was removed from service two days ago due to high vibrations.
- Power is being lowered for plant shutdown to inspect the "A" Recirc Pump.
- Assume all single loop STPs have been performed satisfactorily.

INITIATING CUES (IF APPLICABLE):

- The OSS directs you to reduce power 30 MWE at 2 to 5 MWe/minute with the "B" Recirc MG.

JPM PERFORMANCE INFORMATION

Required Materials: ARP 1C04A B-9 Rev 2

General References: OI 264 Rev 70
T.S. 3.4.1 Recirc. Loops Operating

Task Standards:
1. Recirc pump speed reduced.
2. Loss of both Recirc pumps identified.
3. Manual scram pushbuttons depressed.

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: **Critical: Y**	At 1C04, reduce "B" MG Set speed control.
Standard:	"B" MG Set Control knob turned counterclockwise to commence power reduction.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical: N**	Monitor Recirc Loop Flows and Core Flow.
Standard:	Any or all of the following indications monitored: FI-4523 A Loop Flow FI-4526 B Loop Flow FR-4528 Total Core Flow B012 Total Core Flow
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: **Critical: N**	Continue to reduce recirc speed in at <5 MWe/min.
Standard:	Commences power reduction with Recirc Flow at <5 MWe/min. (At this point ARP 1C04A B-9 "B" Recirc MG Fluid Drive Oil HI Temp" will Alarm)
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	**Booth Instructor:** (Following 2 Recirc Flow reductions or directions from the Floor Instructor) **Insert Annunciator Alarm** 1C04A B-9 Insert override: **1c04a(18) ON** ET: _____

Performance Step: **Critical: N**	Inform OSS of 1C04A B-9 and pull the ARP.
Standard:	Inform OSS "B" Recirc MG Fluid Drive Oil HI Temp" is alarming Pull and review ARP 1C04A B-9 for actions.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: If the operator inserts a Manual SCRAM any time following this alarm the last critical task to SCRAM the Reactor should be considered completed satisfactory.

Simulator Booth Instructor:

When the candidate starts to go to 1C21 (back panels) or as directed by the Evaluator :

Insert Malfunction rr06b **RECIRC M-G DRIVE MOTOR BREAKER TRIP- M-G B**
ET _____

Performance Step: **Critical: N**	Identify loss of both Recirc pumps.
Standard:	Recognition that both Recirc pumps have tripped.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Cue: If the operator requests permission to manually scram the Reactor, act as the OSS and grant permission.

Performance Step: **Critical: Y**	Manually Scram the Reactor.
Standard:	Manual Scram Pushbuttons depressed.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	If the operator inserts a Manual SCRAM any time after the High Temperature alarm is received this would be considered satisfactory completion for this step. Cue that JPM is now complete.

Terminating Cues: When Manual Scram Pushbuttons have been depressed.

Stop Time: _____

SIMULATOR SET UP:

Reset to IC 20 or comparable IC to ensure SLO and power reduction will not be in the Buffer or Exclusion region of the Power to Flow Map..

Secure the "A" Recirc pump.

If desired, once conditions stabilize snap to IC 0 and save as IC ____ to be used during the JPM setup.

SIMULATOR EVENT TRIGGERS:

Set Event Triggers as needed for the simulator malfunctions.

SIMULATOR MALFUNCTIONS:

Booth Instructor: Following 2 Recirc Flow reductions or directions from the Floor Instructor
Insert Annunciator Alarm for **1C04A B-9**

Insert override: **1c04a(18) ON**

ET: _____

Booth Instructor: When the operator says or starts to go to 1C21 the "B" Recirc MG will trip placing the plant in natural circ.
(Or as directed by the Floor Instructor)

Insert Malfunction **rr06b** RECIRC M-G DRIVE MOTOR BREAKER TRIP- M-G B

ET- _____

SIMULATOR OVERRIDES:

None

SIMULATOR REMOTE FUNCTIONS:

None

TURNOVER SHEET

INITIAL CONDITIONS:

- The plant is in single loop with the "B" Recirc Loop in operation.
- The "A" Recirc Pump was removed from service two days ago due to high vibrations.
- Power is being lowered for plant shutdown to inspect the "A" Recirc Pump.
- Assume all single loop STPs have been performed satisfactorily.

INITIATING CUES (IF APPLICABLE):

- The OSS directs you to reduce power 30 MWE at 2 to 5 MWe/minute with the "B" Recirc MG.

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

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

NUMBER: 239001-02

TASK NUMBER: 95.15 B.1.c

TITLE: Install EOP Defeat 5 to depressurize the reactor

Rev. 1

DEVELOPED BY: Michael Fisher — Instructor — 3/23/2001 — Date

VALIDATED BY: [signature] — SME/Instructor — 3/29/01 — Date

REVIEWED BY: David Hansen — Plant Reviewer — 3/30/2001 — Date

APPROVED BY: [signature] for — Training Supervisor-Operations — 4/2/01 — Date

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

JPM No. 239001-02	**JPM Description:** Install EOP Defeat 5 to depressurize the reactor.		
Task No. 95.15	**Task Description:** Perform the required actions of the MSIV and Main Steam Line Drain Total Isolation Defeat.		
K/A Reference: **239001**	A4.02 3.2/3.2		
APPLICABLE METHOD OF TESTING:			
Simulate Performance		Actual Performance X	
Simulator X	In-Plant	Control Room	
Time for Completion: 10 minutes			

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE

All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 7 through 10.

JPM No. 239001-02 JPM Title Install EOP Defeat 5 to depressurize the reactor.

✓ 1. Task description and number, JPM description and number are identified

✓ 2. Task elements identified and K/A references are included

✓ 3. Performance location specified

- a. in-plant
- b. control room
- c. simulator

✓ 4. Initial conditions and cues identified

- a. setup, required materials, and procedure
- b. malfunctions and instructor actions
- c. initiating and terminating cues

✓ 5. Task standards identified and verified by SME review

✓ 6. Critical tasks/steps identified meet criteria and identified with a "C"

✓ 7. Verify JPM steps fit the most current procedures
Procedure Rev. 2 Date 9/21/00

✓ 8. Pilot test JPM 2 9/21/00

- a. verify cues both verbal and visual are free of conflict
- b. ensure performance time is accurate

9. If the JPM cannot be performed as written with proper responses, then revise the JPM

✓ 10. When JPM is revalidated, SME/Instructor signs and dates JPM

[signature] 9/16/02
SME/Instructor Date

SME/Instructor Date

SME/Instructor Date

SIMULATOR SETUP:

EVENT TRIGGERS

None

MALFUNCTIONS:

Time	Malfunction No.	Malfunction Title	ET	Delay	F. Sev.	Ramp	I. Sev.
0	AD01D	PSV-4403 leak	N/A	0	7%	0	0
0	SW24	WW load blockage	N/A	0	100%	0	0

OVERRIDES:

Time	Override Tag	Override Description	ET	Delay	Value.	Ramp
0	AD HS-4400		N/A	0	CLOSE	0
0	AD HS-4401		N/A	0	CLOSE	0
0	AD HS-4402		N/A	0	CLOSE	0
0	AD HS-4405		N/A	0	CLOSE	0
0	AD HS-4406		N/A	0	CLOSE	0
0	AD HS-4407		N/A	0	CLOSE	0

REMOTE FUNCTIONS:

None

INSTRUCTOR ACTIONS:

1. Insert malfunctions and overrides.
2. Override ADS logic.
3. Place ADS handswitches in the OPEN position.
4. Allow 850 psig in RUN to cause a Group 1, then place the Mode Switch in the SHUTDOWN position.
5. Read initial conditions and initiating cues to the operator.

TASK STANDARDS:

1. HS-4427A placed in OVERRIDE position
2. HS-4427B placed in OVERRIDE position
3. HS-4427C placed in OVERRIDE position
4. HS-4427D placed in OVERRIDE position
5. All MSIV handswitches taken to CLOSE and PCIS reset
6. MO-1043 is OPEN
7. CV-1064 is OPEN
8. MO-4424 is OPEN
9. MO-4423 is OPEN

REQUIRED MATERIALS:

EOP Defeat 5

GENERAL REFERENCES:

EOP Defeat 5, Rev. 1, 2/16/1999

Read to the operator the following information:

INITIAL CONDITIONS:

1. The reactor scrammed due to a safety relief valve failing open.
2. The Mode Switch was NOT taken out of RUN prior to 850 psig.
3. DW temperature is 280 degrees F.
4. Emergency Depressurization has been directed.
5. All SRVs have failed.
6. You are the BOP operator.

INITIATING CUES:

The OSS directs you to perform the required actions of EOP Defeat 5 in order to depressurize the RPV with the Main Steam Line Drains.

This task is not time critical.

Inform the evaluator when you have completed the task.

PERFORMANCE INFORMATION

NOTE:
Critical steps are denoted with a "C". Failure to meet the standard for this step constitutes failure.

Time Start _____

NOTE: The first four steps may be performed in any order.

