ES-301 Control Room and Facility Walk-Through Test Outline Form ES-301-2

Facility: **Calvert Cliffs Units 1 and 2** Date of Examination: **July 15, 2002**

Exam Level: **RO/SRO(I)** Operating Test No: **1**

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. 062 Parallel OC Diesel to 24 4KV Bus	D / S	6 A4.06 // 3.9
b. 059 Recover From automatic feedwater isolation	S / D / A	4 (secondary) A4.11 // 3.4
c. 013 Respond to an inadvertent CIS	S / M / A	2 A2.06 // 3.7
d. 071. Waste Gas Discharge RMS checks	S./ N / A	9 A3.03 // 3.6
e. 002 Use procedures to correct Loss of Forced Circulation	S / N / L	4 (primary) A2.03// 4.1
f. 015 Null NI/DeltaT Power Indications	S / N	7 A4.02 // 3.9
g. 007 Bleed and feed operation to cool the Quench Tank per OI-1B	S / N	5 A1.01 thru 1.03 // 2.9, 2.7, 2.6
B.2 Facility Walk-Through		
a. 029 Align system for alternate containment purge per OI-36	N / R / L	8 A2.03 // 2.7
b. 014 Monitor CEA positions per AOP 7H, alternate method.	N / A	1 A2.02 // 3.1
c. 061 Take local control of AFW pumps to feed S/Gs	N	4 (secondary) A2.04 //3.4

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrolroom, (S)imulator, (L)ow-Power, (R)CA

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Facility: **Calvert Cliffs Units 1 and 2** Date of Examination: **July 15, 2002**

Exam Level: **SRO(U)** Operating Test No: **1**

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. 062 Parallel OC Diesel to 24 4KV Bus	D / S	6 A4.06 // 3.9
b. 071. Waste Gas Discharge RMS checks	S./ N / A	9 A3.03 // 3.8
c. 013 Respond to an inadvertent CIS	D / S	2 A2.06 // 4.0
d		
e.		
f.		
g.		
B.2 Facility Walk-Through		
a. 029 Align system for alternate containment purge per OI-36	N / R / L	8 A2.03 // 3.1
b. 014 Monitor CEA positions per AOP 7H, alternate method.	N / A	1 A2.02 // 3.1
c.		

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrolroom, (S)imulator, (L)ow-Power, (R)CA

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

B.1.9

IC 31

TASK: Parallel DG to a 4KV Bus

PURPOSE: Evaluate the Operator's ability to parallel 0C DG to 24 4KV, after an emergency start

JOB PERFORMANCE MEASURE

CALVERT CLIFFS NUCLEAR POWER PLANT

LICENSED OPERATOR

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

ELEMENT
(* = CRITICAL STEP) STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for the Diesel Generator System.

EVALUATION LOCATION:

_____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
15 MINUTES	____ MINUTES	NO

TASK LEVEL:

LEVEL 1

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

OI-21C

TASK STANDARDS:

This JPM is complete when the 0C DG has been paralleled to 24 4KV bus and loaded to 1.000 MW.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

ELEMENT (* = CRITICAL STEP)	STANDARD

Simulator Setup

1. IC-13 Unit 1 100% power.
2. Emergency start the 0C DG.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

ELEMENT (* = CRITICAL STEP)			STANDARD
		TIME START _____	
CUE:		Initial Conditions and General Precautions have been met.	
CAUTION:		**The 0C DG should not be paralleled with a 4KV Bus during periods when power is suspect (for example during a severe storm).**	
____		Locate OI-21C, Step 6.7.B.1.	Same as element.
____	1.	**IF** 0C DG was paralleled to the 07 4KV Bus,	Determines step is N/A.
____	2.	**IF** 0C DG was emergency started, **THEN PERFORM** the following to select parallel mode:	Determines step is applicable.
*____	a.	**DEPRESS** 0C DG SLOW START, 0-HS-0708, pushbutton, to clear the emergency start signal.	Same as element
*____	b.	**PLACE** 0C DG OUT BKR, 0-CS-152-0703, to TRIP.	
*____	c.	**INSERT** the Sync Stick for 0C DG OUT BKR, 0-CS-152-0703, to place 0C DG in the parallel mode.	Same as element
*____	d.	**MOMENTARILY PLACE** 0C DG SPEED CONTR, 0-CS-0705, to RAISE OR LOWER **AND** ADJUST 0C DG frequency to approximately 60 Hz.	Same as element
____	e.	**VERIFY** 07 4KV Bus is de-energized by observing zero voltage on 07 4KV BUS VOLTS, 0-EI-0702.	Monitors 07 4KV bus voltage.
____	f.	**CHECK** the Synchroscope pointer on 1C18B is **NOT** rotating.	Same as element
Note to Evaluator:		***Frequency must be within .1 Hz of 60 to allow breaker to shut.***	
*____	g.	**PLACE** 0C DG OUT BKR, 0-CS-152-0703, to CLOSE.	

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

ELEMENT (* = CRITICAL STEP)			STANDARD
____	h.	**ADJUST** 0C DG frequency to approximately 60 Hz using 0C DG SPEED CONTR, 0-CS-0705.	Monitors 0C DG frequency.
____	i.	**REMOVE** the Sync Stick from 0C DG OUT BKR, 0-CS-152-0703.	Same as element
CUE:		After next step, when dispatched, PO reports all equipment running.	
____	j.	**VERIFY** the following equipment RUNNING by observing the associated red indicating light is 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	Dispatches PO to check equipment.
____	k.	**RESET** the following bus U/V flags: . 07 4KV Bus . 07 480V Bus	Dispatches operator to reset flags
____	l.	**PLACE** the selected 0C DG 4KV Bus feeder breaker handswitch in PULL-TO-LOCK.	
*____	3.	In the associated Unit SWGR Room, **CLOSE** the selected 0C DG 4KV Bus disconnect by performing the following:	Dispatches PO to shut Disc 189-2406.

Note to Evaluator: ***Simulator driver must shut disconnect 189-2406 as the PO.***

*____	4.	**PLACE** 07 4KV BUS TIE, 0-CS-152-0701, to CLOSE.	

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

ELEMENT (* = CRITICAL STEP)			STANDARD
____	5.	**PLACE** the selected 0C DG 4KV Bus feeder breaker handswitch to NORMAL:	
____	6.	**INSERT** the Sync Stick for the selected 0C DG 4KV Bus feeder breaker.	Inserts into sync jack for 152-2406 0CDG 24 4kv Bus fdr
____	7.	**ADJUST** INCOMING VOLTS equal to RUNNING VOLTS using 0C DG AUTO VOLT CONTR, 0-CS-0704.	Monitors incoming and running volts. Lowers 0C DG Auto Volt Contr as necessary to match incoming and running vlts.
____	8.	**ADJUST** 0C DG frequency so the Synchroscope pointer is rotating slowly in the FAST direction using 0C DG SPEED CONTR, 0-CS-0705.	Monitors synchroscope.
*____	9.	**WHEN** the Synchroscope pointer is approximately 5 degrees prior to the 12 o'clock position, **THEN PLACE** the selected 0C DG 4KV Bus feeder breaker handswitch to CLOSE.	Shuts 2-CS-152-2406 at approximately 5 degrees prior to the 12 o'clock position.
____	CUE:	When checked, annunciator is in alarm. (Unit 2)	Raises 0C DG Speed Contr and monitors 0C DG MW load.
	10.	**IMMEDIATELY ADJUST** 0C DG load using 0C DG SPEED CONTR, 0-CS-0705, to obtain between 0.45 MW **AND** 1.0 MW load on 0C DG VAR/WATT, 0-JI-0701B.	
____	11.	**CHECK** annunciator "SEQUENCER INITIATED" alarm is received.	Checks annunciator window in alarm.
		4KV BUS : PANEL	
		11/14 : 1C08 21/24 : 2C08	
____	12.	**REMOVE** the Sync Stick **AND RETURN** to Home Base.	Same as element

