

Facility: **Calvert Cliffs 1&2** Job Performance Measure No.: **2008-CEDM**

Task Title: **Respond to CEA(s) Misaligned by 8" or more**

Task Number: **202.007**

K/A Reference: **CRDS- K4.01. K4/03, 2.1.19, 2.1.20**

Method of testing:

Simulated Performance: _____ Actual Performance: √_____

Classroom: _____ Simulator: √_____ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

1. **Unit 1 is at 80% power.**
2. **An expeditious downpower was in progress. When Gp 5 CEAs were inserted, after ~ 1.5 inches of motion, CEA #35 slipped to its current position(~ -8.5 inches). The CMI and secondary deviation alarms were received.**
3. **The alarms currently in are:**
 - **Secondary CEA Position Deviation \pm 4"**
 - **CEA Motion Inhibit**
4. **The plant has been stabilized and CEDS is in OFF**

Initiating Cue:

You are directed to respond to the alarms in accordance with plant procedures as the RO, and realign CEA # 35. The CRS has directed the CRO to maintain Tcold on program and initiate any boration required to maintain Rx power.

Task Standard:

Realign CEA # 35 and respond to associated alarms in accordance with Alarm manual for D-31, D-32, and AOP-1B section VIIA

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the control room**

General References:

1. **Alarm manual for 1C05**
2. **OI-42**
3. **AOP-1B**

Time Critical Task:

No

Validation Time:

25 minutes

Simulator Setup:

1. Reset the simulator IC-19 (80% MOC)
2. Insert Malfunction CEDS 0009 (35) One CEA , movement failure with slippage
3. Place CEDS in MS mode and go to “LOWER” on 1-HS-5502
4. CEA # 35 should pulse down ~ 1.5 inches then slips down another 8.5”
5. After 5 seconds place CEDS to OFF
6. Acknowledge alarms
7. Verify plant is stable (effects of CEA # 35 moving 9.5 inches is negligible)
8. If necessary, adjust turbine load to stabilize Tcold
9. Freeze simulator

TIME START _____

- | | | |
|-------|---|------------------|
| _____ | Locates Alarm Manual for 1C05 | Same as element. |
| _____ | Locates Alarm response for window D-31, and D-32. | Same as element |

Examiner Note: Applicant may determine that realignment should be done in accordance with OI-42. CRS should say that realignment will be done per AOP 1-B, Section VIIA

CUE: Electric Shop has determined that the cause of the slippage was a defective power supply which has been replaced

- | | | |
|-------|---|---|
| _____ | Attempt to realign the affected CEA(s): | Determine that CRO will maintain power and NO action is necessary |
| | Maintain Reactor Power as required by : | |
| | <ul style="list-style-type: none"> • <u>Boration PER OI-2B, CVCS BORATION, DILUTION AND MAKEUP OPERATIONS.</u> | |
| | OR | |
| | <ul style="list-style-type: none"> • Adjust Regulating CEAs. | |

- | | | |
|-------|---|--------------------------------|
| _____ | * Selects the desired group | Selects Group 5 |
| _____ | * Selects the desired CEA | Selects CEA 035 |
| _____ | * Select Manual Individual Mode | Selects Manual Individual Mode |
| _____ | * IF CMI is in effect THEN override CMI as follows: | Determines CMI is in effect |

NOTE: CMI will be bypassed to the affected group and applied to all other groups, and CMI bypass annunciation will alarm.

- | | | |
|-------|---|------------------|
| _____ | * (1) Depress the Group Inhibit Bypass pushbutton. | Same as element. |
| _____ | * (2) Depress and hold the Motion Inhibit Bypass pushbutton for at least 5 seconds before | Same as element. |

AND 5 seconds after CEA motion.

CAUTION: Do NOT allow Reactor Power to rise above the power the unit was stabilized at in Section IV. **PRELIMINARY**, Step A.2, while the CEA is being realigned. Turbine load shall NOT be raised until the CEA is within its alignment requirements.

- _____ f. Realign the CEA:
- (1) **IF** the CEA must be withdrawn, **THEN** withdraw the CEA using the "Pull and Wait" method:
- For shutdown CEA's, pull 3.75 inches and wait 10 seconds

NOT APPLICABLE

_____ * For regulating CEAs, pull 5.25 inches and wait 15 seconds.

Same as element using the CEA shim stick on 1C05. **(Pull no more than 6.75" on CEA #35 each time CEA is withdrawn).**

- (2) **IF** the CEA must be inserted, **THEN** insert the CEA.

NOT APPLICABLE

CUE : When CEA # 35 is moved ~ 2.5 inches Alarm D-29 , Primary CEA Position Deviation + 4 inches, alarms

- | | | |
|---------|--|---|
| _____ | Alarm 1C05, D-29, Primary CEA position Deviation \pm 4 inches: | Stops CEA withdrawal acknowledge alarm |
| _____ | Reviews Alarm manual for D-29 | Determines that Alarm is "Expected" for conditions. |
| _____ * | Continues steps to align CEA # 35 | |

_____ * For regulating CEAs, pull 5.25 inches and wait 15 seconds.

Same as element using the CEA shim stick on 1C05. **(Pull no more than 6.75" on CEA #35 each time CEA is withdrawn).**

CUE): When CEA # 35 is moved ~ 4 inches Alarm D-30 , Primary CEA Position Deviation \pm 8 inches, alarms

- | | | |
|-------|--|--|
| _____ | Alarm 1C05, D-30, Primary CEA position Deviation \pm 8 inches: | Stops CEA withdrawal acknowledge alarm |
| _____ | Reviews Alarm manual for D-30 | Determines that Alarm is |

“Expected” for conditions.

_____ * Continues steps to align CEA # 35

CUE: Insert Malfunction to Stick CEA ,When Candidate attempts to move the CEA it will not move

_____ f.1 IF the CEA will NOT move, THEN determine if the CEA is untrippable with input from: Determines that CEA will not move informs CRS

- Electrical Maintenance
- System Engineer

CUE: Electric Maintenance has determined that the CEA is trippable

_____ f.2 IF the CEA is untrippable, THEN PROCEED to Section V., UNTRIPPABLE CEAs OR TWO OR MORE CEAs MISALIGNED BY GREATER THAN 15 INCHES, Page 18. Determines that this step is N/A

_____ f.3 IF the CEA will NOT move due to an electrical or control system malfunction, THEN initiate a CR AND notify electrical maintenance to perform repairs. Same as element

TIME STOP _____

Examiner Note:	The task is complete when the applicant has determined the CEA cannot be moved but is trippable and has determined that a CR must be written. The evaluator will end the JPM
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Verification of Completion

Job Performance Measure Number: 2008-CEDM

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. Unit 1 is at 80% power.
2. An expeditious downpower was in progress. When Gp 5 CEAs were inserted, after ~ 1.5 inches of motion, CEA #35 slipped to its current position(~ -8.5 inches). The CMI and secondary deviation alarms were received.
3. The alarms currently in are:
 - Secondary CEA Position Deviation + 4"
 - CEA Motion Inhibit
4. The plant has been stabilized and CEDS is in OFF

INITIATING CUE:

You are directed to respond to the alarms in accordance with plant procedures as the RO, and realign CEA # 35. The CRS has directed the CRO to maintain Tcold on program and initiate any boration required to maintain Rx power.

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Facility: **Calvert Cliffs 1&2** Job Performance Measure No.: **2008-SDC-1**
Task Title: **Respond to a loss of RCS inventory while SDC is in use (Alternate Path)**
Task Number: 202.024
K/A Reference: **025AA1.02 (3.8, 3.9)**

Method of testing:

Simulated Performance: _____ Actual Performance: √
Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit 1 is in Mode 5 for maintenance with the PZR manway removed.**
- 2. The RCS was being maintained at 38'.**
- 3. SDC was aligned for service**
- 4. The Reactor has been shutdown for 10 days.**
- 5. A leak has resulted in RCS level lowered to 36', and resulted in a loss of SDC.**
 - a. Note: Use sticky on the refueling cart for level indication**
- 6. The running LPSI Pp has been secured due to cavitation and AOP-3B has been implemented.**
- 7. You are performing the duties of the Unit 1 CRO.**

Initiating Cue:

The CRS has directed you to restore SDC per AOP-3B, Step V.E.

Task Standard:

This JPM is complete when RCS level has been restored. No further actions are required. The evaluator is expected to end the JPM.

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the control room**

General References:

1. **AOP-3B**

Time Critical Task:

No

Validation Time:

20 minutes

Simulator Setup:

1. Reset the simulator IC-4 (Shutdown RX Vessel – 37.4)
2. IC-4. Refueling cart available and connected for service.
3. Raise RCS level to 38' using LPSI suction from the RWT. Ensure suction valve is shut once level reached. Place a sticky over Refueling Level cart level indications with 36' indicated.
4. Ensure all 4 LPSI Header MOVs are throttled open to 800 gpm (with FIC-306 set point at 3400. Once MOVs are throttled, return FIC-306 set point to 3000 gpm.
5. Place both LPSI Pumps in PTL and allow temperature to rise to 105F
6. Ensure all Charging Pumps are tagged out.

TIME START _____

EXAMINER's NOTE: Applicant should locate the procedure section and then provide a working copy of the procedure.