PERFORMANCE STEP: Critical: C	At Panel 1C15, place GROUP 1 CHANNEL A1 ALL SIGNALS OVERRIDE keylock switch HS-4427A in OVERRIDE and confirm amber light is ON.
STANDARD:	HS-4427A taken to OVERRIDE and the amber light is confirmed ON.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At Panel 1C15, place GROUP 1 CHANNEL A2 ALL SIGNALS OVERRIDE keylock switch HS-4427C in OVERRIDE and confirm amber light is ON.
STANDARD:	HS-4427C taken to OVERRIDE and the amber light is confirmed ON.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At Panel 1C17, place GROUP 1 CHANNEL B1 ALL SIGNALS OVERRIDE keylock switch HS-4427B in OVERRIDE and confirm amber light is ON.
STANDARD:	HS-4427B taken to OVERRIDE and the amber light is confirmed ON.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At Panel 1C17, place GROUP 1 CHANNEL B2 ALL SIGNALS OVERRIDE keylock switch HS-4427D in OVERRIDE and confirm amber light is ON.
STANDARD:	HS-4427D taken to OVERRIDE and the amber light is confirmed ON.
COMMENTS:	

PERFORMANCE STEP: Critical: C	Verify all MSIV handswitches are in CLOSE position.
STANDARD:	All MSIV handswitches are in the CLOSE position.
COMMENTS:	

PERFORMANCE STEP: Critical: C	Reset Group 1 using DIV 1 RESET and DIV 2 RESET pushbuttons on 1C05.
STANDARD:	PCIS is reset using the DIV 1 and DIV 2 pushbuttons.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At 1C04, open MO-1043 MSL HEADER DRAINS BYPASS valve.
STANDARD:	MO-1043 is open.
COMMENTS:	

PERFORMANCE STEP: Critical:	At 1C04, verify CLOSED, MO-1044 MSL DRAIN ORIFICE BYPASS valve.
STANDARD:	MO-1044 is verified CLOSED.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At 1C04, open CV-1064 MSL HEADER DRAIN valve by placing HS-1064 in OPEN position.
STANDARD:	CV-1064 is OPEN.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At 1C04, open MO-4424 OUTBD MAIN STM LINE DRAIN ISOL valve by placing handswitch HS-4424 in OPEN position.
STANDARD:	MO-4424 is OPEN.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At 1C03, open MO-4423 INBD MAIN STM LINE DRAIN ISOL valve by placing handswitch HS-4423 in OPEN position.
STANDARD:	MO-4423 is OPEN.
COMMENTS:	

PERFORMANCE STEP: Critical:	At 1C04, open MO-1044 MSL DRAIN ORIFICE BYPASS as necessary to vent the RPV.
STANDARD:	MO-1044 is opened.
COMMENTS: CUE: If asked if opening MO-1044 is necessary, direct the operator to open MO-1044.	

Time Stop _____

TERMINATING CUES: All 4 Override switches taken to OVERRIDE and MSL Drain valves are open.

VERIFICATION OF COMPLETION

JPM No.: 239001-02 JPM Description: Install EOP Defeat 5 to depressurize the reactor.

Operator: _____ Evaluator: _____

Licensee: ☐ RO ☐ SRO ☐ SRO Cert
☐ STA ☐ NSPEO

Result: ☐ SATISFACTORY ☐ UNSATISFACTORY

COMMENTS/FEEDBACK: (Note any trainee discrepancies or misperformed steps.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____
Evaluator's Signature Date

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: DAEC

TASK TITLE: RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1

JPM NUMBER: 259001-11 **REV.** 2

RELATED PRA INFORMATION:

TASK NUMBERS: 45.03 B.1.b

K/A NUMBERS: A4.02 (3.9/3/7)

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [X] Other: [ ]

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: RO/SRO

Developed by:	Instructor	9/15/02 Date
Validated by:	Validation Instructor (See JPM Validation Checklist, Attachment 1)	9/16/02 Date
Approved by:	Training Supervisor-Operations	9/17/02 Date

259001-11, RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1, Rev 2

JPM Number: 259001-11

JPM Title: RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1

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
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *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:

- A reactor scram has occurred.
- IPOI 5 has been entered and immediate actions have been taken.
- EOP 1 has been entered.
- Both feedwater pumps tripped when reactor water level exceeded 211".
- The S/U Feed Reg Valve is tagged out for maintenance.
- The scram occurred four (4) minutes ago.
- You are the 1C05 operator.

INITIATING CUES (IF APPLICABLE):

- As the OSS, I direct you to Start the "B" (**Bravo**) Reactor Feed Pump and restore level to 170 to 211 inches using OI 644 **QRC 1**.

259001-11, RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1, Rev 2

JPM PERFORMANCE INFORMATION

Required Materials: OI 644 QRC 1

General References: OI 644 QRC 1

Task Standards:
1. Verify that the Aux Oil Pumps are running.
2. Verify that the high reactor water level trips are reset.
3. Start "B" RFP.

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: **Critical: N**	**Verify** Feed Reg Valve Controllers (HC-1579 and HC-1621) are in **Manual** and **Closed**.
Standard:	HC-1579 and HC-1621 verified to be in MANUAL and both FRVs verified to be closed.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	HC-1622 is tagged out and will probably be marked N/A.

Performance Step: **Critical: N**	Verify at least one Condensate pump is running
Standard:	At least one Condensate pump is verified to be running
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	The operator may choose to secure one of the Condensate pumps.

Performance Step: **Critical: Y**	Verify RFP Aux Oil Pumps **1P2A and B running**.
Standard:	The operator will verify that 1P2A and 1P2B are running or will start the pumps as necessary.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: The operator is allowed to place the switches for the Aux oil pumps in start even though the pumps are running.

Performance Step: **Critical: N**	**Verify CV-1611,** RFP Recirc Valve, **closed**.
Standard:	The operator will verify that CV-1611 is closed.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: N**	**Verify CV-1631,** Startup Feed Line Block, **open**
Standard:	The operator may skip this step **or** mark the step N/A due to the tagout of the SUFRV.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: N**	**Throttle open MO-1708,** Condensate F/D Bypass Valve, for approximately 5 seconds.
Standard:	The operator will open the Condensate Demin Bypass valve using HS-1708 for approximately 5 seconds..
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: Y**	**Verify** RFP/MN TURB HI LEVEL CH.A, B, C **trips reset** at 1C05.
Standard:	The operator will reset the RFP/MN HI LEVEL trips by pushing in the reset pushbuttons.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	**Start** Reactor Feed Pump **1P-1B**.
Critical: Y	
Standard:	The operator will start the "B" Reactor Feed Pump using HS-1616.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	Establish desired RPV injection by **manually adjusting** Feed Reg Valve
Critical: N	Controller **HC-1621** or the Startup Feed Reg Valve Controller **HC-1622**.
Standard:	The operator will manually adjust HC-1621 to control injection.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	HC-1622 SUFRV controller is tagout an would not be used.

Performance Step:	**Stop** RFP Aux Lube Pump **1P2B**
Critical: N	
Standard:	The operator will stop "B" RFP Aux Lube Oil pump and return the handswitch to AUTO.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	**Close MO-1708,** Condensate F/D Bypass Valve.
Critical: N	
Standard:	The operator will close the Condensate Demin Bypass valve using HS-1708.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: N**	When directed by the OSS, adjust the **Feed Reg Valve Controllers** to the desired RPV level control setpoint and return to **AUTO**.
Standard:	The operator will manually control reactor water level with CV-1621.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Cue: Restore reactor water level to 170″ to 211″. If asked about shifting the controllers to AUTO reply, "When level is stable between 170 and 211 inches you may shift control to AUTO".

Terminating Cues: "B" RFP running and the operator controlling level.
(Level does not have to be restored to 170 to 211 inches. The operator just has to demonstrate control of level)

Stop Time: _____

259001-11, RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1, Rev 2

SIMULATOR SET UP:

1. Reset to IC-14.
2. Start "B" Well Water pump and secure "D" Well Water pump.
3. Insert a manual scram.
4. Ensure that reactor water level exceeds 211", and then lower reactor water level to less than 200".
5. Perform appropriate steps of IPOI 5, with the exception of leaving both Condensate pumps running.
6. **Hang a Warning Tag** on the HC-1622 "S/U FRV" and MO-1631 "SUFRV Block Valve".
7. Place HC-1579 and HC-1621 in **MANUAL**. Place the Master feed Reg valve controller in **MANUAL** and close both feed reg valves.
8. Read initial conditions and initiating cues to the operator.

SIMULATOR EVANT TRIGGERS:

None

SIMULATOR MALFUNCTIONS:

None

SIMULATOR OVERRIDES:

None

SIMULATOR REMOTE FUNCTIONS:

None

259001-11, RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1, Rev 2

TURNOVER SHEET

INITIAL CONDITIONS:

- A reactor scram has occurred.
- IPOI 5 has been entered and immediate actions have been taken.
- EOP 1 has been entered.
- Both feedwater pumps tripped when reactor water level exceeded 211".
- The S/U Feed Reg Valve is tagged out for maintenance.
- The scram occurred four (4) minutes ago.
- You are the 1C05 operator.

INITIATING CUES (IF APPLICABLE):

- As the OSS, I direct you to Start the "B" (**Bravo**) Reactor Feed Pump and restore level to 170 to 211 inches using OI 644 **QRC 1**.

259001-11, RESTART OF A REACTOR FEED PUMP FOLLOWING A REACTOR SCRAM Using OI 644 QRC 1, Rev 2

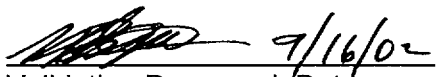
ATTACHMENT 1

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 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

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

NUMBER: 295024-06

B. 1. e

TASK NUMBER: 95.28

TITLE: Containment Venting Irrespective of Radioactive Release (Alternate Path, Hard Pipe Vent)

Rev. 5

P&I # 1 TMAR# _____

Preparer/Date Stan Arnold 9/15/02

Pages 6

DEVELOPED BY: _____ 3/28/2001
Instructor Date

VALIDATED BY: _____ 28 Mar 01
SME/Instructor Date

REVIEWED BY: _____ 3/28/01
Plant Reviewer Date

APPROVED BY: _____ 3/30/01
Training Supervisor-Operations Date

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

JPM No. 295024-06	**JPM Description:** Containment venting irrespective of radioactive release (Alternate Path, Hard Pipe Vent)	
Task No. 95.28	**Task Description:** Vent the torus irrespective of rad release	
K/A Reference: 295024	EK3.07 (3.5/4.0) EA1.14 (3.4/3.5) EA2.01 (4.2/4.4)	
APPLICABLE METHOD OF TESTING: SRO/RO		
Simulate Performance		Actual Performance X
Simulator X	In-Plant	Control Room
Time for Completion: 10 minutes		

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE

All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 7 through 10.