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

ELEMENT (* = CRITICAL STEP)			STANDARD
____	13.	**LOAD** 0C DG as follows:	
____	a.	**REFER** to FIGURE 1, 0C DIESEL GENERATOR ELECTRICAL LIMITS, **AND PERFORM** the following:	Refers to FIGURE 1, 0C DIESEL GENERATOR ELECTRICAL LIMITS.
____		(1) **RAISE** MW load by approximately 1.0 MW, using 0C DG SPEED CONTR, 0-CS-0705.	Raises load with 0C DG SPEED CONTR, 0-CS-0705.
____		(2) **MAINTAIN** 0 to 500 KVARs using 0C DG AUTO VOLT CONTR, 0-CS-0704 and FIGURE 1, 0C DIESEL GENERATOR ELECTRICAL LIMITS.	
____		(3) **MONITOR** the selected 4KV Bus voltage between 4.1 KV and 4.35 KV.	

TIME STOP ____

TERMINATING CUE:	This JPM is complete when the 0C DG has been paralleled to 24 4KV bus and loaded to 1.000 MW. No further actions are required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-21C-3 (MODIFIED)

TASK: Parallel DG to a 4KV Bus

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. The 0C DG has been started, from the Control Room, with an Emergency Start signal.

   b. The 0C DG is carrying 07 4KV bus and the FDR BKR (152-0704) is open.

   c. You are performing the duties of an extra Licensed Operator.

3. Initiating Cue: The CRS directs you to parallel 0C DG to 24 4KV bus per the appropriate procedure, and load it to 1.0 MW. Are there any questions? You may begin.

B.1.6

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-1 (BANK)

TASK: Restore Main Feedwater

PURPOSE: Evaluates an Operator's Ability to Recover from Automatic Feedwater Isolation

JOB PERFORMANCE MEASURE

CALVERT CLIFFS NUCLEAR POWER PLANT

LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-1 (BANK)

ELEMENT (* = CRITICAL STEP) — STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for the Engineered Safety Features Actuation System.

EVALUATION LOCATION:

_____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ACTUAL PERFORMANCE _____DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
10 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN/LEVEL 2

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

EOP-3

TASK STANDARDS:

This JPM is complete when the SGIS is reset and a condensate booster pump is running with a flowpath to the S/Gs.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-1 (BANK)

ELEMENT (* = CRITICAL STEP)	STANDARD

Simulator Setup

a. IC-13, U1, 100% power

b. Trip the Reactor, the Main Feed Pumps and the RCPs, cooldown using the TBVs until just before SGIS actuates, with TBV controller output at ~7%. (Process Variable on PIC4056 at 700.8 psig)

c. Insert Malfunctions AFW005, AFW001_01, AFW001_02 for the trip of 13, 11 and 12 AFW Pps

d. Stabilize the plant with SG levels at approximately -100" and freeze

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-1 (BANK)

ELEMENT (* = CRITICAL STEP)			STANDARD
		TIME START _____	
____		Locate EOP-3, Step IV.G.	Same as element.
____	1.	**IF**, at **ANY** time, **BOTH** S/G levels are less than (-)350 inches **OR** TCOLD rises uncontrollably 5°F or greater, **THEN** initiate Once-Through-Cooling concurrently **PER** step J.	Monitors S/G levels on 1C03 or SPDS. Monitors Tcold, 1C05 or 1C06.
____	2.	Block SGIS as follows:	Determines step is N/A. Initiates Alternate Actions.

ALTERNATE ACTIONS

CUE: Determine if SGIS can be reset.

____	2.1	**IF** SGIS actuates as a result of the cooldown **AND** the Non-Vital 4KV buses are energized, **THEN** reset the SGIS as follows:	Checks power available lights on for 12, 13, 15, 16 4kv busses
____		a. Place the COND BSTR PPs in PULL TO LOCK.	Places Condensate booster pump control switches in PTL.
*____		b. Match handswitch positions **PER** ATTACHMENT (7), SGIS VERIFICATION CHECKLIST.	Places MSIV handswitches in SHUT. Places Feedwater isolation valve handswitches in SHUT.

- 11 & 12 MSIVs shut
- 11 & 12 Main Feed MOVs shut

Note to Evaluator: ***Plant may heat up after SGIS initiation, clearing SGIS block permissive alarms.***

*____		c. Block SGIS.	Places 11 and 12 S/G SGIS keyswitches in BLOCK. Checks that Annunciators C59 and C60 (SGIS A(B) BLOCKED) actuate.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-1 (BANK)

ELEMENT (* = CRITICAL STEP)	STANDARD

CUE: **IF** SGIS block permitted alarms clear, **THEN** cue candidate "CRS directs continue with resetting SGIS, block SGIS when able"

*____	d.	Reset the SGIS signal.	Places 11 and 12 S/G SGIS keyswitches in RESET. Checks that Annunciators G09 and G10 (ACTUATION SYS SGIS A(B) TRIPPED) are clear.
____	e.	Open the MSIV(s).	
*____	f.	Open the SG FW ISOL valve(s): 1-FW-4516-MOV 1-FW-4517-MOV	
*____	g.	Start a COND BSTR PP.	

TIME STOP _____

TERMINATING CUE:	This JPM is complete when a COND BSTR PP is started and SGIS is reset. No further actions are required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-1 (BANK)

TASK: Restore Main Feedwater

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrail safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. A total loss of all feedwater has occurred on Unit 1.

   b. The reactor is tripped and EOP-0 is complete.

   c. The CRS directed the RCPs be secured and a cooldown started prior to the EOP-3 brief.

   d. You are performing the duties of the Unit 1 CRO.

3. Initiating Cue: The CRS directs you to establish natural circulation and cooldown the RCS per EOP-3, Step IV.G. Are there any questions? You may begin.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED)

TASK: Verify Validity of CIS Actuation

PURPOSE: Evaluates an Operator's Ability to Determine the Validity of a CIS Actuation

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED 3)

ELEMENT (* = CRITICAL STEP) STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for the Engineered Safety Features Actuation System.