- | | | |
|-------|---|---|
| _____ | Locates and identifies AOP3B, Block Step VE | Same as element. |
| _____ | 1.Start CHG PPs as necessary to maintain | Determines that charging pumps are tagged out and not available |

EXAMINER's NOTE: Applicant should locate the correct attachment, and then provide a working copy of the attachment.

- | | | |
|-------|--|------------------------|
| _____ | 1.1 IF the CHG PPs can NOT maintain RCS level. level,
THEN restore level PER ATTACHMENT (7), FILLING THE RCS. | Refers to attachment 7 |
|-------|--|------------------------|

Note: (HPSI PP fill, Containment Spray PP fill, and gravity fill) are arranged in order of priority. The method with the highest priority should be employed first, based on equipment availability.

CUE: The CRS directs to use 11 HPSI pump for filling

- | | | |
|-------|--|-----------------|
| _____ | 1. Fill the RCS with a HPSI PP. | Same as element |
| _____ | a. Verify the MINI FLOW RETURN TO RWT ISOL valves are open: <ul style="list-style-type: none"> • 1-SI-659-MOV • 1-SI-660-MOV | Same as element |
| _____ | b. Place the SI PP RECIRC LOCKOUT handswitches in LOCKOUT. <ul style="list-style-type: none"> • 1-HS-3659A • 1-HS-3660A | VERIFY |

CUE: CRS directs you to use 11 HPSI pump through the AUX Header

- | | | |
|-------|--|---|
| _____ | c. IF 11 HPSI PP is to be used through the Main Header,
THEN complete the following: | NOT APPLICABLE |
| _____ | d. IF 11 HPSI PP is to be used through the Aux Header,
THEN complete the following: | Determines that this step is applicable |
| _____ | (1) Open 11 RWT OUT valve, 1-SI-4142-MOV.
(2) Open HPSI AUX HDR ISOL valve, 1-SI-656-MOV. | VERIFY |

- | | | |
|---------|--|-----------------|
| _____ | (3) Shut EITHER HPSI HDR XCONN valves:: | VERIFY |
| | <ul style="list-style-type: none"> • 1-SI-653-MOV • 1-SI-655-MOV | |
| _____ | (4) Verify the AUX HPSI HDR valves are shut: | Same as element |
| | <ul style="list-style-type: none"> • 1-SI-617-MOV • 1-SI-627-MOV • 1-SI-637-MOV • 1-SI-647-MOV | |
| _____ * | (5) Start 11 HPSI PP. | Same as element |

CAUTION: Do NOT exceed the following cooldown limits in any one hour:

- greater than 256°F 100°F/hr
- 106°F to 256°F 40°F/hr
- less than 106°F 35°F/hr

CAUTION

When RCS temperature is less than 365°F AND the RCS vent opening is less than 2.6 square inches, flow into the RCS is limited to less than 210 GPM unless a leak exists. If a leak exists, flow may exceed 210 GPM as long as pressure is maintained less than 380 PSIA (or 260 PSIA if the SDC Header Return Isolation valves, 1-SI-651-MOV and 1-SI-652-MOV, are open).

- | | | |
|---------|--|--|
| _____ * | (6) Throttle ONE AUX HPSI HDR valve to maintain flow between 150 and 200 GPM. | Same as element |
| | <ul style="list-style-type: none"> • 1-SI-617-MOV • 1-SI-627-MOV • 1-SI-637-MOV • 1-SI-647-MOV | |
| _____ * | (7) IF a leak exists, | Determines that a leak exists |
| | THEN perform the following actions as required: | |
| _____ * | Throttle the selected AUX HPSI HDR valve as necessary to maintain adequate level. | MOV's should be jogged no more than 5 times within 2 minutes. Then allow at least 5 minutes before operating again. For changing direction of the MOV wait 5 seconds between direction changes |
| _____ | (a) Maintain RCS pressure less than 380 PSIA (260 PSIA if the SDC Header Return Isolation valves, 1-SI-651-MOV and 1-SI-652-MOV, are open) | Same as element |
| _____ | IF the leak is suspected on the associated Header, THEN shut the selected AUX HPSI HDR valve AND choose another AUX HPSI HDR valve PER | NOT APPLICABLE |

Step (6).
____ (8) **IF** performing Once-Through-Cooling, **NOT APPLICABLE**
THEN return to the appropriate section of this AOP.

CUE : Level is rising (Remove sticky and inform candidate that level is rising and is at 38' feet, the leak has located and isolated, secure filling RCS

____ (9) **WHEN** filling is **NO** longer desired, Same as element
THEN complete the following:

____ * (a) Stop 11 HPSI PP. Same as element

____ (b) Shut the AUX HPSI HDR valve opened in Step Same as element
1.d.6.

____ (c) **IF** HPSI HDR XCONN valve, 1-SI-655-MOV, Same as element
was shut in Step 1.d.3, **THEN** open 1-SI-655-MOV.

TIME STOP _____

Examiner Note: The JPM is complete when an increase in RCS level is noted and 11 HPSI is secured and MOV shut

Verification of Completion

Job Performance Measure Number: 2008-SDC

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response:

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. Unit 1 is in Mode 5 for maintenance with the PZR manway removed.
2. The RCS was being maintained at 38'.
3. SDC was aligned for service and RCS temperature was 105 °F
4. The Reactor has been shutdown for 10 days.
5. A leak has resulted in RCS level lowered to 36', and resulted in a loss of SDC.
6. The running LPSI Pp has been secured due to cavitation and AOP-3B has been implemented.
7. You are performing the duties of the Unit 1 CRO.

INITIATING CUE:

The CRS has directed you to restore SDC per AOP-3B, Step V.E..

Facility: **Calvert Cliffs 1&2** Job Performance Measure No.: **2008-PPCS**

Task Title: **Respond to a Pressurizer Spray Valve Failure (Alternate Path)**

Task Number: **064.036**

K/A Reference: **008-AA2.19**

Method of testing:

Simulated Performance: _____ Actual Performance: √

Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit 1 is at 100% power.**
- 2. Pressurizer pressure channels indicate low pressurizer pressure**
- 3. Proportional heaters indicate maximum current**
- 4. All available backup heaters are energized**
- 5. The alarms currently in are:**
 - PZR PRESS CH 100**
 - RCP Seal Pressure Low**

Initiating Cue:

You are directed to respond to the alarms in accordance with plant procedures as the RO.

Task Standard:

Respond to the alarms and abnormal conditions in accordance with Alarm manual and recommend tripping the reactor and securing 11A RCP

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the control room**

General References:

1. **Alarm manual for 1C06**

Time Critical Task:

No

Validation Time:

10 minutes

Simulator Setup:

1. Reset the simulator IC-24 (100% MOC)
2. Insert Malfunction RCS-016
3. Run the simulator for ~ 11 Minutes or until ANN "PZR Press CH 100 Alarm"
4. Pressurizer Pressure should be approximately 2125 PSIA
5. Acknowledge alarms
6. Freeze simulator

TIME START _____

- _____ Locates Alarm Manual for 1C06 Same as element.
- _____ Locates Alarm response for window E-29, Same as element

Examiner Note: Applicant may refer to other alarms associated with the low pressurizer condition as well. Candidate may note spray valve open initially and attempt to close before referring to the Alarm Manual.

- _____ Notes that pressurizer pressure is LOW, and checks the possible causes: Same as element
- _____ * 2. Perform the following: Identifies 1-RC-100E is Open
 - a. **CHECK** Pressurizer spray valves shut.
 - 1-RC-100E
 - 1-RC-100F
 - b. **CHECK** Pressurizer heaters energized. Same as element
 - c. **IF** required,
- _____ **THEN PERFORM** any of the following:
 - _____ **ENERGIZE** Pressurizer heaters Same as element
 - _____ **SHIFT** Pressurizer pressure control channels **NOT APPLICABLE**
- _____ **THEN** attempt to **SHUT** Pressurizer spray valve by swapping 1-HS-100-8 to the opposite Pressurizer spray valve Same as element
- _____ **SHUT** Pressurizer spray valves using 1-HIC-100 in manual Same as element
- _____ **IF** one Pressurizer spray valve has failed **OPEN**, **THEN** attempt to **SHUT** Pressurizer spray valve by swapping 1-HS-100-8 to the opposite Pressurizer spray valve. Same as element

ELEMENT
(* = CRITICAL STEP)

STANDARD

_____	IF Pressurizer spray valves can NOT be shut, THEN PERFORM the following:	Determines that 1-RC-100E cannot be shut.
_____ *	(1) TRIP the reactor.	Same as element.
_____	(2) IMPLEMENT Reactivity Control section of EOP-0, Post-Trip Immediate Actions.	Same as element
_____ *	(3) STOP the RCP(s) associated with the open Pressurizer spray valve(s): <ul style="list-style-type: none">• 11A for 1-RC-100E-CV• 11B for 1-RC-100F-CV	Secures 11 A RCP

Note: Candidate may recommend tripping 11B RCP as well.