JPM No. 295024-06 JPM Title Containment venting irrespective of radioactive release (Alternate Path, Hard Pipe Vent)

1. Task description and number, JPM description and number are identified
2. Task elements identified and K/A references are included
3. Performance location specified
   a. in-plant
   b. control room
   c. simulator
4. Initial conditions and cues identified
   a. setup, required materials, and procedure
   b. malfunctions and instructor actions
   c. initiating and terminating cues
5. Task standards identified and verified by SME review
6. Critical tasks/steps identified meet criteria and identified with a "C"
7. Verify JPM steps fit the most current procedures
   Procedure Rev. 12 / 3 Date 2/16/01 / 2/16/01 EOP: 2 SEP 301.1 - 1 / SEP 301.3
8. Pilot test JPM 4 / 3 4/22/02 / 2/16/01 SEP 301.1 / SEP 301.3
   a. verify cues both verbal and visual are free of conflict
   b. ensure performance time is accurate
9. If the JPM cannot be performed as written with proper responses, then revise the JPM
10. When JPM is revalidated, SME/Instructor signs and dates JPM

SME/Instructor	Date 4/16/02
SME/Instructor	Date
SME/Instructor	Date

SIMULATOR SETUP:
Reset to IC-14, or equivalent.

EVENT TRIGGERS

None

MALFUNCTIONS:

JPM295024-06

Time	Malfunction No.	Malfunction Title	ET	Delay	F. Sev.	Ramp	I. Sev.
0	AD01D	Reac Pres Rlf or Safety Vlv Leak- PSV4403 (VI)			1.00	180 sec.	
0	PC13F	Break- Disch Pip of PSV4407 into Torus Air Space. Adjust as necessary to get drywell pressure >53 psig.			.8		
0	AD01H	Reac Pres Rlf or Safety Vlv Leak- PSV4407 (VI) set the malfunction as necessary to keep the drywell pressure >53 psig.			1.00	60 sec.	
0	RP02A	RPS EPA Breaker Trip- RPS A EPA Bkr					
0	AN 1C35B(15)	1C35B (D-03) Simulator Out of Bounds Annunciator					
0	AN 1C35B(16)	1C35B (D-04) Simulator Out of Bounds Annunciator					
0	RH09D	RHR MO-1905 Thermal Overload Breaker Trip					

OVERRIDES:

JPM295024-06

Time	Override Tag	Override Description	ET	Delay	Value.	Ramp
0	DI RH HS-1903C	Cont Spray Vlv Ctrl			RESET	
0	DI RH HS-2001C	Cont Spray Valve Ctrl			RESET	

REMOTE FUNCTIONS:

None

INSTRUCTOR ACTIONS:

1. Place the simulator in run and perform the following:

   - Place the MODE switch to SHUTDOWN.
   - Allow drywell pressure to rise to 50 psig. then open four ADS SRV's to depressurize the RPV.
   - When Drywell pressure reaches approximately 70 psig. remove malfunctions AD01D, AD01H and PC13F.

2. Freeze the simulator.

3. Note any discrepancies in the comments section for any misperformed steps.

4. Turn off simulator failure alarm at the instructor station.

5. Read initial conditions and initiating cues to student.

6. Place the simulator in run.

TASK STANDARDS:

1. Fuses RR-F2 and RR-F3 installed.

2. CV-4301 and CV-4309 closed.

3. HS 4300A in override.

4. CV-4300 open.

5. CV-4357 open.

REQUIRED MATERIALS:

SEP 301.1
SEP 301.3

GENERAL REFERENCES:

EOP-2
SEP 301.1
SEP 301.3

Read to the operator the following information:

INITIAL CONDITIONS:

1. EOP-2 has been entered on high drywell pressure and temperatures due to SRV-4403, Safety Valve leaking.
2. "A" RPS Bus has been lost.
3. HS-1903C (HS-2001C) will not energize to allow spray valve control.
4. MO-1905, RHR Inboard Inject Valve has a thermal overload.
5. Torus and drywell pressures are approximately 70 psig and rising.
6. Emergency Depressurization has been performed based on drywell temperatures and pressures.

INITIATING CUES:

The OSS directs you to Vent the Torus Irrespective of Rad Release per SEP 301.1 for containment pressure control.

This task is NOT time critical.

Inform the evaluator when you have completed the task.

PERFORMANCE INFORMATION

NOTE:
Critical steps are denoted with a "C". Failure to meet the standard for this step constitutes failure.

Time Start _____

PERFORMANCE STEP: Critical:	Verify torus water level is below 16 feet.
STANDARD:	Operator verifies torus water level less than 16 feet.
COMMENTS:	

PERFORMANCE STEP: Critical:	Install Defeats as permitted by the EOPs/SAGs. If venting irrespective of the radioactivity release rate in EOPs/SAGs, install DEFEAT 10, Drywell/Torus Vent and Purge Isolation Defeat. If DEFEAT 10 cannot be installed, exit this procedure and use the Hard Pipe Vent per SEP 301.3.
STANDARD:	Operator determines from the initial conditions that the "A" RPS bus is de-energized and he must exit this procedure and use SEP 301.3.
COMMENTS: If asked about fuel failure; <u>there is no fuel failure</u> If asked if the ERO is manned; <u>the ERO is not manned.</u> If asked if SEP 301.3 is to be performed; <u>perform SEP 301.3</u>	

PERFORMANCE STEP: Critical:	Verify torus water level is below 16 feet.
STANDARD:	Operator verifies torus water level less than 16 feet.
COMMENTS: CUE: This was done previously in SEP 301.1 prior to determining that SEP 301.3 was required.	

PERFORMANCE STEP: Critical:	Shutdown and isolate the Steam Packing Exhauster as follows: At 1C07, place STEAM PACKING EXHAUSTER BLOWER 1K-6A and B handswitches HS-5205 and HS-6201in the PULL-TO-LOCK position.
STANDARD:	Operator places HS-5205 and HS-6201in the PULL-TO-LOCK position.
COMMENTS: Cue:	

PERFORMANCE STEP: Critical:	Shutdown and isolate the Steam Packing Exhauster as follows: At 1C07, close MO-1178 and MO-1180, 1K-6A[B] DISCHARGE valves. If power is unavailable, manually close the valves in the Condenser Bay.
STANDARD:	Operator places MO-1178 and MO-1180 to the CLOSE position.
COMMENTS: Cue:	

PERFORMANCE STEP: Critical:	Shutdown and isolate the Steam Packing Exhauster as follows: Close V-04-84, STEAM PACKING EXHAUSTER LOOP SEAL ISOLATION. (Condenser Bay, west wall, mezzanine - 745' level.)
STANDARD:	Operator directs the auxiliary operator (or any inplant operator) to CLOSE V-04-84.
COMMENTS: Cue: Contact the operator as the auxiliary operator and inform him that V-04-84 is CLOSED.	

PERFORMANCE STEP: Critical:	Verify that Condenser Vacuum Pump 1P-32 is shutdown.
STANDARD:	1P-32 verified shutdown.
COMMENTS:	

PERFORMANCE STEP: Critical:	Close V-05-97, 1T-15 OUTLET ISOLATION, in the Hogger Room.
STANDARD:	An operator is sent to CLOSE V-05-97.
COMMENTS: Cue: Instructor acts as Aux Operator/2nd Assistant V-05-97 is closed.	

PERFORMANCE STEP: Critical:	Install the fuses for CV-4357 as follows: Obtain two 125 VDC fuses from the Hard Pipe Vent Package in the EOP Tool Box.
STANDARD:	Two 125 VDC fuses are obtained from the Hard Pipe Vent Package in the EOP Tool Box.
COMMENTS:	

PERFORMANCE STEP: Critical: **C**	Install the fuses for CV-4357 as follows: At 1C03 backpanel, install fuses at RR-F2 and RR-F3.
STANDARD:	Operator removes the cage and fuses RR-F2 and RR-F3 are installed.
COMMENTS:	

PERFORMANCE STEP: Critical:	At 1C03, close the following valves: CV-4301 OUTBD TORUS VENT ISOL CV-4309 INBD TORUS VENT BYPASS ISOL
STANDARD:	CV-4301 and CV-4309 closed.
COMMENTS:	

PERFORMANCE STEP: Critical: **C**	Place HS-4300A, CV-4300 HARD PIPE VENT ALT PWR/PCIS OVERRIDE, in the OVERRIDE position at 1C32.
STANDARD:	HS-4300A is in OVERRIDE position.
COMMENTS:	

PERFORMANCE STEP: Critical: **C**	Open the following valves at 1C03 to establish the hard pipe vent path: CV-4300, INBD TORUS VENT ISOL. CV-4357, HARD PIPE VENT
STANDARD:	CV-4300 and CV-4357 are opened.
COMMENTS:	

PERFORMANCE STEP: Critical:	Monitor containment parameters and confirm actuation of rupture disc PSE-4357 on 1C03.
STANDARD:	Operator verifies lowering drywell pressure on PI-4396C or PI-4396D.
COMMENTS: CUE: Pressure may not drop while the candidate is monitoring PI-4396C or PI-4396D. This is due to the hard pipe vent being sized to remove 10% percent of the decay heat approximately 21 hours after the shutdown during a station blackout. The leak is much greater than the hard pipe vent capacity and time after shutdown is much less than 21 hours.	

PERFORMANCE STEP: Critical:	Monitor and control containment venting as follows: If venting for containment pressure control only, vent as necessary to maintain pressure below the Primary Containment Pressure Limit (53 psig). Establish a pressure band for venting between 45 psig and 53 psig, unless otherwise directed by the TSC.
STANDARD:	Operator monitors containment venting and establishes a pressure band 45 psig. to 53 psig.
COMMENTS: CUE: When the candidate informs you that he will establish a pressure band 45 psig. to 53 psig. the JPM may be terminated.	

Time Stop _____

TERMINATING CUES: Candidate attempts to establish a 45 psig. to 53 psig. pressure band.

VERIFICATION OF COMPLETION

JPM No.: 295024-06 JPM Description: Containment venting irrespective of radioactive release (Alternate Path, Hard Pipe Vent)

Operator: _____ Evaluator: _____

Licensee: ☐ RO ☐ SRO ☐ SRO Cert
☐ STA ☐ NSPEO

Result: ☐ SATISFACTORY ☐ UNSATISFACTORY

COMMENTS/FEEDBACK: (Note any trainee discrepancies or misperformed steps.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____
Evaluator's Signature Date

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: DAEC

TASK TITLE: PERFORM THE REQUIRED ACTIONS FOR A REPEATED MANUAL SCRAM

JPM NUMBER: 212000-10 **REV.** 1

RELATED PRA INFORMATION:

TASK NUMBERS: 95.06 B.1.g

K/A NUMBERS: K4.07 (4.1/4.1) SG 15 (4.5/4.7)
A4.01 (4.6/4.6) A4.14 (3.8/3.8)

APPLICABLE METHOD OF TESTING: SRO/RO

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

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

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: _____

Additional signatures may be added as needed.