EVALUATION LOCATION:

_____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
10 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

Alarm Manual 1C08, G-06

TASK STANDARDS:

This JPM is complete when the reactor coolant pumps have been tripped and the report made to the CRS.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED 3)

ELEMENT (* = CRITICAL STEP)	STANDARD

Simulator Setup

a. Reset simulator to IC-13, 100% power

b. Initiate malfunction ESFA009_01 and freeze simulator.

c. If performing JPMs in parallel, turn annunciator audible alarms off.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED 3)

ELEMENT (* = CRITICAL STEP)			STANDARD
TIME START _____			
____		Locate and reference Alarm Manual for 1C08, G-06.	Same as element.
____	1.	**PERFORM** the following:	
*____	a.	**DETERMINE** the validity of the CIS by observing alternate channels of indication for the same parameter.	Checks pressure indications for pressure > 2.8 psig on 1C09. Determines that CIS actuation is NOT valid. Determines only Channel A actuated.
____	b.	**IF** the CIS is valid,	Detemines step is N/A
____	c.	**IF** the CIS is invalid **THEN MONITOR** the RCPs Controlled Bleed-off and bearing temperatures while performing the following:	Checks temperatures on 1C06 and the plant computer.
____		(1) **IF** the RCP Controlled Bleed-off temperature(s) exceed 200°F or bearing temperature(s) exceed 195°F, **THEN**:	Determines Controlled Bleed Off temperature(s) are NOT exceeding 200°F or bearing temperature(s) are exceeding 195°F.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED 3)

ELEMENT (* = CRITICAL STEP)			STANDARD
CUE: When candidate recommends resetting CIS, CRS concurs and orders CIS reset.			
_____	(2)	With Shift Manager or Control Room Supervisor approval, **RESET** the CIS, using Attachment 4 of EOPs as guidance, and **RETURN** components to their normal status.	Places 1-HS-3832 & 1-HS-2080 in SHUT per Attachment 4 of EOPs and reports handswitches are matched per the attachment. Depresses Channel A CIS reset pushbutton on 1C10 and notes that ACTUATION SYS CIS TRIP alarm on CO8 does NOT clear. Notifies CRS and recommends tripping the reactor.
CUE: CRS concurs and orders a reactor trip.			

NOTE: **The following steps are from EOP-0 Reactivity Safety Function.**

*_____	(a)	**TRIP** the reactor.	
EOP-0			
	A.	VERIFY THE REACTIVITY CONTROL SAFETY FUNCTION IS SATISFIED.	Pushes Reactor Trip pushbuttons on 1C05.
_____	1.	Depress ONE set of Manual REACTOR TRIP buttons.	Pushes Reactor Trip pushbuttons on 1C05.
_____	2.	Check the Reactor has tripped by the following:	Checks power indications decreasing on 1C05.
		· Prompt drop in NI power · Negative SUR	Checks SUR indications negative on 1C05.
_____	3.	Check that **NO** more than ONE CEA is **NOT** fully inserted.	Check CEA indications on the CEA mimic or on CEAPDS determines all CEAs are inserted.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED 3)

ELEMENT (* = CRITICAL STEP)		STANDARD
	4. Verify demineralized water makeup to the RCS is secured as follows:	
_____	• 11 and 12 RC M/U PPs are secured.	
_____	• VCT M/U valve, 1-CVC-512-CV, is shut.	
_____	• **IF** RCS Makeup is in Direct Lineup, **THEN** the RWT CHG PP SUCT, 1-CVC-504-MOV, is shut.	Determines RCS makeup is not in the direct lineup.. Reports "Reactivity Complete" to the CRS

CUE: If candidate continues to the Pressure and Inventory Safety Function, direct them to respond to the CIS.

ALARM MANUAL 1C08 G-06 1.C.(1).(c)

*____	(1) Secure the affected RCP(s).	Reports all RCPs tripped to CRS.

TIME STOP _____

TERMINATING CUE: This JPM is complete when the trip of all RCPs is reported to the CRS.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-5 (MODIFIED 3)

TASK: Verify Validity of CIS Actuation

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 1 is in Mode 1 at 100% power.

   b. Annunciator 1C08 G-06 "Actuation Sys CIS Tripped" is in alarm window G-06 is in alarm.

   c. You are performing the duties of the Unit 1 RO and CRO.

3. Initiating Cue: The CRS directs you to respond to the alarm. Are there any questions? You may begin.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-3G (UPGRADE)

TASK: Verify Validity of CIS Actuation

PURPOSE: Evaluates an Operator's Ability to Determine the Validity of a CIS Actuation

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-3G (UPGRADE)

TASK: Verify Validity of CIS Actuation

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for the Engineered Safety Features Actuation System.

EVALUATION LOCATION:

_____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
10 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

Alarm Manual 1C08, G-06

TASK STANDARDS:

This JPM is complete when CIS has been reset, Instrument Air and Component Cooling have been restored to Containment.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-3G (UPGRADE)

TASK: Verify Validity of CIS Actuation

Simulator Setup

a. Reset simulator to IC-13, 100% power

b. Initiate malfunctions ESFA009_01 and then delete the malfunction after components reposition.

c. Place simulator in "freeze".

d. **IF** contacted to reset CIS from ESFAS, acknowledge request, but do **NOT** reset CIS.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-3G (UPGRADE)

ELEMENT (* = CRITICAL STEP)			STANDARD
TIME START____			
____		Locate and reference Alarm Manual for 1C08, G-06.	Same as element.
____	1.	**PERFORM** the following:	
*____	a.	**DETERMINE** the validity of the CIS by observing alternate channels of indication for the same parameter.	Checks pressure indications for pressure > 2.8 psig on 1C09. Determines that CIS actuation is not valid.
____	b.	**IF** the CIS is valid,	No action taken - CIS invalid.
____	c.	**IF** the CIS is invalid **THEN MONITOR** the RCPs Controlled Bleed-off and bearing temperatures while performing the following:	Checks temperatures on 1C06 and the plant computer.
____		(1) **IF** the RCP Controlled Bleed-off temperature(s) exceed 200°F or bearing temperature(s) exceed 195°F, **THEN**:	Determines that Controlled Bleed Off temperature(s) are NOT exceeding 200°F AND bearing temperature(s) are NOT exceeding 195°F.
____	d.	Informs CRS that CIS is invalid, requests resetting CIS.	
*____	e.	Reset CIS using Attachment for of EOP's as guidance.	Places 1-HS-3832 & 1-HS-2080 in SHUT per Attachment 4 of EOPs and reports handswitches are matched per the attachment. Depresses Channel A CIS reset pushbutton on 1C10 and verifies ACTUATION SYS CIS TRIP alarm on CO8 clears.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-3G (UPGRADE)

ELEMENT (* = CRITICAL STEP)	STANDARD
*_____ f. Return components to their normal status.	Places 1-HS-2080 and 1-HS 3832 in OPEN and verifies each valve opens. Verifies RCP temperatures are lowering.

TIME STOP _____

TERMINATING CUE:	This JPM is complete when Component Cooling and Instrument Air are restored to Containment. No further actions are required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AM-1C08-3G (UPGRADE)

TASK: Verify Validity of CIS Actuation

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 1 is in Mode 1 at 100% power.

   b. Annunciator 1C08 G-06 "Actuation Sys CIS Tripped" in alarm.

   c. You are performing the duties of the Unit 1 RO and CRO.

3. Initiating Cue: The CRS directs you to respond to the alarm per the Alarm Manual for 1C08. Do you have any questions? You may begin.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

B.1.d

TASK: Verify RMS Operability for a Waste Gas Release

(SB.1.b)

PURPOSE: Evaluates an Operator's ability to align the Waste Gas System for a release per OI-17B

JOB PERFORMANCE MEASURE

CALVERT CLIFFS NUCLEAR POWER PLANT

LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

ELEMENT (* = CRITICAL STEP) | STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the Initial License class classroom and simulator training.