TIME STOP _____

Examiner Note:	The task is complete when the applicant has completed reactivity portion of the EOP-0 plaque and secured 11A RCP.
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Verification of Completion

Job Performance Measure Number: 2008-PPCS

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. Unit 1 is at 100% power.
2. Pressurizer pressure channels indicate low pressurizer pressure
3. Proportional heaters indicate maximum current
4. All available backup heaters are energized
5. The alarms currently in are:
 - PZR PRESS CH 100
 - RCP Seal Pressure Low

INITIATING CUE:

You are directed to respond to the alarms in accordance with plant procedures as the RO. Do you have any questions? You may begin.

Facility: **Calvert Cliffs 1&2** Job Performance Measure No.: **2008-MFW**

Task Title: **Respond to a feedwater rupture at power**

Task Number: **202.035**

K/A Reference: **054- AA1.01**

Method of testing:

Simulated Performance: _____ Actual Performance: √

Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

1. Unit 1 is at Mode 100% at NOP and NOT.
2. Due to a leak, the following alarms have come in past 60 seconds: 1C03; C04 (Condensate Pumps Discharge Pressure Low), C16 (Condenser Hotwell Level), and C25 (SGFP Suction Pressure Low).
3. AOP-3G has been implemented. The reactor has just been tripped and the RO is performing reactivity control per EOP-0
4. You are performing the duties of the Unit 1 CRO.

Initiating Cue:

The CRS has directed you to perform AOP-3G, Block Step VIII.A. Are there any questions?

Task Standard:

This JPM is complete when the condensate system has been secured and auxiliary feedwater initiated per AOP-3G Step VIII.A.

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the control room**

General References:

1. **Alarm manual for 1C03**
2. **AOP 3G**

Time Critical Task:

No

Validation Time:

10 minutes

Simulator Setup:

- a. IC-18, U-1 at 100% Power. .
- b. Initiate malfunction CD008 at 10% condensate booster pump common discharge header rupture.
- c. Insert malfunction AFW005 for 13 AFW Pump breaker failure.
- d. Run Simulator until alarms C04, C16 and C25 are in alarm (~ 1 min.) and freeze.

CCNPP LICENSED OPERATOR
JOB PERFORMANCE MEASURE AOP-3G-9F

ELEMENT

STANDARD

(* = CRITICAL STEP)

TIME START _____

CUE:	Begin at Step VIII.A.1.
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- | | | |
|----------|---|--|
| _____ 1. | IF a rapid unexplained reduction or loss of Condensate or Feedwater header pressure occurs simultaneously with a lowering of Hotwell level, OR other indications of a rupture are observed, THEN with the approval of the SM/CRS, perform the following actions: | Determines step is applicable and starts performing the actions for a condensate header rupture at power |
|----------|---|--|

CUE:	The RO has tripped the reactor and is performing reactivity control.
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- | | | |
|--------|---|--|
| _____ | a. Trip the Reactor | Determines this step is being performed by RO |
| _____ | b. Perform the Reactivity control portion of EOP-0 | Determines this step is being performed by RO |
| _____* | c. Trip both SGFPs. | Pushes the trip pushbuttons for 11 and 12 SGFPs and verifies SGFP speeds are lowering on the OCS or SGFP HICs. Verifies HP and LP stop valves for both SGFPs are closed. |
| _____* | d. Secure the following pumps, and place their handswitches in PULL TO LOCK: <ul style="list-style-type: none"> • Condensate Booster Pumps • Condensate Pumps • Heater Drain Pumps | Places HS for all Condensate and Condensate Booster Pumps in PTL. |
| _____* | e. Shut the SG FW ISOL valves: <ul style="list-style-type: none"> • 1-FW-4516-MOV • 1-FW-4517-MOV | Shuts FW MOVs using HS-4516 and HS-4517 |
| _____ | f. Start an AFW PP. | Attempt to start 13 AFW pump
Recognizes that 13 AFW pump did not start |

CCNPP LICENSED OPERATOR
JOB PERFORMANCE MEASURE AOP-3G-9F

ELEMENT (* = CRITICAL STEP)	STANDARD
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<p>____*</p>	<p>g. Open the SG AFW STM SUPP & BYPASS valves to start 11 AFW Pump:</p> <ul style="list-style-type: none"> ▪ (11 SG) 1-MS-4070-CV ▪ (11 SG) 1-MS-4070A-CV ▪ (12 SG) 1-MS-4071-CV ▪ (12 SG) 1-MS-4071A-CV 	<p>Same as element</p>
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TIME STOP _____

<p>TERMINATING CUE:</p>	<p>This JPM is complete when the condensate system has been secured and 11 AFW pump has been started per AOP-3G The evaluator is expected to end the JPM. No further actions are required.</p>
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Verification of Completion

Job Performance Measure Number: 2008-MFW

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

Initial Conditions:

1. Unit 1 is at Mode 100% at NOP and NOT.
2. Due to a leak, the following alarms have come in over time on 1C03; C04 (Condensate Pumps Discharge Pressure Low), C16 (Condenser Hotwell Level), and C25 (SGFP Suction Pressure Low).
3. AOP-3G has been implemented. The reactor has just been tripped and the RO is performing reactivity control per EOP-0
4. You are performing the duties of the Unit 1 CRO.

INITIATING CUE:

The CRS has directed you to perform AOP-3G, Block Step VIII.A. Are there any questions? You may begin

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Facility: **Calvert Cliffs 1&2**

Job Performance Measure No.: **2008-SDC-2**

Task Title: **Respond to a loss of Shutdown Cooling with the RCS open (Alternate Path)**

Task Number: 202.024

K/A Reference: **025AA207 (3.4, 3.7)**

Method of testing:

Simulated Performance: _____ Actual Performance: √

Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit 1 is in Mode 5 for maintenance with the PZR manway removed.**
- 2. The RCS was being maintained at 41.7'.**
- 3. SDC was aligned for service and RCS temperature was 115 °F.**
- 4. The Reactor has been shutdown for 10 days.**
- 5. You are performing the duties of the Unit 1 CRO.**
- 6. LPSI pump suction pressure low alarm is in**

Initiating Cue:

The CRS has directed you to respond to these conditions.

Task Standard:

This JPM is complete when SDC has been restored. No further actions are required. The evaluator is expected to end the JPM.

Evaluation Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

Required Materials:

1. Procedures and manuals normally available in the control room

General References:

1. AOP-3B

Time Critical Task:

No

Validation Time:

25 minutes

Simulator Setup:

1. Reset the simulator IC-3 (Shutdown RX Vessel – 41.7)
2. IC-3. Refueling cart available and connected for service.
3. Ensure all 4 LPSI Header MOVs are throttled open to 800 gpm (with FIC-306 set point at 3400. Once MOVs are throttled, return FIC-306 set point to 3000 gpm.
4. Ensure 12 LPSI pump is running and 11 LPSI is in PTL
5. Set up conditions for LPSI cavitation indications
 - a. Override green indicator light for 1-SI-651 MOV to indicate partial open
 - b. Use remote function for 1-SI-651-MOV to open its breaker and manually position it to ~ 20% (.2). then reclose the MOV breaker.
 - c. Run Simulator until “LPSI PUMP SUCTION PRESS LO alarm in, then freeze the simulator.
6. Bring candidate into the simulator, brief the initial conditions and then put the simulator in run when the candidate is ready

TIME START _____

CUE: Applicant should notice fluctuations in motor amps, discharge pressure, pump discharge flow. Then inform applicant that excessive noise in the ECCS room has been reported coming from the area of 12 LPSI pump.

_____ RO Evaluates alarms and indications and recommends implementing AOP-3B per alarm manual. Same as element.

CUE: For the RO , once he has recommended AOP 3B be implemented, direct him to implement section IV.A.4 of AOP-3b

_____ SRO Evaluates alarms and indications and determines that section IV.A.4 of AOP-3B should be implemented Same as element

EXAMINER's NOTE: Once applicant has located the correct section of the AOP, then give them a working copy of the procedure section.

_____ Locates AOP-3B, Step IV.A.4 Same as element.

_____ * 4. **IF** a LPSI PP is determined to be cavitating/gas bound by considering the following:

- Fluctuations in motor amps
- Fluctuations in discharge pressure
- Fluctuations in pump discharge flow
- Excessive pump noise
- "LPSI PUMP SUCTION PRESS LO" alarm actuation

Determines step is applicable.
Monitors 12 LPSI pump indications
Determines that indications are consistent with cavitation

THEN complete the following actions:

_____ a. **IF** the RCS is in reduced inventory, **THEN** perform the following actions:
(1) **IF** RCS level is less than 37.6 feet,
THEN verify flow is less than or equal to 1500 gpm. **NOT APPLICABLE**

_____ (2) **IF** RCS level is greater than 37.6 feet,
THEN verify flow is less than or equal to 2000 gpm. Determines this step is applicable
Same as element

_____ (3) **IF** the appropriate SDC Flow is Restored **AND** LPSI PP cavitation/gas binding stops,
THEN IMPLEMENT the appropriate Operating Procedure. **NOT APPLICABLE**

_____ * b. Stop the operating LPSI PP(s). Same as element

_____ * c. Place **BOTH** LPSI PP handswitches in PULL TO LOCK. Places 12 LPSI pump in PTL

CAUTION

Isolation of the LPSI PP suction flow path can cause pump damage if the LPSI PPs are allowed to operate.