Developed by:	Instructor	9/16/02 Date
Validated by:	Validation Instructor (See JPM Validation Checklist, Attachment 1)	9/16/02 Date
Approved by:	Training Supervisor-Operations	9/17/02 Date

JPM Number: 212000-10

JPM Title: PERFORM THE REQUIRED ACTIONS FOR A REPEATED MANUAL SCRAM

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
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *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:

- A manual scram has been attempted but the rods did not fully insert.
- V-17-24 has **NOT** been closed.

INITIATING CUES (IF APPLICABLE):

- The OSS directs you to perform the required actions of a repeated manual scram per RIP 102.1 until all control rods are fully inserted.

JPM PERFORMANCE INFORMATION

Required Materials: RIP 102.1

General References: EOP-SP Section 100, Rod Insertion Procedures

Task Standards:

1. Defeat 3 performed per EOP-SP.
2. Defeat 12 performed IF RPV Level is <119 inches.
3. Operator resets the scram using the REACTOR SCRAM RESET handswitch on 1C05.
4. Operator re-scrams the reactor using the Manual Scram Pushbuttons on 1C05.

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: **Critical: N**	Perform Defeat 3, RPS Scram Logic Defeat per EOP-SP Section 200.
Standard:	Candidate inserts Defeat 3
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: This step is not marked critical but the critical steps of this procedure have been noted as critical if required for support of RIP 102.1.

Start of EOP Defeat 3

Performance Step: **Critical: Y**	At Panel 1C15, place RPS CHANNEL A1 OVERRIDE keylock switch C71A-S15A to OVERRIDE position and confirm amber light is ON.
Standard:	C71A-S15A placed in OVERRIDE position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: C71A-S15A – D can be performed in any order but all must be positioned to OVERRIDE. The amber light should be checked but is not critical for satisfactory completion of the step.

Performance Step: **Critical: Y**	At Panel 1C15, place RPS CHANNEL A2 OVERRIDE keylock switch C71A-S15C to OVERRIDE position and confirm amber light is ON.
Standard:	C71A-S15C placed in OVERRIDE position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: C71A-S15A – D can be performed in any order but all must be positioned to OVERRIDE. The amber light should be checked but is not critical for satisfactory completion of the step.

Performance Step: **Critical: Y**	At Panel 1C17, place RPS CHANNEL B1 OVERRIDE keylock switch C71A-S15B to OVERRIDE position and confirm amber light is ON
Standard:	C71A-S15B placed in OVERRIDE position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: C71A-S15A – D can be performed in any order but all must be positioned to OVERRIDE. The amber light should be checked but is not critical for satisfactory completion of the step.

Performance Step: **Critical: Y**	At Panel 1C17, place RPS CHANNEL B2 OVERRIDE keylock switch C71A-S15D to OVERRIDE position and confirm amber light is ON
Standard:	C71A-S15D placed in OVERRIDE position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: C71A-S15A – D can be performed in any order but all must be positioned to OVERRIDE. The amber light should be checked but is not critical for satisfactory completion of the step.

Performance Step: **Critical: N**	At Panel 1C05, verify that the A1, A2, B1, B2 amber Battleshort lights are ON.
Standard:	The A1, A2, B1, B2 amber Battleshort lights are verified to be ON at 1C05.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: Y**	Reset the reactor scram using REACTOR SCRAM RESET handswitch C71A-S5 on 1C05.
Standard:	Scram is reset at 1C05.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: This step is also required in RIP 102.1 this step is satisfied by use of either procedure.

End of EOP Defeat 3 Go back to RIP 102.1

Performance Step: **Critical: Y***	Direct the in-plant operator to install DEFEAT 12 (Reset of ARI).
Standard:	In-plant operator Is instructed to install Defeat 12. RPV water level is verified to be >119 inches.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	**Cue: Simulator Driver:** When directed to install Defeat 12 accept the directions and **about 2 minutes** after you would pick up the defeat package call back and inform the operator **Defeat 12 is installed**. Water level verification is **NOT** critical. Note: Defeat 12 is usually handed out the back door of the control room and the in-plant operator is instructed to pick it up there. However, he may be called to the Control Room. ***This may be directed at any time after entry into RIP 102.1 and is not critical if RPV Level remains above 119 inches and all control rods are inserted.**

Performance Step: 3 **Critical: Y**	Reset the Reactor Scram.
Standard:	Operator resets the scram using the REACTOR SCRAM RESET handswitch on 1C05.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Note: This may have been performed in the last step of Defeat 3.

Performance Step: 4 **Critical: N**	Confirm that annunciator **(1C05B, C-1)** SCRAM DISCHARGE VOLUME HI LEVEL TRIP, is reset.
Standard:	Operator verifies Scram Discharge Volume Hi Level Trip is reset.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 5 **Critical: N**	Assess rod positions using any of the following methods: • 3D Monicore Program RODLOG • SPDS Computer Display DR • Full Core Display
Standard:	Operator assesses rod positions by using either of the following: 3D Monicore Program RODLOG, SPDS Computer Display DR, or the Full Core Display.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 6 **Critical: Y**	**If reactor pressure is greater than 600 psig** (the minimum reactor pressure needed to scram control rods without CRD hydraulic assistance), perform the following: **a)** Re-scram using the Manual Scram Pushbuttons on 1C05
Standard:	Depress both Manual Scram Pushbuttons on 1C05.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 6 b) **Critical: N**	If closed, OPEN charging water header throttle valve V-17-24 (RB 757', CRD Flow Control Station Area) and verify that HCU accumulators are charged.
Standard:	Verify V-17-24 is open.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	V-17-24 is **NOT** closed per the turnover and this step may be marked N/A **or** skipped. Cue: If asked whether V-17-24 is open or closed reply that V-17-24 is open.

Performance Step: 7 **Critical: N**	**If reactor pressure is less than 600 psig**, perform the following: **a)** If closed, OPEN charging water header throttle valve V-17-24 (RB 757', CRD Flow Control Station Area) and verify that HCU accumulators are charged. **b)** Re-scram using the Manual Scram Pushbuttons on 1C05.
Standard:	RPV pressure is greater than 600 psig and these steps may be marked N/A **or** skipped.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 8 **Critical: N**	Check for indications of control rod movement using any of the following methods: • 3D Monicore Program RODLOG • SPDS Computer Display DR • Full Core Display
Standard:	Operator assesses rod positions by using either of the following: 3D Monicore Program RODLOG, SPDS Computer Display DR, or the Full Core Display.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: 9 **Critical: Y**	Repeat Steps (3) - (8) as directed by the OSS until all control rods are inserted to or beyond position 02.
Standard:	Steps 3 – 8 are repeated until all rods are fully inserted.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Booth Instructor:

On the 3rd reset of the scram remove the malfunction for the hydraulic ATWS and allow the rods to scram.

Delete Malfunction: rp05f

Terminating Cues: All rods have been verified full in.

Stop Time: _____

JPM 212000-10, Perform the Required Actions for a Repeated Manual Scram, Rev. 1

SIMULATOR SET UP:

- Reset to **any** Full power IC.
- Verify malfunction **rp05f** HYDRAULIC LOCK SCRAM DISCHARGE VOLUME **is active**
- Depress the SCRAM pushbuttons on 1C05.

SIMULATOR EVENT TRIGGERS:

None

SIMULATOR MALFUNCTIONS:

Time	Malf No.	Malfunction Title	ET	Delay	F. Sev.	Ramp	I. Sev.
00:00	rp05f	HYDRAULIC LOCK SCRAM DISCHARGE VOLUME	As Needed	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES:

None

SIMULATOR REMOTE FUNCTIONS:

None

TURNOVER SHEET

INITIAL CONDITIONS:

- A manual scram has been attempted but the rods did not fully insert.
- V-17-24 has **NOT** been closed.

INITIATING CUES (IF APPLICABLE):

- The OSS directs you to perform the required actions of a repeated manual scram per RIP 102.1 until all control rods are fully inserted.

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.

9/16/02	
Validation Personnel /Date	Validation Personnel/Date
Validation Personnel /Date	Validation Personnel/Date
Validation Personnel /Date	Validation Personnel/Date

Validation Personnel /Date Validation Personnel/Date

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: DAEC

TASK TITLE: PRA FOR HPCI RAPID START FOR LEVEL CONTROL (FAULTED)

JPM NUMBER: 206000-15 **REV.** 3

RELATED PRA INFORMATION:

TASK NUMBERS: 5.05

B.1.d

K/A NUMBERS:
K1.14 (2.9/3.1)
SG-9 (3.9/3.7)
K4.05 (3.3/3.3)
A4.04 (3.7/3.7)
K4.08 (4.2/4.3)
K4.18 (3.2/3.3)
A1.01 (4.3/4.3)
EK2.06 (4.1/4.2)
K4.11 (3.4/3.5)
K5.03 (3.1/3.1)
A4.02 (4.0/3.8)
K4.03 (4.2/4.1)

APPLICABLE METHOD OF TESTING: SRO/RO

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

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

Simulator: [X] Other: [ ]

Time for Completion: 5 Minutes Time Critical: NO

Alternate Path / Faulted: YES

TASK APPLICABILITY: _____

Additional signatures may be added as needed.

Developed by: _____ Instructor 9/15/02 Date

Validated by:	Validation Instructor (See JPM Validation Checklist, Attachment 1)	9/17/02 Date
Approved by:	Training Supervisor-Operations	9/17/02 Date

JPM Number: 206000-15

JPM Title: PRA FOR HPCI RAPID START FOR LEVEL CONTROL (FAULTED)

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
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *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.

NOTE: Check the simulator setup and give the appropriate INITIAL CONDITION

INITIAL CONDITIONS:

- While operating at power, there has been a complete loss of feedwater.
- Water level is at approximately 150 inches and dropping slowly.