EVALUATION LOCATION:

____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
15 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

OI-17B

TASK STANDARDS:

This JPM is complete it has been determined what actions are required to perform a Waste Gas release with 0-RI-2191 inoperable.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD

1. **Simulator Setup**

   a. IC-any

   b. Enter Overrides

      1. Override 0-RI-2191 indication to 3.99, place arrow on indicator.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

ELEMENT (* = CRITICAL STEP)		STANDARD
	TIME START _____	
____	Locate OI-17B Section 6.4.B Step 12	Without error
____	12. **OPEN** the WF DISCH ISOL valves using 0-HS-2191 **AND** 0-HS-2192 (1C33): • 0-WGS-2191-CV • 0-WGS-2191-CV	Same as element
____	13. **IF** a rise in flow rate is indicated on 0-FI-2192 **OR** 0-FI-2193 (1C63) **THEN**...	Directs PO to monitor flow. When report received on zero flow, determines step is N/A
CUE: **IF** ABO contacted, no flow is indicated on O-FI-2193.		
____	14. **IF** the Gaseous Waste Dishcarge Radiation Monitor 0-RI-2191 is out of service, **THEN**...	Checks 1-RI-2191 in service and determines step is N/A
	15. **PERFORM** an RMS operability check on 0-RI 2191 by performing the following:	
*____	a. **POSITION** the Operator Selector Switch to CHECK SOURCE.	Places switch to CHECKSOURCE
	b. **CHECK** channel response as follows:	
*____	(1) **ENSURE** a positive meter deflection above background on the radio gas channels. **[B0060]**	Determines no meter deflection occurred

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
*____	(2)	**IF** a qualitative assessment of channel response can **NOT** be determined, **THEN CONSIDER** the monitor out of service.	Considers the monitor out of service.

Note to Examiner: ***Steps 15.c,d and e are not required to be performed if the RMS is declared inoperable.***

16. **IF** the Gaseous Waste Discharge Radiation Monitor, 0-RI-2191 fails any part of its operability check in Step 15 **OR** is declared out of service in Step 14, **THEN COMPLETE** the following:

*____	a.	**CONSIDER** 0-RI-2191 out of service.	Same as element
____	b.	**ENSURE** the Gaseous Waste Discharge Radiation Instrument Operate Selector Switch, 0-HS-2190 in the LEVEL CAL position.	Places Operate Selector Switch in LEVEL CAL
*____	c.	**REFER** to OI-35, Section titled RADIATION MONITOR INOPERABILITY for alternate monitoring requirements.	Locates OI-35 Section 6.12
*____ 1.		**WHEN** radiation monitoring equipment, required to be operable by Technical Specifications, TRM, ODCM or associated with primary to secondary leak detection, is declared out of service **OR** is to be taken out of service for maintenance or testing, **THEN PERFORM** the following:	

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
*____	a.	**CHECK** Table (1) for applicability.	Determines ODCM requirement 3.3.3.9 Action 35 is required.
____	b.	**CHECK** Technical Specifications for applicability.	Determines no Technical Specifications apply
____	c.	**CHECK** TRM for applicability.	Determines no Technical Requirements apply
*____	d.	**CHECK** ODCM for applicability.	Checks ODCM Section 3.3.3.9 page 16
ODCM			
*____	(1)	Refers to Table 3.3.12	Locates table and determines Action 35 is applicable
*____	(2)	Locates Action 35	Notifies CRS or Shift Manager that discharge may continue if requirements of Action 35 are met.

TERMINATING CUE:	This JPM is complete when the trainee states that the Waste Gas release can continue as long as Action 35 is completed. No further actions are required.

TIME STOP _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-17B-1 (NEW)

TASK: Verify the operability for a Waste Gas release

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. A Waste Gas discharge permit has been approved for releasing a WGDT.

   b. You are performing the duties of a Unit 1 CRO.

3. Initiating Cue: 13 WGDT is being aligned for discharge per OI-17B Section 6.4. Steps 6.4.B, 1 through 11 are complete. Begin on Step 12. Are there any questions? You may begin.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

TASK: Restart RCPs

PURPOSE: Evaluates an Operator's Ability to Restart RCPs

IC-36

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

TASK: Restart RCPs

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the Initial License class classroom and simulator training.

EVALUATION LOCATION:

____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
15 MINUTES	____ MINUTES	NO

TASK LEVEL:

LEVEL 1 PERFORM

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

AOP-3E

TASK STANDARDS:

This JPM is complete when the second RCP is started.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

TASK: Restart RCPs

Simulator Setup

a. IC-11

b. Cool down to approximately 520°F Tc.

c. Place TBV controller in Auto with a setpoint of 810#

d. Trip feeder breaker 252-1201, place in PTL and place ADV controller in manual.

e. Run until CET temperatures stabilize at less than 525 degrees F.

f. Freeze simulator.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD
TIME START ____	
____Locate AOP-3E Section IV Step I.7	Same as element
____ 7. **IF** RCS temperature is between 525°F and 368°F, **THEN** verify that **ALL** of the following RCP restart criteria are met:	Monitors Tc, 1C05 or 1C06
• Verify electrical power is available to the RCPs	Checks Pwr available light lit on U-2 RCP bus mimic, 1C19
• RCP BUS • MCC-115 (ALL RCPs) • MCC-105 (11A/11B RCP)	
CUE: MCCs 115 and 105 are energized.	
• 12/22 SERV BUS VOLTS is less than 14.8 KV	Check bus voltage, 1C19
• 4 KV bus voltage is greater than 4100 volts	Check U-2 4kv bus voltages,2C17 & 2C18
• RCP CBO temperatures are less than 200°F.	Checks Groups 7 or 8 or Group 9 on Plant computer
• RCS subcooling is greater than 30°F based on CET temperatures	Check CET SCM, T1-133 & 134, 1C05
• At least ONE S/G available for heat removal	
• S/G level greater than (-)170 inches	Check S/G NR or WR level on 1C03 or1C04
• capable if being supplied with feedwater	Check SGFP operating and feeding S/G
• capable of being steamed	Check ADVs or TBVs available

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
		• PZR level is greater than 155 inches and **NOT** lowering	Check Pzr lvl on LI-110X or 110Y, 1C06
		• Tcold is less than 525°F	Check Tc on TI-124, 1C05
		• RCS temperature and pressure are greater than the minimum operating limits **PER** Attachment (1), RCP PRESSURE / TEMPERATURE LIMITS of the EOP ATTACHMENTS.	Refers to EOP Attach(1) and determines RCS parameters are greater than minimum RCP operating limits.
	8.	**WHEN** RCP restart is desired, **AND** RCP restart criteria are met, **THEN** start one RCP in a loop with a SG available for heat removal as follows:	
____		a. On 1C07, verify that the RCP BLEED-OFF ISOL valves are open: • 1-CVC-505-CV • 1-CVC-506-CV	
____		b. Verify that the "CCW FLOW LO" alarm is clear.	Checks RCP status panel alarms clear, for RCP to be started.
*____		c. Start the associated Oil Lift Pump.	
____		d. Verify that the "OIL LIFT PP PRESS LO" alarm is clear.	Checks RCP status panel alarms clear, for RCP to be started.
____		e. Operate the Oil Lift Pump for at least 60 seconds before starting the RCP.	Same as element
*____		f. Insert the RCP sync stick.	Places sync stick in 252-11P02 or 252-13P02
____		g. On panel 1C19, verify that the synchroscope is **NOT** rotating.	Same as element