_____ * 5. Check that the SDC HDR RETURN ISOL valves are open: Determines that 1-SI-651-MOV is **NOT** fully open

- 1-SI-651-MOV
- 1-SI-652-MOV

_____ 5.1 **IF ANY** of the SDC HDR RETURN ISOL valves are **NOT** fully open, Same as element
THEN complete the following:

_____ a. Stop the operating LPSI PP(s). **NOT APPLICABLE**

_____ b. Place **BOTH** LPSI PP handswitches in PULL TO LOCK. **NOT APPLICABLE**

_____ c. Initiate Aux Spray as necessary **PER** Step C.5.b.1, to maintain RCS pressure less than 260 PSIA. **NOT APPLICABLE**

CUE: When the candidate attempts to open 1-SI-651 from the control room, it opens (Booth Operator remove the override from the indicator lights.)

_____ * d. Attempt to open the affected SDC HDR RETURN ISOL valve(s) from the Control Room: Attempts to open 1-SI-651.
Note: candidate should hold the handswitch in open until SI-651 indicates full open (~45 seconds)

- 1-SI-651-MOV
- 1-SI-652-MOV

_____ e. **IF BOTH** SDC HDR RETURN ISOL valves are open, Observes that both valves are open and refers to attachment 3
THEN attempt to restore SDC **PER** ATTACHMENT (3), RETURNING SHUTDOWN COOLING TO SERVICE.

EXAMINER's NOTE: When the applicant has located attachment 3, then give him a working copy of attachment 3

_____ f. **IF** the affected SDC HDR RETURN ISOL valve(s) will **NOT** open from the Control Room, **NOT APPLICABLE**
THEN assign an operator to perform Step B, Page 17, AND concurrently **PROCEED** to Step C, Page 20.

_____ 1. Ensure RCS pressure is less than 260 PSIA. Same as element

- | | | |
|-------|--|--|
| _____ | 2. Ensure RCS temperature is less than 300°F. | Determines that RCS temperature is less than 300°F |
| _____ | 3. Ensure the SDC HDR RETURN ISOL valves are open:
<ul style="list-style-type: none"> • 1-SI-651-MOV • 1-SI-652-MOV | Same as element |

CUE: When asked 1-SI-444 , and 1-SI-432 are locked shut

- | | | |
|-------|--|---|
| _____ | 4. Ensure the LPSI PP NORM SUCT ISOL valves are Locked Shut:
<ul style="list-style-type: none"> • (11 LPSI PP) 1-SI-444 • (12 LPSI PP) 1-SI-432 | Calls Auxiliary building operator to ensure valves are positioned |
|-------|--|---|

CUE: When asked 1-SI-441 , and 1-SI-440 are locked open

- | | | |
|-------|---|---|
| _____ | 5. Ensure the LPSI PP SDC SUCT ISOL valves are Locked Open:
<ul style="list-style-type: none"> • (11 LPSI PP) 1-SI-441 • (12 LPSI PP) 1-SI-440 | Calls ABO to ensure valves are positioned |
|-------|---|---|

CUE: When asked 1-SI-447 , and 1-SI-435 are locked open

- | | | |
|-------|--|---|
| _____ | 6. Verify the LPSI PP DISCH ISOL valves are Locked Open:
<ul style="list-style-type: none"> • (11 LPSI PP) 1-SI-447 • (12 LPSI PP) 1-SI-435 | Calls ABO to ensure valves are positioned |
|-------|--|---|

Cue: When asked air is not suspected of being trapped in the SDC return header

- | | | |
|-------|---|-----------------------|
| _____ | 7. IF air is suspected of being trapped in the SDC Return Header THEN vent the SDC Return Header. | NOT APPLICABLE |
|-------|---|-----------------------|

Cue : The applicant should recognize that venting of the LPSI pumps is necessary. When he calls the ABO to vent the pumps have both operator use remote function to vent 11 & 12 LPSI pumps. When asked inform candidate that Rad Safety has been notified and ABO has vented pumps

- | | | |
|---------|--|--|
| _____ | 8. IF air is suspected in the LPSI PPs, THEN vent the LPSI PP casings: | Determine that pumps have been vented |
| _____ | 9. Shut the S/D COOLING TEMP CONTR valve, 1-SI-657-CV. | Verifies output of HIC-657 is zero or HS-3657 is in CLOSE.
Checks position indication for SI-657. |
| _____ * | 10. Partially open the SDC FLOW CONTR valve, 1-SI-306-CV, as follows: | Same as element |
| _____ * | a. Place the SDC FLOW CONTR, 1-FIC-306, to MANUAL. | Same as element |

- _____ * b. Adjust the SDC FLOW CONTR, 1-FIC-306, to 95% output. Candidate should note that output must be increased to throttle 1-SI-306-CV closed
- _____ 11. Verify LPSI HDR flowpath:
- _____ a. **IF** the RCS level is at or below the 37.6 foot elevation,
THEN verify the following:
(1) Two LPSI HDR valves are shut and in PULL TO OVERRIDE.
(2) The remaining two LPSI HDR valves are in PULL TO OVERRIDE,
AND throttled to obtain between 800 and 850 GPM in each LPSI loop
OR the remaining two LPSI HDR valves are open. **NOT APPLICABLE**
- _____ b. **IF** the RCS level is between the 41 foot and the 37.6 foot elevation,
THEN verify the following:
(1) Two LPSI HDR valves are shut and in PULL TO OVERRIDE.
(2) The remaining two LPSI HDR valves are in PULL TO OVERRIDE,
AND throttled to obtain between 1050 and 1100 GPM in each LPSI loop
OR the remaining two LPSI HDR valves are open. **NOT APPLICABLE**
- _____ c. **IF** the RCS level is above the 41 foot elevation,
THEN verify **ALL** LPSI HDR valves are open:
 - 1-SI-615-MOV
 - 1-SI-625-MOV
 - 1-SI-635-MOV
 - 1-SI-645-MOV
Determines this step IS applicable
Same as element
- CAUTION : Do NOT operate the LPSI PPs at shutoff head.**
- _____ * 12. Start a LPSI PP. Same as element. Starts 11 or 12 LPSI Pump
- _____ * 13. **IF** the RCS level is above the 41 foot elevation,
THEN slowly adjust the SDC FLOW CONTR, 1-FIC-306, to raise SDC flow to 3000 GPM. Determines this step is applicable
Adjust flow to 2950 -3050 GPM

_____ 14. **IF** the RCS level is between the 41 foot and the 37.6 foot elevation, **NOT APPLICABLE**

THEN slowly adjust the SDC FLOW CONTR, 1-FIC-306, to raise SDC flow to 2000 GPM.

_____ 15. **IF** the RCS level is at or below the 37.6 foot elevation, **NOT APPLICABLE**

THEN slowly adjust the SDC FLOW CONTR, 1-FIC-306, to raise SDC flow to 1500 GPM.

CUE: The CRS desires to have FIC-306 in Auto.

_____ 16. Place the SDC FLOW CONTR, 1-FIC-306, in AUTO if desired

Places FIC-306 in AUTO after matching setpoint to actual SDC flow.

TERMINATING CUE:

This JPM is complete when SDC flow has been restored. The evaluator is expected to end the JPM. No further actions are required.

TIME STOP _____

Verification of Completion

Job Performance Measure Number: 2008-SDC-2

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date:

APPLICANT'S CUE SHEET**INITIAL CONDITIONS:**

1. Unit 1 is in Mode 5 for maintenance with the PZR manway removed.
2. The RCS was being maintained at 41.7'.
3. SDC was aligned for service and RCS temperature was 115 °F.
4. The Reactor has been shutdown for 10 days..
5. LPSI pump suction pressure low alarm is in
6. You are performing the duties of the Unit 1 CRO.

INITIATING CUE:

**The CRS has directed you to respond to these conditions. Are there any questions?
You may begin**

Facility: **Calvert Cliffs 1&2**

Job Performance Measure No.: **2008-4160**

Task Title: Verify the Vital Auxiliaries Safety Function is Satisfied following a loss of offsite power (Alternate Path)

Task Number: **201.013**

K/A Reference: **62A2.05 (2.9, 3.3)**

Method of testing:

Simulated Performance: _____ Actual Performance: √

Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

1. Unit 1 has just tripped from 100% power
2. A loss of offsite power has occurred
3. EOP-0 has been implemented and Turbine Trip has been verified.
4. You are performing the duties of the Unit 1 CRO.

Initiating Cue:

The CRS directs you to perform Vital Auxiliaries

Task Standard:

This JPM is complete when 11 KV bus is energized from 0C Diesel generator and Vital auxiliaries are reported as complete.

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the control room**

General References:

1. **EOP-0**

Time Critical Task:

No

Validation Time:

7 minutes

Simulator Setup:

1. IC-24, U-1 at 100% power.
2. Insert Malfunction for loss of offsite power (SWD 0002)
3. Insert malfunctions for 1A and 1B Diesel Generator failure (DG001_02) (DG002_02).
4. Insert malfunction for loss of 13KV bus 11 (13KV002_01) and 13KV bus 21 (13KV001 and 13KV003,
5. Allow simulator to run for ~2 minutes, then freeze.