ALTERNATE INITIAL CONDITIONS IF THE SIMULATOR SETUP IS DIFFERENT:

- For the purpose of this task, actual simulator conditions may not actually be modeled. You are responsible for HPCI operation only.
- While operating at power, there has been a complete loss of feedwater.
- Water level is at approximately 150 inches and dropping slowly.

INITIATING CUES:

- The OSS has directed a second operator to establish RHR in torus cooling.
- Per EOP-1, the OSS directs you to RAPIDLY start HPCI and inject into the reactor at greater than 3000 gpm to raise RPV level using OI 152 **QRC 1**.

JPM PERFORMANCE INFORMATION

Required Materials: OI 152, QRC 1 and Section 10.1

General References: OI 152

Task Standards:

1. Lube Oil and Condenser Cooling Valve, HS-2247 placed in OPEN.
2. Main Steam Supply MO-2202, HS-2202 placed in OPEN.
3. Auxiliary Oil Pump, HS-2256 placed in START
4. Inject Valve MO-2312, HS-2312 placed in OPEN.
5. Flow controller shifted to MANUAL with turbine speed >2000 RPM and flow > 3000 gpm

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: **Critical: N**	If HPCI previously tripped on RPV High Water Level, **depress HS-2299**, RX HI WATER LEVEL HPCI TURBINE TRIP reset switch.
Standard:	RPV level has not caused the High Level trip but the operator may depress HS-2299 and this would be allowed but not required.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	**Open MO-2247**, HPCI Lube Oil Cooler Supply Valve.
Critical: Y	
Standard:	Places HS-2247 in open.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	**Start 1P-233**, HPCI VACUUM PUMP.
Critical: N	
Standard:	Places HS-2221 in start.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	**Open MO-2202**, HPCI Turbine Steam Supply Valve.
Critical: Y	
Standard:	Places HS-2202 in open.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step:	**Start 1P-218**, HPCI Aux Oil Pump.
Critical: Y	
Standard:	Places HS-2256 for 1P-218 in start.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: N**	**Verify MO-2311**, HPCI Pump Discharge Valve, **open**
Standard:	Observes MO-2311 OPEN.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: Y**	For RPV injection, immediately **open MO-2312**, HPCI Inject Valve.
Standard:	Places HS-2312 to open.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	NOTE: At this point the operator will have to recognize the failure of the flow controller in AUTOMATIC. He may attempt to adjust the tape to control flow but it will not work. Manual control should be attempted next. If the operator request permission to shift the HPCI Flow Controller to Manual the OSS should give him permission to shift HPCI Flow control to manual.

OI 152 section 10.1 "HPCI Flow Controller Transfer from Automatic to Manual" is the alternate path for this JPM.

NOTE: One option the operator could possibly perform is to use the Test Pot and inject. If the operator chooses to use the Test Pot the alternate path section can be marked satisfactory **IF** RPV level is increasing due to HPCI injection **or** HPCI is injecting at >3000 gpm injecting into the vessel.

Performance Step: **Critical: N**	Verify FIC 2309 FLOW CONTROL controller Auto/Manual transfer switch in the AUTO position.
Standard:	FIC 2309 FLOW CONTROL controller Auto/Manual transfer switch in the AUTO position is verified.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	This step may be skipped or marked N/A because the operator knows the controller position already.

Performance Step: **Critical: N**	Place FIC-2309 FLOW CONTROL controller Auto/Manual transfer switch in the BAL position.
Standard:	Places FIC-2309 to BAL position (indicator pointing toward the BAL position).
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	This step may be skipped or marked N/A because the operator does not have to balance the controller due to the failure of the automatic function.

Performance Step: **Critical: N**	Adjust the Manual Adjust Knob such that the red pointer of the deviation meter matches (lines up) with the setpoint.
Standard:	Adjusts the Manual Output Adjust Knob (knurl knob) to align the deviation meter with the setpoint.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	This step may be skipped or marked N/A because the operator does not have to balance the controller due to the failure of the automatic function.

Performance Step: **Critical: Y**	Place FIC-2309 FLOW CONTROL controller Auto/Manual transfer switch in the MANUAL position. Adjust FIC-2309 Manual Adjust Knob to control HPCI Turbine speed to attain the desired HPCI pump flow.
Standard:	Places FIC-2309 to MANUAL and adjusts the Manual Adjust Knob (knurl knob) to obtain greater than 3000 gpm flow rate and HPCI turbine speed greater than 2000 rpm.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	The operator may go directly to this step and start controlling level due to familiarity with this feature of the HPCI Controller.

Terminating Cues: When HPCI injection has been established at > 3000 gpm injecting into the RPV.

Stop Time: _____

SIMULATOR SET UP:

- **Any** at-power IC.

EVENT TRIGGERS:

Time	Malfunction No.	Malfunction Title	ET	Delay	F. Sev.	Ramp	I. Sev.
Setup	**hp03**	HPCI Flow Controller failure		0	**0**	0	As is

SIMULATOR MALFUNCTIONS:

None

SIMULATOR OVERRIDES:

None

SIMULATOR REMOTE FUNCTIONS:

None

TURNOVER SHEET

INITIAL CONDITIONS:

- While operating at power, there has been a complete loss of feedwater.
- Water level is at approximately 150 inches and dropping slowly.

ALTERNATE INITIAL CONDITIONS IF THE SIMULATOR SETUP IS DIFFERENT:

- For the purpose of this task, actual simulator conditions may not actually be modeled. You are responsible for HPCI operation only.
- While operating at power, there has been a complete loss of feedwater.
- Water level is at approximately 150 inches and dropping slowly.

INITIATING CUES (IF APPLICABLE):

- The OSS has directed a second operator to establish RHR in torus cooling.
- Per EOP-1, the OSS directs you to RAPIDLY start HPCI and inject into the reactor at greater than 3000 gpm to raise RPV level using OI 152 **QRC 1**.

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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

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

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

9/16/02
Validation Personnel /Date

Validation Personnel/Date

Validation Personnel /Date

Validation Personnel/Date

Validation Personnel /Date

Validation Personnel/Date

Validation Personnel /Date

Validation Personnel/Date

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: DAEC

TASK TITLE: SBDG STP 3.8.1-04 SBDG Slow start operability S/D /Phase Overcurrent or Ground Fault Alarm/ Rapid SBDG S/D. (Alternate Path)

JPM NUMBER: 264000-XX **REV.** 0

RELATED PRA INFORMATION: B. 1. F

TASK NUMBERS: RO 19.06

K/A NUMBERS: 264000 A4.04 **Importance RO 3.7/ SRO 3.7**

APPLICABLE METHOD OF TESTING:

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

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

Simulator: [X] Other: [ ]

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path / Faulted: AP

TASK APPLICABILITY: SRO/RO

Developed by:	Instructor	9/15/02 Date
Validated by:	Validation Instructor (See JPM Validation Checklist, Attachment 1)	9/16/02 Date
Approved by:	Training Supervisor	9/17/02 Date

JPM 264000-xx, SBDG STP 3.8.1-04 SBDG Slow Start Operability S/D /Phase Overcurrent or Ground Fault Alarm/ Rapid SBDG S/D. (Alternate Path), Rev. 0

JPM Number: 264000

JPM Title: SBDG STP 3.8.1-04 SBDG Slow start operability S/D /Phase Overcurrent or Ground Fault Alarm/ Rapid SBDG S/D. (Alternate Path)

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
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *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:

- STP 3.8.1-04 "SBDG Operability Test (Slow Start From Normal Start Air)" is in progress.
- 1G-31 "A SBDG" has been loaded for two hours at rated load.
- The "A" SBDG Operating Checklist has been completed and all conditions were satisfactory.
- Assume all STP sections performed to this point are satisfactory and appropriately completed.

INITIATING CUES (IF APPLICABLE):

- The OSS directs you to continue with STP 3.8.1-04 at step 7.1.27.

JPM PERFORMANCE INFORMATION

Required Materials: **STP 3.8.1-04 accurately completed up to Step 7.1.27 (Reducing SBDG from full load to 1500KW)**

General References: **OI 324 "SBDG"**
STP 3.8.1-04
1C08A B-11 "A Diesel Gen. 1G-31 Phase Overcurrent or Ground Fault"

Task Standards:

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: **Critical: N**	At 1C08, using speed and voltage adjust, lower generator load to approximately 1500KW at 260 amps and hold for 10 minutes.
Standard:	"A" SBDG load is reduced to ≈ 1500 KW at ≈ 260 amps using speed and voltage adjust.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	If the Operator is taking too long to reduce load, the JPM can continue by inserting the 1C08A B-11 annunciator. The ARP will require load reduction.

Performance Step: **Critical: N**	Review ARP actions
Standard:	Pull ARP and review required actions
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	**Simulator Driver**: About 1 minute after the "A" SBDG is at 1500 KW (or as directed by the Floor Instructor) 1C08A B-11 alarms. Insert annunciator **AN 1C08(23) 1C08A(B-11) ANNUNCIATOR BOX (4HX12W)**: Set Malfunction Value to 3-ON; Delay Time 00:00:00. Cue: If asked if ARP should be performed – tell the operator to perform the ARP actions.

Performance Step: **Critical: Y**	Place handswitch BUS 1A3 Transfer in MANUAL
Standard:	Place handswitch BUS 1A3 Transfer in MANUAL
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Cue: When the OSS is asked if he wants to shutdown the 'A' SBDG reply **"YES, secure the Alpha Standby Diesel Generator".**

Performance Step: **Critical: N**	Reduce the load on the Diesel Generator to 50 KW by using the DIESEL GENERATOR 1G-31 SPEED ADJUST CONTROL.
Standard:	"A" SBDG load is reduced to approximately 50 KW using speed adjust.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: Y**	Place the control switch for 4KV BREAKER 1A311A DIESEL GENERATOR 1G-31 in the TRIP position. Observe that the green (breaker tripped) and the white (closing spring charged) indicating lights are ON.
Standard:	The control switch for 4KV BREAKER 1A311A DIESEL GENERATOR 1G-31 is taken to the TRIP position. Verify breaker is OPEN by the green and white indicating lights are on.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Verifying the green and white lights are on is NOT critical for satisfactory completion of this step.