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
*____	h.	Start the RCP.	
____	i.	Verify that the RCP is **NOT** cavitating by observing that running current is steady.	Monitors motor ammeter for stable current
____ 9.		Operate Charging and Letdown to restore and maintain PZR level between 101 and 180 inches.	Monitor Pzr Level on LI-110X or 110Y, 1C06
____ 10.		Monitor RCP seal parameters following pump restart.	Monitors RCP parameters on PC and 1C06
____ 11.		Allow backflow to equalize temperatures in the opposite loop.	Monitors RCS temperatures, 1C06, until they are stable
12.		Start a second RCP in the same loop by performing the following actions:	
*____	a.	Ensure RCP NPSH requirements are maintained **PER** ATTACHMENT (1), RCP PRESSURE / TEMPERATURE LIMITS of the EOP ATTACHMENTS.	Refers to EOP Attach(1) and determines RCS parameters are greater than minimum RCP operating limits.
*____	b.	Start an RCP **PER** Step I.8 Page 22.	Returns to Step I.8, uses sync jack in breaker 252-13P02 or 252-11P02

TERMINATING CUE:	This JPM is complete when the second RCP is started. No further actions are required.

TIME STOP _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-3E-1 (NEW)

TASK: Restart RCPs

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 1 was shutdown for short maintenance outage.

   b. The Unit was expected to be maintained in Mode 3 per OP-4.

   c. A short time ago the RCP feeder breaker 152-1201 tripped.

   d. AOP-3E has been implemented.

   e. The cause of the tripped breaker has been determined. There is no common mode failure and the breaker is being repaired.

   f. You are performing the duties of the Unit 1 RO.

3. Initiating Cue: The CRS has directed you to start Reactor Coolant Pumps from Unit 2 power supply per AOP-3E Section IV Step I.7. Are there any questions? You may begin.

B.1.f

IC-35

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-30-1

TASK: Nulling NI Pots to Delta T Pots

PURPOSE: Evaluates an Operator's Ability to Null NI Pots to Delta T Pots

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-30-1

TASK: Nulling NI Pots to Delta T Pots

PERFORMER'S NAME: _____

APPLICABILITY:

SRO.RO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for the Engineered Safety Feature Actuation System.

EVALUATION LOCATION:

__X__ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
10 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

OP-2 Rev 39
OI-30 Rev 22

TASK STANDARDS:

This JPM is complete when the candidate has nulled the Channel A NI Pot to the Delta T Pot and cleared the Nuclear Delta T CH Deviation alarm.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-30-1

TASK: Nulling NI Pots to Delta T Pots

Simulator Setup:

1. IC-20 (11% power)
2. Adjust NI power pots:

   A 9.45 - 8.4%
   B 9.25 - 8.5%
   C 9.10 - 8.5%
   D 9.03 - 8.5%

3. Verify NI-Delta-T power alarm on 1C05 caused by CH A only
4. Borate CEAs out as required to clear primary PDIL and PPDIL alarms when pots are adjusted.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-30-1

ELEMENT (* = CRITICAL STEP)		STANDARD
TIME START____		
____ 1.	Identify and locate OP-2 Step 6.9.F	Same as element.
____ 2.	**WHEN** Reactor power is between 10 and 12%, **THEN** NULL the NI pot for each channel that NI power is reading less than Delta-T power **PER** OI-30, section titled, NULLING NI POTS TO DELTA T POTS. **[B0412]**	Determines step is applicable. Refers to OI-30 Step 6.9

OI-30 Step 6.9.B

CAUTION: Adjustment of an Excore NI Power Range Safety Channel renders the channel inoperable AND requires entry into Technical Specification Action Statement 3.3.1.

1.	**NULL** the NI pot for each channel that NI power is reading less than Delta-T power, by performing Steps a. through i. For a specific channel.		Determines Channel A is causing the NI-DeltaT alarm
____	a.	**BYPASS** the following RPS trips for the channel to be adjusted:	Inserts and rotates keys, checks bypass lights on

TRIP UNIT	BYPASS KEY
HI POWER	1
HI RATE	2
TM/LO PRES	7
LOSS LOAS	8
AXIAL PWR	10

____	b.	**INDEPENDENTLY CHECK** that RPS Trip Units 1,2,7,8 & 10 are bypassed.	Requests a peer check

CUE:	Peer check is complete.

*____	c.	**PLACE the DVM METER INPUT switch in NUCLEAR PWR.**	Same as element

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-30-1

ELEMENT (* = CRITICAL STEP)			STANDARD
*____	d.	**UNLOCK AND** slowly **ADJUST** the NUCLEAR PWR CALIBRATE potentiometer (FIGURE 1 – Item D) to zero the NUCLEAR POWER DELTA-T POWER deviation meter.	Adjusts NI cal pot and verifies Nuclear Power Delta T power is zero.
____	e.	**LOCK** the locking device on the NUCLEAR PWR CALIBRATE potentiometer.	Lowers locking lever on Pot
*____	f.	**REMOVE** the Trip Bypass Keys from RPS Trip Units 1,2,7,8& 10.	Rotates and removes Keys, verifies Bypass lights are off
____	g.	INDEPENDENTLY **CHECK** that Trip Bypass Keys are removed from Trip Units 1,2,7,8 & 10.	Requests a peer check

CUE:	Peer check is complete.

TIME STOP _____

TERMINATING CUE:	This JPM is complete when Channel A has been nulled and it is determined no other channels require being nulled. No further actions are required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-30-1

TASK: Nulling NI Pots to Delta-T pots.

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 1 startup is in progress with the following conditions:

      - Power is approximately 11% and holding.

      - Nuclear Delta-T CH Deviation alarm is annuciated.

      - You are performing the duties of the U-1 CRO.

3. Initiating Cue: The CRS directs you address the Nuclear Delta-T CH Deviation alarm per OP-2 step 6.9.F.2. Are there any questions? You may begin.

B.1.g

IC-35

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

TASK: Feed and Bleed Operation to Cool the Quench Tank

PURPOSE: Evaluates an Operator's Ability to Restore Quench Tank Parameters

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

TASK: Feed and bleed to cool the Quench Tank

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the Initial License class EOP-0 classroom and simulator training.

EVALUATION LOCATION:

____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
10 MINUTES	____ MINUTES	NO

TASK LEVEL:

LEVEL 1 PERFORM

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

EOP-0

TASK STANDARDS:

This JPM is complete when Quench Tank parameters have been restored to their normal operating band.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

TASK: Feed and bleed to cool the Quench Tank

1 **Simulator Setup**

a. Any IC

b. Insert malfunction RCS027_01 at 20% until Quench Tank level and pressure come into alarm (~5 seconds @ 100% power), then delete malfunction.

c. Feed and bleed quench tank until temperature is 119°F, level is 31", pressure is 10 psig (all in alarm)

d. Pump RCDT, then freeze.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
TIME START_____			
Locate Alarm Manual 1-C06, Window E-01			
	1.	Perform the following:	
*_____	a.	**SHUT** any open valves listed under leaking or open Possible Causes.	Verifies all valves are shut
_____	b.	**IF** a PORV is leaking or open and fails to shut when RCS pressure is reduced below its lift setpoint, **THEN**...	Determines step is N/A.
*_____	c.	**RETURN** parameter to within normal limits by venting, filling, draining or feed and bleed as necessary **PER** OI-1B, Quench Tank Operations.	Locates OI-1B, determines 6.8 is the correct section.
_____	d.	**REFER** to Technical Specifications 3.4.11 and 3.4.12 for PORV operability requirements.	Determines step is N/A

CUE: Initial conditions are met, begin at Step 6.8.B.