TIME START _____

_____	Locate EOP-0 Step IV.C.1 on the plaque .	Locates appropriate procedure step on the plaque on 1C-17
_____*	1. Check 11 OR 14 4KV Vital Bus is energized.	Checks white energized light lit or bus voltage. Determines that 11 and 14 4KV busses are <u>NOT</u> energized. Makes report to CRS “taking alternate actions for Vital Auxiliaries due to both 4Kv busses being deenergized, starting the diesel generators”.
<u>CAUTION:</u> Attempts should NOT be made to re-energize a bus if a fault is suspected.		
_____*	1.1. IF BOTH 4KV Vital Buses are deenergized, THEN energize 11 OR 14 4KV Vital Bus from a DG by performing the following:	Checks bus is NOT faulted by observing that loadside 4KV breakers are CLOSED
_____*	a. Start the 0C DG using the 0C DG EMERGENCY START PB, 0-HS-0707.	Pushes EMERGENCY START PB, 0-HS-0707.
_____	b. Verify 1A or 1B DG is running.	Checks 1A and 1B diesel generator frequency and voltages, determines that both diesel generators are <u>NOT</u> running and proceeds to step C. 1.2.

CUE: When asked, CRS directs 11 4KV bus is to be restored.

_____	1.2. IF 1A and 1B DGs can NOT be loaded AND 13KV is available, THEN energize 11 OR 14 4KV Vital Bus as follows: NOT APPLICABLE	Checks 11 and 21 13KV white lights AND bus voltages. Determines neither 13KV service bus is energized and step is <u>NOT</u> applicable. Proceeds to step C.1.3
-------	---	---

_____	1.3 IF 11 and 14 4KV Buses are deenergized, THEN use the 0C DG to energize 11 OR 14 4KV Bus as follows:	
_____*	a. Verify the 0C DG is running.	Pushes the emergency start pushbutton to start 0C DG, and verifies that it is available based on frequency at or near 60 hertz and voltage at or near 4KV
_____	b. Verify 07 Bus FDR, 152-0704 is open	Same as element
_____	c. Place 0C DG 11 (14) BUS FDR, 152-1106 (152-1406) in PULL TO LOCK	Same as element
_____*	d. Place 1A (1B) DG OUT BKR, 152-1703 (152-1403) in PULL TO LOCK	Same as element
Cue: When the candidate calls the auxiliary operator to close disconnect 189-1106, use the remote function (DG0C001) to close the disconnect and report disconnect 189-1106 is closed		
Cue: When the applicant looks for the keys to give to the auxiliary operator, inform him that the auxiliary operator has the keys.		
_____	e. Dispatch an operator to operate disconnects as follows:	Dispatches auxiliary operator to close disconnect 189-1106
_____	f. WHEN the 0C DG is up to rated speed and voltage, THEN verify the OC DG OUT BKR, 152-0703 closed	Verifies OC-DG Output breaker, 152-0703 is closed
_____	g. WHEN disconnect 189-1106 (189-1406) is closed, AND breaker 152-0703 is closed, THEN perform the following:	
_____*	1. Close 07 4KV BUS TIE, 152-0701	Same as element
_____*	2. Insert the sync stick AND close the 0C DG 11 (14) 4KV BUS FDR, 152-1106 (152-1406).	Same as element
_____	Reports to shift manager " 11 4KV BUS is energized"	Reports to evaluator that 11 4 KV Bus is energized.

TERMINATING CUE:	This JPM is complete when 11 4KV BUS is reported energized. No further actions are necessary.
-------------------------	---

Verification of Completion

Job Performance Measure Number: 2008-4160V

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS::

1. Unit 1 has just tripped from 100% power
2. A loss of offsite power has occurred
3. EOP-0 has been implemented and Turbine Trip has been verified.
4. You are performing the duties of the Unit 1 CRO..

:

INITIATING CUE:

The CRS directs you to perform Vital Auxiliaries.

Facility: **Calvert Cliffs 1&2** Job Performance Measure No.:**2008-AOP7H**

Task Title: **Determine the New Power Ratio Recorder Potentiometer setting with the plant computer failed, and adjust the potentiometers to the new settings.**

Task Number: **202.089**

K/A Reference: **K/A 015 A3.03 (3.9, 3.9)**

Method of testing:

Simulated Performance: _____ Actual Performance: √

Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit 1 has been operating at 100% for 6 months.**
- 2. The plant computer has failed and rebooting efforts have been unsuccessful so far. DAS is Inoperable.**
- 3. The current highest excore NI reading is 99.2%.**
- 4. CECOR is not available. Reactor Engineering reports a measured value of FxyT of 1.521**
- 5. Axial Shape Index is at +0.02**
- 6. The Power Ratio Recorder is Operable**
- 7. The LAN is down so Ops calc is not available**

Initiating Cue:

You are directed to perform AOP-7H, "Loss Of Plant Computer In Mode One Or Two", Step IV.D.2.d(1) and d(2) , calculate new power ratio calculator setpoints and adjust the potentiometers to the new settings.

Task Standard:

Determine Power Ratio recorder new alarm setpoints and adjust the setpoint and deviation potentiometers

Evaluation Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

Required Materials:

1. Calculator
2. AOP-7H, "Loss Of Plant Computer In Mode One Or Two", Revision 22
3. Blank AOP-7H Attachment 2
4. NEOP-13, "Technical Data Book", Revision 22

General References:

1. AOP-7H, "Loss Of Plant Computer In Mode One Or Two", Revision 22 (pages 16 of 25 and Attachment 4)
2. NEOP-13, "Technical Data Book", Revision 22 (pgs 75-76 of 81)

Time Critical Task:

No

Validation Time:

20 minutes

Simulator Setup:

1. IC-24 100 % power
2. Set Power Ratio calculator potentiometers as follows:
 - a. Deviation Adjust Potentiometer 0.0566
 - b. Setpoint Adjust Potentiometer 0.456

TIME START _____

_____ Identify and locate AOP-7H, Step IV.D.2.d. Same as element.

CAUTION :The Power Ratio Calculator is NOT operable below 20% RTP.

CUE: Power Ratio Recorder is operable

- | | | |
|--------|---|--|
| _____* | <p>d. IF the Power Ratio Recorder operable, THEN perform the following:
 (1) Calculate the power ratio recorder alarm setpoints PER
 ATTACHMENT (4), POWER RATIO RECORDER ALARM SETPOINTS.</p> <p>1. Select and indicate the appropriate Power vs ASI figure based on the following:</p> | Refers to attachment 4 |
| _____* | <p>IF the DAS is out of service, THEN use the "assumed FxyT curve" of NEOP-13, Figure 1-IV.A.1,
 OR For Unit 2, NEOP-23, Figure 2-IV.A.1.</p> | Determines that this step is applicable and refers to NEOP-13 Figure 1-IV.A.1 |
| _____ | <p>IF the DAS is in service, THEN use NEOP-13, Figure 1-IV.A.2,
 OR
 For Unit 2, NEOP-23, Figure 2-IV.A.2.</p> | NOT APPLICABLE |
| _____* | <p>2. Record the (+) and (-) ASI Limits (Y_I) and associated thermal power from the appropriate figure.</p> <p>Thermal Power Limit _____ Y_I (+)
 Y_I (-) _____</p> | Records the following on Attachment 4:
Y_I (+) = 0.10
Y_I (-) = - 0.06 |
| _____* | <p>3. Convert the Internal ASI Limits (Y_I) to external ASI Limits (Y_E) for the appropriate unit.</p> <p>For Unit 1:
 $Y_E = Y_I$ divided by the Shape Annealing</p> | Records following values on Attachment 4. <ul style="list-style-type: none"> • Y_E (+) = 0.03984 • Y_E (-) = -0.0239 |

	Factor. $Y_E (+) = [Y_1 (+)] \text{ divided by } 2.51 =$ $Y_E (-) = [Y_1 (-)] \text{ divided by } 2.51 =$	
_____ *	4. Calculate the deviation (D). $D = Y_E (+) \text{ minus } Y_E (-) \text{ divided by } 2$ $= [Y_E (+) \text{_____ minus } Y_E (-) \text{_____}] \text{ divided by } 2 =$	Records following values on Attachment 4: <ul style="list-style-type: none"> ▪ $D = 0.03185$
_____ *	5. Calculate the Power Ratio Deviation Adj pot setting (DPS) $DPS = D \text{ multiplied by } 2 = \text{_____}$	Records following values on Attachment 4: $DPS = 0.0637 (\pm 0.0005)$
_____ *	6. Calculate the setpoint (S). $S = Y_E (+) \text{ minus } D =$	Records following values on Attachment 4: $S = 0.00795$
_____ *	7. Calculate the Power Ratio Setpoint Adj pot setting (SPS) $SPS = S \text{ plus } 0.3 =$	Records following values on Attachment 4: $SPS = .30795 (\pm 0.0005)$
_____ *	8. Calculations completed by _____	Sigs the attachment as completed by _____
CUE: When asked, or after the calculations are completed, inform Candidate the setpoints have been PEER Checked. (Examiners Note, this is step 9 on the checklist)		
_____ *	10. Set the pots on the Power Ratio Recorder using the calculated values.	Adjusts the deviation adjust potentiometer to .0637 Adjust the setpoint adjustment potentiometer to .30795