Performance Step: **Critical: Y**	Place the BUS 1A3 TRANFER breaker mode selector switch in the AUTO position.
Standard:	BUS 1A3 TRANFER breaker mode selector switch is returned to the AUTO position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: N**	At 1C08, confirm annunciator 4KV BUS AUTO TRANSFER INOP (1C08A, D-7) is reset.
Standard:	Confirm annunciator 4KV BUS AUTO TRANSFER INOP (1C08A, D-7) is reset.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical: Y**	Stop A DIESEL GENERATOR 1G-31 by placing A DIESEL GENERATOR 1G-31 Control handswitch HS-3231A on Panel 1C08 in the STOP position, hold for 5 to 10 sec., and then place the control switch in the Pull to Lock position.
Standard:	Control handswitch HS-3231A on Panel 1C08 is held in the STOP position for 5 to 10 sec., and then placed in the Pull to Lock position.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	If informed that this will make the SBDG inop acknowledge the "A" SBDG will be/is inop. If the hand switch is not held in stop for 5 to 10 seconds and the SBDG automatically restarts after the "Shutdown Relay" clears (about 1 minute after switch is taken to Pull to Lock) this step would be marked unsatisfactory. Otherwise the step is marked satisfactory if the handswitch is in Pull to Lock at the completion of this step.

Performance Step: **Critical: N**	Identify the relay that caused the alarm
Standard:	Request the Auxiliary Operator determine the which relay caused the alarm
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Cue: Aux operator reports the Ground Fault relay is the cause of the alarm.

Performance Step: **Critical: N**	Inspect the "A" SBDG 1G-31 for visible damage and/or overheating.
Standard:	Direct the Aux Operator to inspect the "A" SBDG for visible signs of damage and overheating..
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Cue: Aux Operator reports there is no apparent damage the "A" SBDG

Terminating Cues: **When ARP Operator Actions are complete, direct the operator to suspend the STP and the JPM is complete.**

Stop Time: _____

SIMULATOR SET UP:

This JPM can be run from any IC that supports "A" SBDG STP 3.8.1-04 Slow Start.

Start "A" SBDG in parallel and load to 2850 KW

SIMULATOR EVANT TRIGGERS:

ET 1 dgwatt(1) .le. 2.2E6

SIMULATOR MALFUNCTIONS:

None

SIMULATOR OVERRIDES:

Following the first step and after load reduction **or** as directed by the Floor Instructor. Insert annunciator

AN 1C08A(23) 1C08A(B-11) ANNUNCIATOR BOX (4HX12W): on **ET 1**

Set Malfunction Value to: **3-ON**
Delay Time: 00:00:00
INSERT

SIMULATOR REMOTE FUNCTIONS:

None

JPM 264000-xx, SBDG STP 3.8.1-04 SBDG Slow Start Operability S/D /Phase Overcurrent or Ground Fault Alarm/ Rapid SBDG S/D. (Alternate Path), Rev. 0

TURNOVER SHEET

INITIAL CONDITIONS:

- STP 3.8.1-04 is in progress.
- 1G-31 "A SBDG" has been loaded for two hours at rated load.
- The "A" SBDG Operating Checklist has been completed and all conditions were satisfactory.
- Assume all sections performed to this point a satisfactory and appropriately completed.

INITIATING CUES:

- The OSS directs you to continue with STP 3.8.1-04 at step 7.1.27.

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.

[signature] 9/16/22	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date
_____	_____
Validation Personnel /Date	Validation Personnel/Date

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

NUMBER 263000-01

Task Number: NSPEO 29.01

TITLE: SHIFT 250 VDC BATTERY CHARGERS

B.2.C

Rev. 0

07/31/96

P&I # 3 TMAR# _____

Preparer/Date Steve Bauer 10/11/02

Pages 9

DEVELOPED BY: _____ 8/15/96
Instructor Date

VALIDATED BY: _____ 8/15/96
SME/Instructor Date

REVIEWED BY: _____ 8-15-96
Plant Reviewer Date

APPROVED BY: _____ 8/15/96
Training Supervisor-Operations Date

P&I # 1 TMAR# _____

Preparer/Date _____ 11/20/01

Pages 6

P&I # 2 TMAR# _____

Preparer/Date _____ 07/07/02

Pages 7

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

JPM No. 263000-01	**JPM Description:** Shift 250 VDC Battery Chargers		
Task No. NSPEO 29.01	**Task Description:** Remove from/place in service (shift) battery chargers (125 VDC and 250 VDC)		
K/A Reference: 263000	K1.02 (3.2/3.3) System Generic #9 (3.4/3.5)		
APPLICABLE METHOD OF TESTING:			
Simulate Performance	X	Actual Performance	
Simulator	In-Plant	X	Control Room
Time for Completion: 15 Minutes			

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

* * *

NOTE

All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 7 through 10.

* * *

JPM #: 263000-01 JPM Description: Shift 250 VDC Battery Chargers

✓ 1. Task description and number, JPM description and number are identified

✓ 2. Task elements identified and K/A references are included

✓ 3. Performance location specified

- a. in-plant
- b. control room
- c. simulator

✓ 4. Initial conditions and cues identified

- a. setup, required materials, and procedure
- b. malfunctions and instructor actions
- c. initiating and terminating cues

✓ 5. Task standards identified and verified by SME review

✓ 6. Critical tasks/steps identified meet criteria and identified with a "C"

✓ 7. Verify JPM steps fit the most current procedures
Procedure Rev. 15 / 16 / 21 / 2 Date 12/7/95 / 12/18/96 / 3/27/00 / 3/27/00

✓ 8. Pilot test JPM

- a. verify cues both verbal and visual are free of conflict
- b. ensure performance time is accurate

✓ 9. If the JPM cannot be performed as written with proper responses, then revise the JPM

✓ 10. When JPM is revalidated, SME/Instructor signs and dates JPM

SME/Instructor	Date 8/15/96
SME/Instructor	Date 10/10/97
SME/Instructor	Date 11/28/01
	03/04/02
	9/15/02

Read to the operator the following information:

***

Instructor Note

***

This JPM was written to simulate shutdown of the actual in-service charger and then to simulate startup of the actual standby charger.

INITIAL CONDITIONS:

1. The plant is operating at 100% power.

2. Maintenance is planned on the in-service 250 VDC battery charger.

INITIATING CUES:

The OSS directs you to shift 250 VDC battery chargers.

This task IS NOT time critical.

Inform the evaluator when you have completed the task.

SIMULATOR SETUP: N/A

MALFUNCTIONS: NONE

INSTRUCTOR ACTIONS:

1. Obtain OSS permission to perform JPMs in the Essential Switchgear Rooms.
2. Read initial conditions and initiating cues to the operator.

TASK STANDARDS:

1. 1D43 **(44)** CKT 01 open
2. 1D43 **(44)** CKT 02 open
3. 1D40 CKT 03 **(CKT 02)** opened
4. 1B3203 **(4202)** opened
5. 1B4202 **(1B3203)** is ON
6. The following are verified:
   (a) Float/Equalize switch is in FLOAT
   (b) Equalizing charge timer switch is set at zero
   (c) AC POWER breaker 1D44 **(1D43)** CKT 01 OFF
   (d) DC OUTPUT breaker 1D44 CKT 02
   (1D43 CKT 02 and CKT 03) OFF.
7. 1D40 CKT 02 **(CKT 03)** closed
8. 1D44 **(1D43)** CKT 02 closed
9. 1D44 **(1D43)** CKT 01 closed

REQUIRED MATERIALS: OI-388

GENERAL REFERENCES:

OI-388, Sections 6.0, 5.2, 5.3, 3.3, 3.4

PERFORMANCE INFORMATION

* * *

NOTE:

Critical steps are denoted with a "C". Failure to meet the standard for this step constitutes failure.

* * *

Time Start _____

PERFORMANCE STEP: Critical:	Notify the control room of the anticipated annunciator 250 VDC CHARGER 1D43 (44) TROUBLE [1C08B, D-5 (C-4)].
STANDARD:	Control Room Notified
COMMENTS: Role play control room communications as necessary.	

PERFORMANCE STEP: Critical: C	Open the AC POWER circuit breaker 1D43 (44) CKT 01 at battery charger 1D43 (44).
STANDARD:	1D43 (44) CKT 01 open.
COMMENTS: Cue: Acknowledge breaker positioning.	

PERFORMANCE STEP: Critical: C	Open the DC OUTPUT circuit breaker 1D43 (44) CKT 02 at battery charger 1D43 (44).
STANDARD:	1D43 (44) CKT 02 open.
COMMENTS: Cue: Acknowledge breaker positioning.	

PKT #1 11/29/01

PERFORMANCE STEP: Critical:	Verify 250 VDC CHARGER 1D43 (44) TROUBLE [1C08B, D-5 (C-4)] annunciator is reset.
STANDARD:	Control room contacted.
COMMENTS: Role play control room communications as necessary.	

PERFORMANCE STEP: Critical: C	Open circuit breaker 1D40 CKT 03 (CKT 02) on panel 1D40.
STANDARD:	1D40 CKT 03 (CKT 02) opened.
COMMENTS: Cue: Acknowledge breaker positioning.	

PERFORMANCE STEP: Critical: C	Open breaker 1B3203 on MCC 1B32 **(1B4202 on MCC 1B42)**.
STANDARD:	1B3203 **(4202)** opened.
COMMENTS: Cue: Acknowledge breaker positioning.	

PERFORMANCE STEP: Critical: C	Verify breaker 1B4202 on MCC 1B42 **(1B3203 on MCC 1B32)** is ON.
STANDARD:	1B4202 **(1B3203)** is ON.
COMMENTS: Cue: Acknowledge breaker positioning.	

PERFORMANCE STEP: Critical:	Verify battery charger 1D43 (1D44) is not in service per section 5.2 **(5.3)** Battery Charger Shutdown.
STANDARD:	Opposite charger is shutdown.
COMMENTS: Examinee may state that the applicable battery charger shutdown was just completed.	