NOTE: **Steps 6.8.B.1 and 6.8.B.2 may be performed in any order to minimize the amount of liquid or gaseous waste.**

CAUTION:

- **Do NOT attempt to adjust the Quench Tank parameters until after the relief or safety valve has completed lifting.**
- **The Sparger Nozzles will be uncovered at approximately 24 inches indicated level and the Quench Tank may experience a rapid increase in pressure if this occurs. The amount of time the Sparger Nozzles will be uncovered should be minimized.**

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
CUE: 1-SI-446-RV, 1-RCW-4252-RV, O-N2-238, 1-PS-6531-CV are shut and not leaking.			
	1.	**DRAIN** the quench tank as follows:	
Note to Evaluator:		***Pumping RCDT should not be necessary. If Trainee references this step, tell them it can be done after completion of Quench Tank operations.***	
____	a.	**PUMP** the RCDT PER OI-17C as necessary while draining the Quench Tank to maintain RCDT level below the Hi level alarm setpoint (45 inches)	None
*____	b.	**OPEN** QUENCH TK DRN, RC-401-CV.	{3}
NOTE:		**Draining the Quench Tank below the low level alarm is acceptable during the bleed and feed due to the tank being refilled immediately.**	
____	d.	**DRAIN** the Quench Tank to the desired level but not less than 15 inches.	Same as element
*____	e.	**SHUT** QUENCH TK DRN, RC-401-CV.	Prior to level lowering <15'
	2.	**FILL** the Quench Tank as follows:	
*____	a.	**OPEN** DI-WTR CNTMT ISOL, DW-5460-CV.	{3}
*____	b.	**FILL** the Quench Tank to the desired level but **NOT** greater than 35 inches.	Same as element
*____	c.	**SHUT** DI WTR CNTMT ISOL, DW-5460-CV.	{3}

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

ELEMENT (* = CRITICAL STEP)		STANDARD
3.	**REPEAT** Steps 6.8.B.1 and 6.8.B.2 until Quench Tank temperature is less than 120°F **AND** the Quench Tank high temperature alarm is clear.	Determines repeat of steps is not necessary.
4.	**FILL OR DRAIN** the Quench Tank to approximately 28.5 inches (between the high and low level alarm).	Verifies level approximately 28.5".

TERMINATING CUE:	This JPM is complete when all alarms are clear, the DI and the quench tank drain valves are closed. No further actions are required.

TIME STOP _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-1B-5 (NEW)

TASK: Feed and bleed to cool the Quench Tank

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. The Quench Tank is in alarm with the following parameters:
      - Pressure is 10.0 psig
      - Temperature is 119°F
      - Level is 31"

   b. You are performing the duties of the Unit 1 CRO.

3. Initiating Cue: Respond to the Quench Tank alarm. Are there any questions? You may begin.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

TASK: Starting an Alternate Purge of Containment

PURPOSE: Evaluates an Operator's ability to operate Containment purge hand switches locally.

JOB PERFORMANCE MEASURE

CALVERT CLIFFS NUCLEAR POWER PLANT

LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

ABO

PREREQUISITES:

Completion of the Initial License classroom and simulator training.

EVALUATION LOCATION:

___x__ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE __x___ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
15 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

OI-36

TASK STANDARDS:

This JPM is complete when key switches on breakers 52-20231 and 52-20311 are in TEST/ALT PURGE.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD

CUE: Initial conditions are met, begin at Step 6.7.B.1.

____ Locate OI-36 Section 6.7, Step B.1 — Without error

NOTE:

- **All steps in this subsection apply only to controls and equipment on the unit to be vented.**
- **The key will be captured in the Test/Alt Purge position.**
- **The Purge Supp Fan Test/Alt Purge handswitch is located on breaker 52-10231 (52-20231).**

*____ 1. **PLACE** Purge Supp Fan TEST/ALT PURGE handswitch, 1(2)-HS-5290A, in TEST/ALT PURGE. — Simulates inserting key, places 2-HS-5290A in TEST/ALT PURGE.

NOTE:

- **The key will be captured in the Test/Alt Purge position.**
- **The Purge Exh Fan Test/Alt Purge handswitch is located on breaker 52-10311 (52-20311).**

*____ 2. **PLACE** Purge Exh Fan TEST/ALT PURGE handswitch, 1(2)-HS-5289A, in TEST/ALT PURGE. — Simulates inserting key, places 2-HS-5289A in TEST/ALT PURGE.

TIME STOP ____

TERMINATING CUE: This JPM is complete when the CRO is informed that HS-5289A and 5290A are in TEST/ALT PURGE. No further actions required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

TASK: Starting an Alternate Purge of Containment

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 2 is in a refueling outage.

   b. An approved Containment purge permit is held by the CRO.

   c. You have been given the required keys.

   d. You are performing the duties of Unit 2 ABO.

3. Initiating Cue: You are directed by the CRO to perform OI-36 Section 6.7, Steps B.1 and B.2. Are there any questions? You may begin.

B.2.9

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

TASK: Starting an Alternate Purge of Containment

PURPOSE: Evaluates an Operator's ability to operate Containment purge hand switches locally.

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

ELEMENT (* = CRITICAL STEP) STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

ABO

PREREQUISITES:

Completion of the Initial License classroom and simulator training.

EVALUATION LOCATION:

___x__ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE __x___ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
15 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

None

REFERENCE PROCEDURE(S):

OI-36

TASK STANDARDS:

This JPM is complete when key switches on breakers 52-20231 and 52-20311 are in TEST/ALT PURGE.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD
CUE: Initial conditions are met, begin at Step 6.7.B.1.	
____ Locate OI-36 Section 6.7, Step B.1	Without error
NOTE: • **All steps in this subsection apply only to controls and equipment on the unit to be vented.** • **The key will be captured in the Test/Alt Purge position.** • **The Purge Supp Fan Test/Alt Purge handswitch is located on breaker 52-10231 (52-20231).**	
*____ 1. **PLACE** Purge Supp Fan TEST/ALT PURGE handswitch, 1(2)-HS-5290A, in TEST/ALT PURGE.	Simulates inserting key, places 2-HS-5290A in TEST/ALT PURGE.
NOTE: • **The key will be captured in the Test/Alt Purge position.** • **The Purge Exh Fan Test/Alt Purge handswitch is located on breaker 52-10311 (52-20311).**	
*____ 2. **PLACE** Purge Exh Fan TEST/ALT PURGE handswitch, 1(2)-HS-5289A, in TEST/ALT PURGE.	Simulates inserting key, places 2-HS-5289A in TEST/ALT PURGE.
TIME STOP _____	
TERMINATING CUE:	This JPM is complete when the CRO is informed that HS-5289A and 5290A are in TEST/ALT PURGE. No further actions required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE OI-36-1 (NEW)

TASK: Starting an Alternate Purge of Containment

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 2 is in a refueling outage.

   b. An approved Containment purge permit is held by the CRO.

   c. You have been given the required keys.

   d. You are performing the duties of Unit 2 ABO.