TIME STOP _____

Examiner Note:	The task is complete when the applicant has completed Step 10 of AOP-7H, Attachment 4 to set the deviation and setpoint adjust potentiometers to the new settings.
----------------	--

Verification of Completion

Job Performance Measure Number: _____ 2008- AOP7H

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. Unit 1 has been operating at 100% for 6 months.
2. The plant computer has failed and rebooting efforts have been unsuccessful so far. DAS is Inoperable.
3. The current highest excore NI reading is 99.2%.
4. CECOR is not available. Reactor Engineering reports a measured value of FxyT of 1.521
5. Axial Shape Index is at +0.02
6. The Power Ratio Recorder is Operable
7. The LAN is down so Ops Calc is not available

INITIATING CUE:

You are directed to perform AOP-7H, "Loss of Plant Computer in Mode One or Two", Step IV.D.2.d (1) and d (2), calculate new power ratio calculator setpoints and adjust the potentiometers to the new settings. Are there any questions? You may begin

Facility: **Calvert Cliffs 1&2**

Job Performance Measure No.: **2008-CCW**

Task Title: **Respond to a CCW Leak**

Task Number: **202.067**

K/A Reference: **026-AA1.05 (3.1, 3.1)**

Method of testing:

Simulated Performance: _____ Actual Performance: √

Classroom: _____ Simulator: √ Plant: _____

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit 1 is at 100% power.**
- 2. Component Cooling Head Tank LVL Alarm at 1C13**
- 3. Component Cooling Head Tank LVL lowering at 1C13**
- 4. CNTMT Normal Sump Level Hi Alarm at 1C10**

Initiating Cue:

RO -- CRS has directed you to perform block step V.C. on page 10 of AOP 7C.

SRO – Respond to the alarms and indications.

Task Standard:

Perform block step V.C. of AOP-7C, determine that CCW leak exist in the CNTMT, and isolate CCW to CNTMT and recommend tripping the reactor and securing RCPS.

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the control room**

General References:

1. **Alarm manual for 1C13**
2. **AOP-7C**

Time Critical Task:

No

Validation Time:

10 minutes

Simulator Setup:

1. Reset the simulator IC-24 (100% MOC)
2. Insert Malfunction CCW-03 at ~ 4.5%
3. Run the simulator for ~ 2 Minutes or until Alarm K17 on 1C-13 comes in
4. Acknowledge alarms
5. Freeze simulator

TIME START _____

EXAMINER's NOTE: SROs must determine the applicable section of the AOP for these conditions

- | | | |
|-------|--------------------------------|------------------|
| _____ | Locates AOP-7C | Same as element. |
| _____ | Locates Section V.C on page 10 | |

CUE- RO has been assigned to monitor for Reactor Trip Criteria

- | | | |
|-------|---|---|
| _____ | 1. IF a CC pump is cavitating as indicated by ANY of the following: | Determines that CCW Pumps are NOT cavitating |
| | <ul style="list-style-type: none"> • Fluctuation in pump motor AMPS • Fluctuation in Normal and/or Standby header pressures • Excessive pump noise | |
| _____ | THEN stop the running pump(s). | NOT APPLICABLE |

CUE: CRS has determined that No flooding is occurring

- | | | |
|-------|--|-----------------------|
| _____ | 2. IF flooding is occurring, | NOT APPLICABLE |
| _____ | THEN , with the approval of the SM/CRS, perform the following actions: | NOT APPLICABLE |
| _____ | 3. IF NO CC Pumps are operating, THEN , with the approval of the SM/CRS, take ALL of the following protective actions. | NOT APPLICABLE |
| _____ | a. Trip the Reactor.
b. Perform Reactivity Control immediate actions of EOP-0, POST TRIP IMMEDIATE ACTIONS.
c. Stop ALL RCPs.
d. Continue to IMPLEMENT EOP-0. | NOT APPLICABLE |
| _____ | 4. Place IX BYPASS valve, 1-CVC-520-CV, in BYPASS. | Same as element |

NOTE: ATTACHMENT (2), COMPONENTS COOLED BY COMPONENT COOLING WATER, may be used as a guide to identify the leak.

NOTE: The location of the leakage may be indicated by sump alarms or room level alarms.

- | | | |
|--------|--|--|
| _____* | 5. Attempt to identify the location of the leak. | Candidate evaluates indications determines that leak is in containment |
|--------|--|--|

_____	<p>6. IF the leak has NOT been located, THEN consider isolating one CC HX at a time to check for tube leaks.</p> <p>a. Secure Component Cooling Flow to the desired Component Cooling Heat Exchanger PER OI-16, COMPONENT COOLING SYSTEM.</p> <p>b. Shut the applicable CC HX Supply valves:</p> <p>11 CC HX 11 CC HX STBY SUPP, 1-CC-147 11 CC HX NORM SUPP, 1-CC-148</p> <p>12 CC HX □ 12 CC HX NORM SUPP, 1-CC-154 12 CC HX STBY SUPP, 1-CC-155</p>	<p>NOT APPLICABLE</p>
_____	<p>7. IF the leak can NOT be isolated, AND the SM determines that the leakage is excessive, THEN commence a normal Unit shutdown PER OP-3, NORMAL POWER OPERATION, and/or OP-4, PLANT SHUTDOWN FROM POWER OPERATION TO HOT STANDBY.</p>	<p>NOT APPLICABLE</p>
_____*	<p>8. IF the leak has been located, AND Unit conditions permit the leak to be isolated, THEN isolate the leak.</p>	<p>Shuts the CCW containment isolation valves 1-CC-3832-CV and 1-CC-3833-CV</p>
_____*	<p>9. Informs the CRS that the leak is isolated and recommends tripping the reactor and securing the RCPs</p>	<p>Informs evaluator that the leak is isolated and recommends tripping the reactor and securing the RCPs</p>

CUE: When candidate recommends tripping the Reactor and securing the RCPs, direct him to trip the reactor and end the JPM.

TIME STOP _____

Terminating Cue: This JPM is complete when CCW to containment has been isolated AND the CRO recommends tripping the reactor and securing the RCPs.

Verification of Completion

Job Performance Measure Number: 2008-CCW

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

Initial Conditions:

1. Unit 1 is at 100% power.
2. Component Cooling Head Tank LVL Alarm at 1C13
3. Component Cooling Head Tank LVL lowering at 1C13
4. CNTMT Normal Sump Level Hi Alarm at 1C10
5. AOP 7C is implemented

:

INITIATING CUE:

RO - CRS has directed you to perform block step V.C. on page 10 of AOP-7C.

SRO - Respond to the alarms and indications

Examiner's Note, for SROs do not give procedure section.

Facility: **Calvert Cliffs 1&2**

Job Performance Measure No.: **2008-IA1**

Task Title: **Respond to loss of IA while shutdown**

Task Number: 202.070

K/A Reference: **I/A- A-2.01**

Method of testing:

Simulated Performance: √ Actual Performance:

Classroom: Simulator: Plant: √

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit One is in Mode 6 performing a core offload.**
- 2. A loss of Instrument Air is occurring, INSTR AIR SYS Malfunction Alarm is in, and AOP-7D has been implemented.**
- 3. There are no temporary air compressors connected or available.**
- 4. The CRS has directed you to assist with implementing AOP-7D.**

Initiating Cue:

Initiating Cue: You have been directed by the Unit One CRS to investigate the cause of lowering Instrument Air header pressure IAW AOP-7D, Block Step VI.A.

Task Standard:

This JPM is complete when actions are taken to respond to an Instrument Air leak and 11 IA Dryer is bypassed and isolated.

Evaluation Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.**

Required Materials:

1. **Procedures and manuals normally available in the plant**

General References:

1. **AOP-7D**
2. **OI-19**

Time Critical Task:

No

Validation Time:

10 minutes

Simulator Setup:

1. NONE

TIME START _____

_____ Locate AOP-7D step VI.A. Walks down to the U-1 Turbine Building 12', south end, to the air compressors. Same as element.

_____ 1. IF Temporary Air Compressor is supplying air system, Determines that this step is N/A.

NOTE TO EXAMINER: CUE CARDS ARE PROVIDED SO THAT NOISE IN THE TURBINE BUILDING DOES NOT INTERFERE WITH THE JPM CUES. ARE LISTED IN THE JPM FOR TRACKING PURPOSES

CUE #1: IA Header pressure is 82 PSIG and slowly lowering, 11 IA Compressor is running as the lead compressor (1-HS-2062 in SPEED) and 12 Compressor is the standby compressor (1-HS-2064 in AUTO) but NOT running.

NOTE: ATTACHMENT (1), CRITICAL VALVES CONTROLLED BY IA (B0078), lists the pressure required to control the critical valves.

_____ 2. WHEN IA header pressure lowers to 93 PSIG, THEN ensure that the standby Instrument Air Compressor is running. Observes indications and determines that that only the lead Instrument Air Compressor (11) is running.

CUE #2: After 12 IAC is placed in SPEED, it starts and runs properly. IA pressure is still slowly lowering though, even with both compressors now running.