PERFORMANCE STEP: Critical: C	On Charger 1D44 **(1D43)**, verify the following: (a) Float/Equalize switch is in the FLOAT position. (b) Equalizing charge timer switch is set at zero. (c) AC POWER breaker 1D44 **(1D43)** CKT 01 is in the OFF position. (d) DC OUTPUT breaker 1D44 CKT 02 **(1D43 CKT 02 and CKT 03)** is/are in the OFF position..
STANDARD:	The following are verified: (a) Float/Equalize switch is in FLOAT. (b) Equalizing charge timer switch is set at zero. (c) AC POWER breaker 1D44 **(1D43)** CKT 01 OFF. (d) DC OUTPUT breaker 1D44 CKT 02 **(1D43 CKT 02 and CKT 03)** OFF.
COMMENTS: Cue: Acknowledge breaker and switch positioning.	

PYI 2
03/04/02

PERFORMANCE STEP: Critical: C	Close circuit breaker 1D40 CKT 02 **(CKT 03)** on panel 1D40.
STANDARD:	1D40 CKT 02 **(CKT 03)** closed.
COMMENTS: Cue: Acknowledge breaker positioning.	

PERFORMANCE STEP: Critical:	Notify the control room of the anticipated annunciator 250 VDC CHARGER 1D44 **(43)** TROUBLE [1C08B, C-4 **(D-5)**].
STANDARD:	Control room notified.
COMMENTS: Role play control room communications as necessary.	

PERFORMANCE STEP: Critical: C	Close the DC OUTPUT circuit breaker 1D44 **(1D43)** CKT 02 on Charger 1D44 **(1D43).**
STANDARD:	1D44 **(1D43)** CKT 02 closed.
COMMENTS: Cue: Acknowledge breaker positioning.	

PERFORMANCE STEP: Critical:	Confirm that the DC VOLTS meter on Charger 1D44 **(1D43)** indicates the same as the value of DC VOLTS on panel 1D40.
STANDARD:	DC Voltage values compared
COMMENTS: CUE that charger and bus volts are ~~approximately~~ equal. at 260 VDC	

P+2 #3
10/11/02

PERFORMANCE STEP: Critical:	Confirm that DC AMPERES meter on Charger 1D44 **(1D43)** indicates zero after an initial surge.
STANDARD:	DC Amperage response confirmed.
COMMENTS: CUE that DC amps surge and then return to zero.	

PERFORMANCE STEP: Critical:	Check battery charger 1D44 **(1D43)** for grounds before placing unit in service. (Readings taken with the Ground Detector Switch in POS GRD and in NEG GRD positions.)
STANDARD:	Battery checked for grounds.
COMMENTS: CUE that both the POS GRD and NEG GRD readings are approximately 1/2 the DC bus voltage.	

PERFORMANCE STEP: Critical:	Notify the control room of the reset of annunciator 250 VDC CHARGER 1D44 **(43)** TROUBLE [1C08B, C-4 **(D-5)**] is anticipated.
STANDARD:	Control room notified.
COMMENTS: Role play control room communications as necessary.	

PERFORMANCE STEP: Critical: C	Close the AC POWER circuit breaker 1D44 **(1D43)** CKT 01 on charger 1D44 **(1D43)** and confirm AC ON light on front panel is energized.
STANDARD:	1D44 **(1D43)** CKT 01 closed.
COMMENTS: Cue: Acknowledge breaker positioning and white light is ON.	

PERFORMANCE STEP: Critical:	If the battery's state of charge is low, observe that the DC AMPERES meter on Charger 1D44 **(1D43)** indicates an upscale value.
STANDARD:	DC amps observed.
COMMENTS: CUE that DC Amps are slightly greater than bus amps.	

PERFORMANCE STEP: Critical:	Verify annunciator 250 VDC CHARGER 1D44 **(43)** TROUBLE [1C08B, C-4 **(D-5)**] is reset.
STANDARD:	Control Room Notified
COMMENTS: Role play control room communications as necessary. Annunciator has reset.	

Time Stop _____

TERMINATING CUES: None

VERIFICATION OF COMPLETION

JPM #: 263000-01 JPM Description: Shift 250 VDC Battery Chargers

Operator: _____ Evaluator: _____

Licensee: ☐ RO ☐ SRO ☐ SRO Cert ☐ STA

Result: ☐ SATISFACTORY ☐ UNSATISFACTORY

COMMENTS/FEEDBACK: (Note any trainee discrepancies or misperformed steps.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____

Evaluator's Signature Date

NMC Committed to Nuclear Excellence

JOB PERFORMANCE MEASURE (JPM)

SITE: DAEC

TASK TITLE: RESET A CONTROL BUILDING CHILLER AFTER TRIP

JPM NUMBER: 290003-01 **REV.** 2

RELATED PRA INFORMATION: B.2.b

TASK NUMBERS: NSPEO 43.02

K/A NUMBERS: 290003 A4.01 (3.2/3.2)

APPLICABLE METHOD OF TESTING: **NSPEO/RO/SRO**

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

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

Simulator: [ ] Other: [ ]

Time for Completion: 20 Minutes Time Critical: NO

Alternate Path / Faulted: NO

TASK APPLICABILITY: _____

Additional signatures may be added as needed.

Developed by:	Instructor	9/10/02 Date
Validated by:	Validation Instructor (See JPM Validation Checklist, Attachment 1)	9/16/02 Date
Approved by:	Training Supervisor-Operations	9/17/02 Date

JPM Number: 290003-01

JPM Title: RESET A CONTROL BUILDING CHILLER AFTER TRIP

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

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

Delete this table if not required

____ Procedure adequately addresses task elements.
Enter Identifier here: _____

____ Other document adequately describes necessary task elements.
Enter Identifier here: _____

____ Task elements described as attached.

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
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *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:

- Assume that you are the watchstander in the Reactor Building.
- An accident has occurred which included a Well Water System flow transient.
- During the transient, the operating Control Building Chiller automatically tripped.
- Well Water flow has been restored to normal and is stable.
- Control Building Chiller operation is necessary to maintain Control Room habitability while responding to the accident.

INITIATING CUES (IF APPLICABLE):

- You are directed to restore the Control Building Chiller to service.
- Use whichever Chiller is currently idle for the purpose of this JPM.

JPM PERFORMANCE INFORMATION

Required Materials: OI 730

General References: OI 730

Task Standards:

1. Control panel lights observed.
2. RESET pushbutton (Appendix 2, Item #1) depressed and held until cause of the trip is determined.
3. PS-6930A/B "Push to Reset" pushbutton depressed.
4. RESET pushbutton (Appendix 2, Item #1) depressed and held until it is determined that the "HIGH PRESS" light is off.

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: **Critical**	Verify well water flow is stable and adequate. Otherwise start the ESW to the effected chiller.
Standard:	Recognize that ESW operation is not necessary with stable Well Water flow.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Given as an initial condition. _____

Performance Step: **Critical**	Perform a visual inspection of the Chiller and associated components.
Standard:	Visual inspection performed.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	CUE: There are no abnormal indications with the Chiller or Chilled Water system. (If asked about Chiller parameters) CUE: Provide the parameters for a tripped Chiller as noted on Appendix 2. Indications provided on temporary multipoint recorder are consistent with a Well Water flow transient.

Performance Step: **Critical** Y **(SEQ-)**	At the Chiller control panel, observe which lights are illuminated.
Standard:	Control panel lights observed
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	CUE: The POWER light is ON and the SAFETY SWITCHES light is ON

Performance Step: **Critical**	Place the handswitch HS-6924A[B] on panel 1C26A[B] to STOP if further investigation is required.
Standard:	Further investigation not required.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	Operator may determine on his/her own that further investigation is not required. If the Control Room is directed to take HS-6924A[B] STOP, then provide the following CUE: The OSS has determined that further investigation is not required and has directed that HS-6924A[B] NOT be taken to PULL TO LOCK or STOP.

Performance Step: **Critical Y (SEQ-)**	Depress and hold RESET pushbutton (Appendix 2, Item #1) while observing control panel lights. Pay particular attention to the following lights: High Pressure, Low Pressure, Freeze Up.
Standard:	RESET pushbutton (Appendix 2, Item #1) depressed and held until cause of the trip is determined.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	CUE: The "HIGH PRESS" light is illuminated. The "LOW PRESS" and "FREEZE UP" lights are off. Note: Operator may mention that the chiller should have fast unloaded prior to a high pressure trip.

Performance Step: **Critical**	Release the RESET pushbutton.
Standard:	RESET pushbutton released.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical**	Ensure that the condition that caused the trip is known and has been corrected before proceeding.
Standard:	Recognizes well water flow transient as the cause.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical Y (SEQ-)**	The associated pressure switch must be manually reset by firmly depressing the reset pushbutton located on the switch.
Standard:	PS-6930A/B "Push to Reset" pushbutton depressed.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	This Pressure Switch is INSIDE the left-hand panel (1C429A/B). There are 3 switches in a row at the top of the panel. PS-6930A/B is the one on the far right. CUE: When PS-6903 A/B pushbutton is depressed, inform the operator that a click was heard.

Performance Step: **Critical Y (SEQ-)**	Depress and hold RESET pushbutton (Appendix 2, Item #1) while observing control panel lights.
Standard:	RESET pushbutton (Appendix 2, Item #1) depressed and held until it is determined that the "HIGH PRESS" light is off.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	When the pushbutton is depressed, provide the following CUE: • The "HIGH PRESS", "LOW PRESS" and "FREEZE UP" lights are off. • The SAFETY SWITCHES light is OFF. • The ANTI-RECYCLE light is ON.

Performance Step: **Critical**	Release the RESET pushbutton.
Standard:	RESET pushbutton released.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	

Performance Step: **Critical**	Observe the SAFETY SWITCHES light is OFF.
Standard:	Observe the SAFETY SWITCHES light is OFF.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	CUE: The SAFETY SWITCHES light is OFF. (If asked about the ANTI-RECYCLE light) CUE: The ANTI-RECYCLE light is ON. COMMENTS: The Chiller is now reset and will restart automatically in 7-17 minutes. The operator may also verify that the chilled water pump is running and that the CHILLER TROUBLE annunciator on 1C26 is reset.

Terminating Cues: Once the chiller is reset, the operator need not wait for the auto start.