3. Initiating Cue: You are directed by the CRO to perform OI-36 Section 6.7, Steps B.1 and B.2. Are there any questions? You may begin.

6.7 STARTING AN ALTERNATE PURGE OF CONTAINMENT

A. Initial Conditions

1. RCS temperature is less than 200° F on the unit to be purged.
2. Section 6.1 has been completed for the unit to be purged.
3. One Main Exhaust Fan is in operation on the unit to be purged.
4. Main Vent Gaseous Radiation Monitor RI-5415 is in operation on the unit to be purged, **OR** appropriate compensatory action has been taken **PER** ODCM Controls 3.3.3.9.
5. An approved Gaseous Waste Release Permit for containment purge has been received from Chemistry.
6. Radiation Safety Supervision has been notified of pending containment purge.
7. **IF** performing core alterations **OR** movement of irradiated fuel assemblies within the containment,
   THEN all four channels of Containment Area Radiation Monitors RI-5316A, B, C, and D are operable on the unit to be purged. (Tech Spec 3.3.7)

NOTE

If Containment pressure is greater than 0.30 PSIG or less than (-)0.30 PSIG, then the H_2 Purge system must be used.

8. Containment pressure is no less than (-)0.30 PSIG and no greater than 0.30 PSIG on the unit to be purged. **[B0200]**
9. Containment Radiation Monitoring System Sample Pumps are secured. (OI-35)
10. Keys for the Purge Supp & Exh Fans Test/Alt Purge handswitches have been obtained.

B. Procedure

NOTE

- All steps in this subsection apply only to controls and equipment on the unit to be vented.
- The key will be captured in the Test/Alt Purge position.
- The Purge Supp Fan Test/Alt Purge handswitch is located on breaker 52-10231 (52-20231).

1. **PLACE** Purge Supp Fan TEST/ALT PURGE handswitch, 1(2)-HS-5290A, in TEST/ALT PURGE.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-7H-2 (NEW)

TASK: Monitor CEA Position

PURPOSE: Evaluates an Operator's Ability to Verify CEA Position by Alternate Methods

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-7H-2 (NEW)

ELEMENT (* = CRITICAL STEP) — STANDARD

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for Nuclear Engineering Operating Procedures.

EVALUATION LOCATION:

_____ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
15 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

AOP-7H Attachment 7

REFERENCE PROCEDURE(S):

AOP-7H

TASK STANDARDS:

This JPM is complete when "full out" position indication is selected as the operable position indication system to replace pulse counting.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-7H-2 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
TIME START_____			
____		Identify and locate AOP-7H Section IV.H.1.b.	Same as element.
CUE: Hand candidate filled out Attachment 7, explain using "part length" pulse counter readings for Group 5 CEAs as indicated. Secondary position indication is 132.5 for each CEA listed.			
	1.b	Perform verification of the two position indications at least once per 4 hours to comply with TRM TVR 15.1.4.1:	Same as element
ATTACHMENT (7)			
	1.	Record the following…	N/A, data given
CUE: Provide blank copy of Computer Outage Log page for Coil Power Programmer.			
*_____	2.	Once every four hours compare the Pulse Counter Readings on this attachment to ensure NO CEAs have moved.	Take Pulse Counter Readings, in CSR, and compares readings to Attachment (7) readings.
*_____	3.	IF any CEAs have moved, THEN discontinue using this method of CEA position monitoring.	Determines CEAs have moved and discontinues method. Refers to AOP-7H Section IV.H.
AOP-7H Alternate Action			
*_____	1.1	IF two means of CEA position indication are NOT established, THEN refer to TRM 15.1.4 for applicable actions.	Refers to TRM 15.1.4.
TRM Normal Condition			Reviews TRM and determines a Non-Conformance condition exists

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-7H-2 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD
Non-Conformance N/A	
B. One or more CEA(s) per group having its CEA pulse counting position indicator channel inoperable and either the "Full Out" or "Full In" reed switch position indicator or the voltage divider reed switch position indicator channel inoperable.	Determines that CEAs shall be fully withdrawn or non-conformance condition B applied.
TIME STOP _____	

TERMINATING CUE:	This JPM is complete when it is determined that the CEAs should be fully withdrawn to comply with the TRM. No further actions are required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE AOP-7H-2 (NEW)

TASK: Monitor CEA Position

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRS.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. Unit 1 is at 100% power and has been operating at full power for seven weeks.

   b. The plant computer has "crashed" and is inoperable.

   c. You are performing the duties of the Unit-1 RO.

3. Initiating Cue: AOP-7H was implemented 4 hours ago. The CRS directs you to verify CEA position per Section IV.H.1.b, Attachment 7, Step 2, using CEA pulse counter readings. For the purpose of this JPM, use the part length (retired in place) pulse counters instead of the actual Group 5 pulse counters. Are there any questions? You may begin.

ATTACHMENT (7)
Page 1 of 6

CEA POSITION MONITORING USING PULSE COUNTERS

1. Record the following information on the tables below to establish baseline data:
   - Pulse Counter Reading on the individual breakers in the Cable Spreading Room
   - **IF** Secondary CEA Position is available,
     THEN record it in the appropriate column
   - **IF** FULL OUT indication is used,
     THEN place the letters FO in the FULL OUT/FULL IN column
   - **IF** FULL IN indication is used,
     THEN place the letters FI in the FULL OUT/FULL IN column
2. Once every four hours, compare the Pulse Counter readings recorded on the Computer Outage Logs with the Pulse Counter Readings on this attachment to ensure **NO** CEAs have moved.
3. **IF** any CEAs have moved,
   THEN discontinue using this method of CEA position monitoring.

(Unit 1) or 2 (Circle one)

(POWER SHAPING) SIMULATED REG GRP 5			
CEA	PULSE COUNTER READING	SECONDARY CEA POSITION	FULL OUT / FULL IN
10	0006461	132.5	N/A
11	0005906	132.5	↓
14	0006064	132.5	↓
15	0011582	132.5	↓

IV. LOSS OF PLANT COMPUTER

ACTIONS	ALTERNATE ACTIONS
H. VERIFY CEA POSITION.	
NOTE When the Plant Computer is out of service, the following CEA functions are lost: • Digital display on 1(2)C05 • Primary alarm functions • Computer printout • CEA group sequencing and overlap	
1. Establish at least two means of CEA position indication per TRM 15.1.4, CEA POSITION INDICATION. a. The following means may be used: • CEA Voltage Divider reed switch position indication • CEA "FULL OUT" or "FULL IN" reed switch position indication (only if the CEA is fully withdrawn or fully inserted) • CEA pulse counter readings **PER** ATTACHMENT (6), CEA POSITION MONITORING USING DAS **OR** ATTACHMENT (7), CEA POSITION MONITORING USING PULSE COUNTERS b. Perform verification of the two position indications at least once per 4 hours to comply with TRM TVR 15.1.4.1.	1.1 **IF** two means of CEA position indication are **NOT** established, **THEN** refer to TRM 15.1.4 for applicable actions.