_____ 2.1 IF the standby IA Compressor fails to auto start, THEN place the standby Compressor handswitch to the SPEED position. Determines step is applicable and places 1-HS-2064 in SPEED. Observes indications that 12 IAC is running.

NOTE: ATTACHMENT (2), VALVES SUPPLIED BY SALTWATER AIR, lists Saltwater Air loads.

CUE #3: The Control Room has performed step 3, continue.

_____ 3. IF IA pressure is less than 90 PSIG and lowering, THEN start 11 and 12 SALTWATER AIR COMPRs. Determines step has been completed in Control Room.

CUE #4: 11 IA Dryer is in service and loud whooshing sound can be heard.

CUE #5: If Asked, Control Room has IA Dryer Malfunction Alarm.

NOTE: The IA Dryer malfunction light will be brightly lit for the inservice IA Dryer and the dryer will de-energize with both chambers in service if IA Pressure has lowered to 93 ± 1 PSIG.

___ 4. IF IA Dryer is the cause of the lowering IA pressure, THEN bypass the in service IA Dryer. Determines step is applicable.

CUE #6: IA-148 indicates open.

___ * a. Open the IA Dryer Bypass valve, 1-IA-148. Opens valve.

CUE #7: IA-147 and IA-100 indicate shut.

___ * b. IF 11 Dryer is in service, THEN shut 11 Dryer Inlet and Outlet valves:
• (Inlet Valve) 1-IA-147
• (Outlet valve) 1-IA-100
Shuts IA-147 and IA-100.

CUE #8: IA Header pressure is starting to rise.

TERMINATING CUE: The task is complete when 11 IA Dryer is bypassed and isolated. No further actions are required. The evaluator is expected to end the JPM.

TIME STOP _____

Verification of Completion

Job Performance Measure Number: 2008-IA1

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. Unit One is in Mode 6 performing a core offload.
2. A loss of Instrument Air is occurring and AOP-7D has been implemented.
3. There are no temporary air compressors connected or available.
4. The CRS has directed you to assist with implementing AOP-7D.

INITIATING CUE:

Initiating Cue: You have been directed by the Unit One CRS to investigate the cause of lowering Instrument Air header pressure IAW AOP-7D, Block Step VI.A. Are there any questions? You may begin..

Facility: **Calvert Cliffs 1&2** Job Performance Measure No.:**2008-4KV(0C-DG)**

Task Title: **Take local control and start the 0C diesel generator after a severe fire.**

Task Number: **024.026**

K/A Reference: **K/A 64A401 (4.0, 4.3)**

Method of testing:

Simulated Performance: √ Actual Performance:

Classroom: Simulator: Plant: √

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. A severe fire has resulted in a control room evacuation.**
- 2. Unit 1 reactor has been tripped and control has been shifted to 1C43.**
- 3. The SM has assigned you to perform the duties of the OSO**

Initiating Cue:

You have been directed by the U-1 CRS at 1C43 to take local control and start the 0C DG in accordance with step IV. AH of AOP-9A.

Task Standard:

This JPM is complete when the 0C DG is placed in local control and started

Evaluation Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

Required Materials:

1. AOP-9A

General References:

1. AOP-9A

Time Critical Task:

No

Validation Time:

20 minutes

Simulator Setup:

Not Applicable

ELEMENT

STANDARD

(* = CRITICAL STEP)

TIME START _____

CUE: Supply the candidate with a copy of AOP-9A. The Precautions and Initial Conditions have been complied with. Begin at step AH.

CUE: The 0C DG is not running and the 07 4KV bus has been deenergized for 40 minutes.

_____ 1. **IF** 0C Diesel Generator is **NOT** running **AND** the 07 4KV Bus is deenergized for 30 minutes or longer, **THEN** initiate pneumatic prelube as follows: Determines step is applicable.

CUE: Valve 0C1-DLO-2 is opened.

_____ * a. Open 0C1 PNEUMATIC PRELUBE PUMP SUCTION VALVE, 0C1-DLO-2 (at 0C1 pneumatic prelube pump). Locates valve 0C1-DLO-2 and opens it.

CUE: Valve 0C1-DLO-14 is opened.

_____ * b. Open 0C1 PNEUMATIC PRELUBE PUMP DISCHARGE VALVE, 0C1-DLO-14 (under 0C1 Aux. Desk). Locates valve 0C1-DLO-14 and opens it

CUE: Valve 0C2-DLO-2 is opened.

_____ * c. Open 0C2 PNEUMATIC PRELUBE PUMP SUCTION VALVE, 0C2-DLO-2 (at 0C2 pneumatic prelube pump). Locates valve 0C2-DLO-2 and opens it

CUE: Valve 0C2-DLO-14 is opened.

_____ * d. Open 0C2 PNEUMATIC PRELUBE PUMP DISCHARGE VALVE, 0C2-DLO-14 (under 0C2 Aux. Desk). Locates valve 0C2-DLO-14 and opens it

CUE: Air bottle outlet valve is opened.

_____ * e. Open one 0C Pneumatic Prelube Pump Air Bottle outlet Locates air bottle outlet valve and opens it

ELEMENT

STANDARD

(* = CRITICAL STEP)

valve (35' elevation).

CUE: If asked , gage pressure reads 110 psig, prelube pump is turning.

*	f. Adjust 0C PNEUMATIC PRELUBE PUMP AIR REGULATOR, 0-DLO-10180-PCV, to a maximum of 110 PSIG on 0C PNEUMATIC PRELUBE PUMP AIR SUPPLY REGULATOR OUTLET PI, 0-PI-10180, to start the Prelube Pump turning.	Adjusts air regulator to a max of 110 psig, reading pressure on 0-PI-10180.
---	--	---

CUE: Both prelube pumps have started, gage pressure reads 35 psig.

*	g. When both Prelube Pumps have been started, THEN THROTTLE 0C PNEUMATIC PRELUBE PUMP AIR REGULATOR, 0-DLO-10180-PCV, to obtain 35 (30 to 40) psig on 0C PNEUMATIC PRELUBE PUMP AIR SUPPLY REGULATOR OUTLET PI, 0-PI-10180.	Throttles PCV to 35 psig.
---	---	---------------------------

*	h. Note time prelube started.	Same as element
---	-------------------------------	-----------------

2. Perform the following to open 0C DG Output Breaker, 152-0703:

CUE: 0-HS-152-0703A is unlocked.

*	a. Insert the Local/Remote Key into 0C DG Output Breaker LOCAL/REMOTE handswitch 0-HS-152-0703A and unlock it.	Locates 0-HS-152-0703A, inserts key and unlocks it.
---	--	---

CUE: 0-HS-152-0703A is in local.

*	b. Place 0C DG Output Breaker LOCAL/REMOTE handswitch 0-HS-152-0703A to LOCAL.	Places 0-HS-152-0703A to LOCAL
---	--	--------------------------------

ELEMENT

STANDARD

(* = CRITICAL STEP)

CUE: 0-HS-152-0703B indicates tripped.

- * c. Place OC DG OUT BKR Local Control handswitch 0-HS-152-0703B to TRIP AND verify Breaker 152-0703 open. Places 0-HS-152-0703B to TRIP and verifies 152-0703 open.
3. Perform the following to place 07 4KV Feeder Breaker, 152-0704 in local control.

CUE: 0-HS-152-0704A is unlocked.

- * a. Insert the Local/Remote key into 07 4KV Feeder Breaker LOCAL/REMOTE handswitch 0-HS-152-0704A and unlock it. Same as element

CUE: 0-HS-152-0704A is in local and breaker 152-0704 is open.

- * b. Place 07 4KV Feeder Breaker LOCAL/REMOTE handswitch 0-HS-152-0704A to LOCAL AND verify Breaker 152-0704 open. Locates 0-HS-152-0704A inserts key and rotates clockwise to unlock it.
4. Perform the following to place 07 4KV Bus Tie Breaker, 152-0701 in local control:

CUE: 0-HS-152-0701A is unlocked.

- * a. Insert the Local/Remote key into 07 4KV Bus Tie LOCAL/REMOTE handswitch 0-HS-152-0701A and unlock it. Same as element

CUE: 0-HS-152-0701A is in local and breaker 152-0701 is open.

- * b. Place 07 4KV Bus Tie LOCAL REMOTE handswitch 0-HS-152-0701A to LOCAL AND verify Breaker 152-0701 open. Same as element

ELEMENT

STANDARD

(* = CRITICAL STEP)

5. Perform the following to place U-440-07 4KV Feeder Breaker, 152-0702 in local control:

CUE: 0-HS-152-0702A is unlocked.

- | | | |
|--------|--|-----------------|
| _____* | a. Insert the Local/Remote key into U440-07 4KV Feeder Breaker LOCAL/REMOTE handswitch 0-HS-152-0702A and unlock it. | Same as element |
|--------|--|-----------------|

CUE: 0-HS-152-0702A is in local and breaker 152-0702 is closed.

- | | | |
|--------|---|-----------------|
| _____* | b. Place U440-07 4KV Feeder Breaker LOCAL/REMOTE handswitch 0-HS-152-0702A to LOCAL AND verify breaker 152-0702 closed. | Same as element |
|--------|---|-----------------|

EXAMINER NOTE:The next breaker is a 480V breaker.