Stop Time: _____

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

None

SIMULATOR EVENT TRIGGERS:

None

SIMULATOR MALFUNCTIONS:

None

SIMULATOR OVERRIDES:

None

SIMULATOR REMOTE FUNCTIONS:

None

TURNOVER SHEET

INITIAL CONDITIONS:

- Assume that you are the watchstander in the Reactor Building.
- An accident has occurred which included a Well Water System flow transient.
- During the transient, the operating Control Building Chiller automatically tripped.
- Well Water flow has been restored to normal and is stable.
- Control Building Chiller operation is necessary to maintain Control Room habitability while responding to the accident.

INITIATING CUES (IF APPLICABLE):

- You are directed to restore the Control Building Chiller to service.
- Use whichever Chiller is currently idle for the purpose of this JPM.

JPM 290003-01, Reset a Control Building Chiller After Trip, 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 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.

9/16/02
Validation Personnel /Date

Validation Personnel/Date

Validation Personnel /Date

Validation Personnel/Date

Validation Personnel /Date

Validation Personnel/Date

Validation Personnel /Date

Validation Personnel/Date

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

NUMBER: 286000-03

TASK NUMBER: NSPEO 9.08

TITLE: Manually Initiate Cable spreading Room CO_2 (Alternate Path)

B. 2. a

Rev. 3

DEVELOPED BY: Michael Fisher — Instructor — 3/23/2001 — Date

VALIDATED BY: [signature] — SME/Instructor — 3/29/01 — Date

REVIEWED BY: Paul P Hansen — Plant Reviewer — 3.30.2001 — Date

APPROVED BY: [signature] for — Training Supervisor-Operations — 4/2/01 — Date

DUANE ARNOLD ENERGY CENTER

JOB PERFORMANCE MEASURE

JPM No. 286000-03	**JPM Description:** Manually initiate cable spreading room CO_2		
Task No. NSPEO 9.08	**Task Description:** Initiate cable spreading room CO_2 using alternate initiation method per OI 513, Section 5.3.2		
K/A Reference: 286000	A3.04 (3.2/3.3) 2.1.30		
APPLICABLE METHOD OF TESTING:			
Simulate Performance	X	Actual Performance	
Simulator	In-Plant	X	Control Room
Time for Completion: 20 minutes			

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE

All steps of this checklist should be performed upon initial validation. Prior to JPM usage, revalidate JPM using steps 7 through 10.

JPM No. 286000-03 JPM Title Manually initiate cable spreading room CO_2

✓ 1. Task description and number, JPM description and number are identified

✓ 2. Task elements identified and K/A references are included

✓ 3. Performance location specified

   a. in-plant

   b. control room

   c. simulator

✓ 4. Initial conditions and cues identified

   a. setup, required materials, and procedure

   b. malfunctions and instructor actions

   c. initiating and terminating cues

✓ 5. Task standards identified and verified by SME review

✓ 6. Critical tasks/steps identified meet criteria and identified with a "C"

✓ 7. Verify JPM steps fit the most current procedures
Procedure Rev. 56 61 Date 2/6/01 6/25/2002

✓ 8. Pilot test JPM

   a. verify cues both verbal and visual are free of conflict

   b. ensure performance time is accurate

9. If the JPM cannot be performed as written with proper responses, then revise the JPM

✓ 10. When JPM is revalidated, SME/Instructor signs and dates JPM

_____	9/15/02
SME/Instructor	Date
_____	_____
SME/Instructor	Date
_____	_____
SME/Instructor	Date

SIMULATOR SETUP:

None

EVENT TRIGGERS

Trigger Number	Trigger File Name	Trigger Logic Statement	Trigger Word Description

MALFUNCTIONS:

Time	Malfunction No.	Malfunction Title	ET	Delay	F. Sev.	Ramp	I. Sev.

OVERRIDES:

Time	Override Tag	Override Description	ET	Delay	Value.	Ramp

REMOTE FUNCTIONS:

Time	Remote Function No.	Remote Function Title	Value	Ramp

INSTRUCTOR ACTIONS:

1. Inform OSS of performance of in-plant JPM.
2. Read initial conditions and initiating cues to the operator.

TASK STANDARDS:

1. Operator proceeds with alternate initiation method.
2. Place pilot control valve handle in the open position.
3. Proceed to master pilot valve control box at the Cardox unit and break the glass
4. Open the pilot valve for 210 seconds.
5. Verify on 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 green lights OFF.
6. Close the master pilot control valve.

REQUIRED MATERIALS:

OI 513

GENERAL REFERENCES:

OI 513, Sections 5.3, 7.4, and 8.4

Read to the operator the following information:

INITIAL CONDITIONS:

1. The plant is operating at 100% power.

2. 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.

3. You are the Auxiliary Operator.

INITIATING CUES:

The OSS directs you to manually initiate Cable Spreading Room CO_2, using the normal initiation method.

This task is not time critical.

Inform the evaluator when you have completed the task.

PERFORMANCE INFORMATION

NOTE:
Critical steps are denoted with a "C". Failure to meet the standard for this step constitutes failure.

Time Start _____

PERFORMANCE STEP: Critical:	At the Cable Spreading Room South door, pull out the locking pin and depress the green START push-button.
STANDARD:	START push-button depressed.
COMMENTS:	

PERFORMANCE STEP: Critical:	Verify the local horn sounds at Panel 1C179.
STANDARD:	Operator listens for horn sounding.
COMMENTS: Inform operator that no horn sound is heard. If asked after 24 second time delay has expired inform operator that no audible sound of CO_2 discharge is heard. If asked about red light at 1C179 inform operator it is OFF.	

PERFORMANCE STEP: Critical:	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:	Operator attempts to verify Green OFF lights are ON.
COMMENTS: Operator goes to 1C26 or calls control room to verify 1V-AC-32 and 1V-EF-33 have auto tripped. Inform operator that CABLE SPREADING ROOM SUPPLY and EXHAUST FANS are still running. Green lights are OFF.(Red running lights are ON).	

PERFORMANCE STEP: Critical:	Verify discharge using audible indication at Cable Spreading Room access or CO_2 tank pressure and level decrease.
STANDARD:	Discharge verified by audible indications or tank pressure and level decrease.
COMMENTS: Cue: If asked, there is no audible indication of CO_2 discharge.	

PERFORMANCE STEP: Critical:	Secure the Cardox System per Section 7.4 and tag it out per Section 8.4.
STANDARD:	The Cardox is secured and tagged out.
COMMENTS: If asked, another operator will make out the tagout and secure the Cardox System.	

PERFORMANCE STEP: Critical: C	If no discharge occurs proceed to alternate initiation method.
STANDARD:	Operator proceeds with alternate initiation method.
COMMENTS:	

PERFORMANCE STEP: Critical: C	At North Cable Spreading Room door break glass on the pilot box and place pilot control valve handle in the OPEN position.
STANDARD:	Pilot Control Valve handle placed in the OPEN position.
COMMENTS:	

PERFORMANCE STEP: Critical:	Acknowledge local alarm horn and red actuation light (CARDOX SYSTEM ACTUATION) on Panel 1C179.
STANDARD:	Determine horn and light are off.
COMMENTS Inform operator that the horn and light are off.	

PERFORMANCE STEP: Critical: **C**	Proceed to the Master Pilot Valve Controller at the CARDOX unit. Break the glass. Inform the control room that you are about to initiate Cardox.
STANDARD:	Locates Master Pilot Valve Controller.
COMMENTS: Role play as control room and acknowledge that Cardox is about to be initiated.	

PERFORMANCE STEP: Critical: **C**	Open the pilot control valve for 210 seconds.
STANDARD:	Operator opens pilot control valve and has an awareness of how long it has been open.
COMMENTS:	

PERFORMANCE STEP: Critical:	Verify CO_2 discharge by observing CO_2 tank indicators.
STANDARD:	Observes tank level and pressure gauges, or listens for flow noise to verify discharge of Cardox.
COMMENTS: Cue: When asked, the Cardox tank level and pressure are decreasing, sound of Cardox flow is heard, frost is forming on the discharge piping.	

PERFORMANCE STEP: Critical: **C**	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.
STANDARD:	Operator goes to 1C26 or calls Control Room to verify fans have tripped.
COMMENTS: Cue: Inform operator that green lights are lit for the Cable Spreading Room Supply and Exhaust Fans. (1V-AC-32 and 1V-EF-33 have TRIPPED)	

PERFORMANCE STEP: Critical: **C**	Close the Pilot Control Valve.
STANDARD:	Operator closes pilot control valve.
COMMENTS Cue: If the operator states that he/she will wait for 210 seconds, inform the operator that the pilot control valve has been open for 210 seconds. Otherwise wait for that period of time.	

PERFORMANCE STEP: Critical:	Notify control room that the manual initiation process for the Cardox System is complete.
STANDARD:	Calls control room to report completion of manual initiation.
COMMENTS: Role play as control room and acknowledge completion of manual Cardox initiation.	

PERFORMANCE STEP: Critical:	Close the pilot control valve located by the North Cable Spreading Room door.
STANDARD:	Closes pilot control valve at North Cable Spreading Room door.
COMMENTS Once the operator states that he will go to the cable spreading room and close the valve, inform him that the Operations Department Manager (back on the Admin Bldg. 2nd floor) will close it. (This allows you to start the next JPM from here.)	

PERFORMANCE STEP: Critical:	Secure the Cardox System per Section 7.4 and tag it out per Section 8.4.
STANDARD:	Operator proceeds to Section 7.4 to secure the Cardox System.
COMMENTS: Cue: Inform operator that the Aux Operator will secure the Cardox System, per Section 7.4 of OI-513 and that the control room is writing the tagout.	

Time Stop _____

TERMINATING CUES: Cardox System has been manually initiated per OI 513 Section 5.3. Inform trainee that the Aux Operator will secure the Cardox System per Section 7.4 and the control room is writing the tagout per Section 8.4

VERIFICATION OF COMPLETION

JPM No.: 286000-03 JPM Description: Manually initiate cable spreading room CO_2

Operator: _____ Evaluator: _____

Licensee: ☐ RO ☐ SRO ☐ SRO Cert
☐ STA ☐ NSPEO

Result: ☐ SATISFACTORY ☐ UNSATISFACTORY

COMMENTS/FEEDBACK: (Note any trainee discrepancies or misperformed steps.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____
Evaluator's Signature Date