BALTIMORE GAS & ELECTRIC COMPANY
CALVERT CLIFFS NUCLEAR POWER PLANT
LOSS OF PLANT COMPUTER LOGS (UNIT 1 CONTROL ROOM) LOGSHEET

From __/__/__ at __:__ To __/__/__ at __:__

AREA / POINTS	SPEC RANGE / NORMAL	MIN/MAX	UNITS	BASIS	08:00	14:00	20:00	02:00	
1C02									
BEARING OIL TEMPERATURE --- TI-2343	110-120		°F	U1CR-64					
SEAL STEAM HEADER PRESSURE --- PI-4664	2-6		PSIG	U1CR-71					
1C07									
CHARGING FLOW--FIA-212	42-94		GPM						
VCT LEVEL--LIC-226	90-110		INCHES						
VCT PRESSURE--PIA-225	25-50		PSIG						
LETDOWN HX OUTLET TEMPERATURE--TIC-224	100-120		°F						
LETDOWN FLOW--FIA-202	29-128		GPM						
11 BAST LEVEL--LIA-206	110-136		INCHES						
12 BAST LEVEL--LIA-208	110-136		INCHES						
UNIT 1 COIL POWER PROGRAMMER - SEE NOTE #1									
CEA #10 PULSE COUNTER READING -10CEAPULS			NUMERIC						
CEA #11 PULSE COUNTER READING -11CEAPULS			NUMERIC						
CEA #14 PULSE COUNTER READING -14CEAPULS			NUMERIC						
CEA #15 PULSE COUNTER READING -15CEAPULS			NUMERIC						

LOSS OF PLANT COMPUTER LOGS (UNIT 1 CONTROL ROOM) LOGSHEET
NOTES & COMMENTS PAGE
From __/__/__ at __:__ To __/__/__ at __:__

NOTES:

1. Record CEA Pulse Counter readings after initial Loss of the Plant Computer and following all subsequent CEA movements. CEA Position is determined by multiplying the difference in counter readings by .75 inches.
2. Attach Computer Outage Logs with the Daily Operating Logs fo r retention in Plant History.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-9 (NEW)

TASK: Operate AFW

PURPOSE: Evaluates an Operator's Ability to Operate the AFW Pumps locally per EOP-3.

JOB PERFORMANCE MEASURE
CALVERT CLIFFS NUCLEAR POWER PLANT
LICENSED OPERATOR TRAINING

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-9 (NEW)

TASK: Operate AFW

PERFORMER'S NAME: _____

APPLICABILITY:

RO and SRO

PREREQUISITES:

Completion of the knowledge requirement of the Initial License class training program for Auxiliary Feedwater (AFW) and AFAS.

EVALUATION LOCATION:

_X_ PLANT _____ SIMULATOR _____ CONTROL ROOM

EVALUATION METHOD:

_____ ACTUAL PERFORMANCE _____ DEMONSTRATE PERFORMANCE

ESTIMATED TIME TO COMPLETE JPM:	ACTUAL TIME TO COMPLETE JPM:	TIME CRITICAL TASK:
10 MINUTES	____ MINUTES	NO

TASK LEVEL:

TRAIN

TOOLS AND EQUIPMENT:

Working copy of EOP-3

REFERENCE PROCEDURE(S):

EOP-3

TASK STANDARDS:

This JPM is complete when 11 AFW pump discharge pressure is adjusted to 100 psig greater then S/G pressure.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-9 (NEW)

ELEMENT (* = CRITICAL STEP)	STANDARD
TIME START____	
____ Locate EOP-3, Section IV, Step H.4.b.1	Same as element
____ b1. Start 11 or 12 AFW PP locally as follows:	
____ (1) Shut the S/G FLOW CONTR valves:	
• (11 S/G) 1-AFW-4511-CV • (12 S/G) 1-AFW-4512-CV	Calls control room to ensure 1-AFW-4511-CV & 1-AFW-4512 CV are shut.
CUE: 1-AFW-4511 and 1-AFW-4512-CVs are shut.	
*____ (2) Turn the turbine governor control knob counterclockwise to the minimum position	Same as element
____ (3) Isolate the Instrument Air to the Turbine Governor controller(s) by shutting the following valves:	
11 AFW PP	
*____ • 1-AFW-3987A I/P ISOL, 1-IA-24 • 1-AFW-3987B I/P ISOL, 1-IA-23	
*____ (4) Open the air filter drains on controllers to allow local control.	Opens the filter drain for 11 AFW pump controller
____ (5) Verify open 11 and 12 AFW PP Main Steam Supply Valves:	
• 1-MS-109 • 1-MS-107	Verifies 1-MS-109 is open
____ (6) Verify open 11 **OR** 12 THROTTLE/STOP valve:	
• 1-MS-3986 • 1-MS-3988	Verifies 1-MS-3986 is open
*____ (7) Open the AFW Steam Supply Bypass Valves:	Calls CRO or ABO to open 1-MS-102 and 1-MS-105

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-9 (NEW)

ELEMENT (* = CRITICAL STEP)			STANDARD
		• 1-MS-102 • 1-MS-105	
CUE: 1-MS-102 and 1-MS-105 are open.			
*____	(8)	Adjust and maintain the turbine driven discharge header pressure at least 100 PSI greater then S/G pressure using the local turbine governor control knob.	Adjusts governor and monitors discharge pressure and steam supply pressure. Contacts CRO and states AFW Pump is operating.
CUE: 11 AFW pump discharge pressure is 100 psig greater than Steam Generator pressure.			

TIME STOP: _____

TERMINATING CUE:	This JPM is complete 11 AFW pump is operating at 100 PSI greater than S/G pressure.. No further actions are required.

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE EOP-3-9 (NEW)

TASK: Operate AFW

Document below any instances of failure to comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

NOTES:

DID A NEAR MISS OCCUR DUE TO INAPPROPRIATE PERSONNEL ACTIONS/INACTIONS OR PROCEDURAL QUALITY? YES NO
(If yes, provide comments below)

COMMENTS:

_____

_____

The operator's performance was evaluated against the standards contained in this JPM and determined to be

SATISFACTORY UNSATISFACTORY

EVALUATOR'S SIGNATURE: _____ DATE: _____

CCNPP LICENSED OPERATOR

JOB PERFORMANCE MEASURE

DIRECTIONS TO TRAINEE:

1. To complete the task successfully, you must:

   - perform each critical element correctly. You must inform the evaluator of the indications you are monitoring. Where necessary, consider the evaluator to be the CRO.

   - comply with industrial safety practices, radiation safety practices and use of event free tools. **NOTE: Violation of safety procedures will result in failure of the JPM.**

2. Initial Conditions:

   a. A complete Loss of Feed has resulted in a plant trip and EOP-3 is being entered.

   b. 13 AFW pump has tripped and attempts to operate 11 and 12 AFW pumps from the Control Room have resulted in overspeed trips.

   c. 11 AFW pump overspeed trip has been reset.

   d. You are performing the duties of an extra CRO.

3. Initiating Cue: You have been instructed by the CRS to start 11 Auxiliary Feedwater pump locally per EOP-3, Section IV, Step H.4.b.1. Do you have any questions? You may begin.