6. Perform the following to place 07 480V Bus Feeder Breaker, 52-0701 in local control:

CUE: 0-HS-52-0701A is unlocked.

- | | | |
|--------|---|-----------------|
| _____* | a. Insert the Local/Remote Key into 07 480V Bus Feeder Breaker LOCAL/REMOTE handswitch 0-HS-52-0701A and unlock it. | Same as element |
|--------|---|-----------------|

CUE: 0-HS-52-0701A is in local.

- | | | |
|--------|---|--------------------------------|
| _____* | b. Place 07 480V Bus Feeder Breaker LOCAL/REMOTE handswitch 0-HS-52-0701A to LOCAL. | Places 0-HS-52-0701A in local. |
|--------|---|--------------------------------|

ELEMENT

STANDARD

(* = CRITICAL STEP)

CUE: Cabinet 0C188-4 door is open.

EXAMINER NOTE: Ask candidate to identify PPE required for OC188 Panel Local /Remote Switch

_____ 7. **GO TO** the back of Panel 0C188-4 (second door from left) and open door. Locates 0C188-4 and opens cabinet door.

CUE: The 43/LR switch in 0C188-4 is unlocked.

_____ * 8. Insert key and unlock the 43/LR switch. Locates the 43/LR switch inserts key and rotates key clockwise to unlock it.

CUE: The 43/LR switch in 0C188-4 is in local.

_____ * 9. Place the 43/LR switch handle in the upper, LOCAL position. Places the 43/LR switch in the upper position.

CUE: The 43/LR switch is locked and the door is closed.

_____ 10. Lock 43/LR switch, remove key, and close the door. Locks switch, removes key and closes the door.

CUE: The 0C Diesel Generator is not running.

_____ 11. **IF** 0C Diesel Generator is running, **THEN:** Determines step is N/A.

CUE: The OC GEN CONTR MODE SEL SW is in REMOTE AUTO.

_____ 12. Verify OC GEN CONTR MODE SEL SW, 0-HS-10322, in REMOTE AUTO. Locates 0-HS-10322 and checks position in remote/auto.

ELEMENT

STANDARD

(* = CRITICAL STEP)

CUE: Pneumatic prelube of the 0C DG has been running at least 5 minutes.

13. IF pneumatic prelube of 0C DG was initiated THEN ensure at least 5 minutes has elapsed since prelube was started.

Determines prelube pump has been running for at least 5 minutes.

CUE: The 0C DG starts when the Emerg Start PB is depressed.

* 14. Start 0C DG by momentarily depressing 0C MANUAL EMER START PB, 0-HS-10334.

Locates 0C DG Emerg Start PB and depresses it.

CUE: When checked the frequency is 60.1 HZ and voltage is 4.1 KV

15. CHECK 0C DG rated frequency (58.8 to 61.2 HZ) AND voltage (3.74 KV to 4.58 KV) are established:

Same as element

- 0C GEN FREQ IND, 0-SI-10332
- 0C GEN PHASE A VOLT IND, 0-EI-10321

CUE: The 0SJ Synchronizing Jack is in the Sync position.

* 16. Place Synchronizing Jack 0SJ to SYNC.

Locates 0SJ Synchronizing Jack and places it in the Sync position.

CUE: Breaker 152-0703C indicates closed.

* 17. Close 0C DG OUT BKR 152-1703, by placing 0-HS-152-0703C to close.

Same as element

CUE: Synchronizing Jack 0SJ is in off.

18. Place Synchronizing Jack 0SJ to OFF.

Locates Synchronizing Jack 0SJ and places it in OFF.

CUE: All fans and fuel pumps indicate running.

19. Verify the following equipment running by observing the associated red indicating light is

Locates panel 0C188 and checks the red indicating lights

ELEMENT

STANDARD

(* = CRITICAL STEP)

illuminated on 0C188:

_____ 0C1 HT RAD FAN SEL SW
0-HS-10082

_____ 0C2 HT RAD FAN SEL SW
0-HS-10102

_____ 0C1 FO B/U PP SEL SW
0-HS-10051

_____ 0C2 FO B/U PP SEL SW
0-HS-10061

_____	20. Notify 1C43 and 2C43 the 0C Diesel Generator is running on 07 4KV Bus with its breakers in local	Informs evaluator that the OC Diesel Generator is running on 07 4 KV Bus with its breakers in local.
-------	--	--

TIME STOP _____

TERMINATING CUE: This task is complete when the 0C DG Output Breaker is closed. No further actions are necessary. The trainee is expected to end the JPM.

Verification of Completion

Job Performance Measure Number: 2008- 4KV (OC-DG)

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. A severe fire has resulted in a control room evacuation.
2. Unit 1 reactor has been tripped and control has been shifted to 1C43.
3. The SM has assigned you to perform the duties of the OSO

INITIATING CUE:

You have been directed by 1C43 to take local control and start the OC DG in accordance with step AH of AOP-9A. Do you have any questions? You may begin.

Appendix C Job Performance Measure

Facility: **Calvert Cliffs 1&2**

Job Performance Measure No.: **2008-MSIV**

Task Title: **Locally verify MSIV shut due to a Control Room Evacuation**

Task Number: 083.024

K/A Reference: **039-A4.01 (2.9 , 2.8)**

Method of testing:

Simulated Performance: √ Actual Performance:

Classroom: Simulator: Plant: √

READ TO THE APPLICANT:

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

Initial Conditions:

- 1. Unit One has implemented AOP9A due to a control room fire.**
- 2. The CRS has assigned you to perform Block step IV AC of AOP 9A to verify locally that MSIVs are shut.**

Initiating Cue:

Initiating Cue: You have been directed by the Unit One CRS to locally verify that MSIVs are shut IAW AOP-9A, Block Step IV.AC.

Task Standard:

This JPM is complete when MSIV 11 & 12 have been verified shut and reported to the evaluator.

Evaluation Criteria:

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

Required Materials:

1. Procedures and manuals normally available in the plant

General References:

1. AOP-9A
2. OI-8E

Time Critical Task:

No

Validation Time:

20 minutes

Simulator Setup:

1. NONE

TIME START _____

CUE: CRS Directs performing AOP 9A step IV AC.

Note: Candidate should comply with all RP procedures and policies for entering the RCA.

____ A. Locate AOP-9A step IV.AC Same as element.

____ B.Candidate proceeds to 27' Auxiliary building Same as element
 MSIV Room

CUE: Ask applicant where is the AOP-9A tool kit : Safe Shutdown Locker

____ * 1. Shut Instrument Air Isolation to 11 MSIV Same as element
 Hydraulic Pump, 1-IA-1069.

CUE: 11 MSIV is open as indicated

____ * 2. **IF** 11 MSIV is open, Determines that 11 MSIV is open
THEN:

____ * a. Remove the Dump Solenoid Valve Cap on **ONE** Removes **GREEN** Cap from either
 of the following: 1-MSH-4042A-SV or 1-MSH-
 11 MSIV Dump SV Channel A, 1-MSH-4042A-SV 4042B-SV located on underside of
OR MSIV 11
 11 MSIV Dump SV Channel B, 1-MSH-4042B-SV

____ * b. Place a wrench on the selected Dump Solenoid Same as element
 stem nut.

____ * c. Rotate the wrench in the clockwise direction Same as element
 (approximately five turns) to bleed hydraulic fluid
 back to the reservoir.

____ * 3. Shut Instrument Air Isolation to 12 MSIV Same as element
 Hydraulic Pump, 1-IA-1070.

CUE: 12 MSIV is open as indicated

____ * 4. **IF** 12 MSIV is open, Determines that 12 MSIV is open
THEN:

____ * a. Remove the Dump Solenoid Valve Cap on **ONE** Removes **GREEN** Cap from either
 of the following: 1-MSH-4047A-SV or 1-MSH-
 12 MSIV Dump SV Channel A, 1-MSH-4047A-SV 4047B-SV located on underside of
OR MSIV 12
 12 MSIV Dump SV Channel B, 1-MSH-4047B-SV

____ * b. Place a wrench on the selected Dump Solenoid Same as element
 stem nut.

____ * c. Rotate the wrench in the clockwise direction Same as element
 (approximately five turns) to bleed
 hydraulic fluid back to the reservoir.

____ 5. Notify 1C43 the MSIVs are shut. Notify evaluator that MSIVs shut

TERMINATING CUE: The task is complete when candidate has informed the evaluator that the MSIVs are verified shut.

ELEMENT
(* = CRITICAL STEP)

STANDARD

TIME STOP _____

Verification of Completion

Job Performance Measure Number: 2008-MSIV

Applicant: _____

NRC Examiner: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Follow up Question: _____

Applicant Response: _____

Result: SAT _____ UNSAT _____

Examiner's Signature and Date: _____

APPLICANT'S CUE SHEET

INITIAL CONDITIONS:

1. Unit One has implemented AOP9A due to a control room fire.
2. The CRS has assigned you to perform Block step IV AC of AOP 9A to verify locally that MSIVs are shut.

INITIATING CUE:

You have been directed by the Unit One CRS to locally verify that MSIVs are shut IAW AOP-9A, Block Step IV.AC Are there any questions? You may begin.