JOB PERFORMANCE MEASURE Rev. 0, 08/20/03

TASK TITLE: Perform a REMOTE start of the Containment Chiller JPM No.: N-300

TPO No: K&A No.: 022A4.02 K&A IMP. 3.2 / 3.1

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__**X**___

MATERIALS:

BOP VP-1 RCFC REFRIGERATION UNIT AND CHILLED WATER SYSTEM STARTUP

BOP VP-2 RCFC REFRIGERATION UNIT AND CHILLED WATER SYSTEM SHUTDOWN

GENERAL REFERENCES:

1. BOP VP-1, RCFC REFRIGERATION UNIT AND CHILLED WATER SYSTEM STARTUP
2. BOP VP-2 RCFC REFRIGERATION UNIT AND CHILLED WATER SYSTEM SHUTDOWN

TASK STANDARDS:

1. Perform start of 1WO01CB
2. Demonstrates the use of good Core Work Practices (CWP).

TASK CONDITIONS:

1. You are an Assist NSO
2. Unit 1 is in mode 1
3. Unit 1 Containment Chiller (1WO01CA) tripped 5 minutes ago. An NLO was dispatched and is standing by for a start of the standby chiller 1WO01CB.

INITIATING CUES:

You are directed to perform a REMOTE start of B Containment Chiller 1WO01CB and Chilled Water pump 1WO01PB per BOP VP-1

CRITICAL ELEMENTS: (*)

3, 5, 12

APPROXIMATE COMPLETION TIME: 15 Minutes

RECORD START TIME _____

NOTE If this JPM is given on the simulator, only the cues underlined are required to be given to the examinee.
NOTE Provide the candidate with a copy of BOP VP-1

1. Refer to BOP VP-1 — Locate and open BOP VP-1 □ □ □

Cue: Prerequisites are completed

NOTE Provide the candidate with a copy of BOP VP-2 if requested to shutdown 1WO01PA
NOTE The Limitations and Actions state that BOTH chilled water pumps should not be operated ant the same time. The candidate should shutdown the 1WO01PA prior to starting 1WO01PB

2. Verify/Open the supply and return valves — Verify/Open □ □ □

Cue: 1SX016B OPEN light is LIT
- 1SX016B

Cue: 1SX027B OPEN light is LIT
- 1SX027B

Cue: 1SX112B OPEN light is LIT
- 1SX112B

Cue: 1SX114B OPEN light is LIT
- 1SX114B

*3. Verify/Open the Containment Isolation valves **Cue:** ***1WO006B closed light is LIT*** **Cue:** ***1WO020B closed light is LIT*** **Cue:** ***1WO056B open light is LIT***	Verify/Open at 1PM06J • 1WO006B • 1WO020B • 1WO056B	□	□	□
4. Verify chilled water pump suction pressure acceptable **Cue:** ***NLO reports 1PIWO009 is reading 12 psig***	• Direct NLO to verify chilled water pump suction pressure at least 10 psig Locally	□	□	□

NOTE

The candidate should shutdown the 1WO01PA prior to starting 1WO01PB. IF 1WO01PA is not shutdown, the WO flow in Step 6 will not be able to be adjusted to proper range.

*5. Start chilled water pump 1WO01PB **Cue:** ***1WO01PB run light is LIT***	• Start chilled water pump 1WO01PB	□	□	□

NOTE

The candidate may direct the NLO to perform Steps 6-11, if this occurs provide the cues for each of the steps 6-11

6. Verify flow is in acceptable range **Cue:** ***IF 1WO01PA is SHUTDOWN NLO reports 1FIWO027 is reading 2860 gpm and stable*** **Cue:** ***IF 1WO01PA is still RUNNING NLO reports 1FIWO027 is reading 3890 gpm*** **Cue:** ***IF 1WO01PA is still RUNNING NLO reports cannot reduce flow to less than 3100 gpm***	• Direct NLO to verify flow on 1FIWO027 is above 2700 gpm • Direct NLO to Adjust 1WO005B to maintain between 2700 and 3000 gpm.	□	□	□
7. Verify chiller oil level is visible in the sight glass ***Cue: NLO reports the oil level is visible in the sight glass***	• Direct NLO to verify chiller oil level is visible in the local sight glass	□	□	□
8. Verify oil reservoir temperature is acceptable ***Cue: NLO reports oil temerature is 133F***	• Direct NLO to verify oil reservoir temperature is 130-140F Locally	□	□	□
9. Place electrical demand selector in the chiller local panel to 60% ***Cue: NLO reports electrical demand selector in the chiller local panel at 60%***	• Direct NLO to Place electrical demand selector in the chiller local panel to 60%	□	□	□

10. Verify local control switch at chiller control panel to STOP ***Cue: NLO reports Local control switch is in STOP***	• Direct NLO to Verify/Place local control switch at chiller control panel to stop	□	□	□
11. Verify local/remote transfer switch to REMOTE ***Cue: NLO reports Local/remote switch is in REMOTE***	• Direct NLO to Verify/Place local/remote transfer switch to REMOTE	□	□	□

NOTE

After the chiller gets a start signal, the amber AUTO TRIP light will be on until the chiller starts. The chiller should start ~ 60 seconds after the start signal.

*12. Place remote control switch for chiller to CLOSE ***Cue: The control switch is in close***	• Place remote control switch for chiller on 0PM02J to CLOSE	□	□	□
13. Reset safety indicators on local control panel ***Cue: NLO reports the safety indicators have been reset***	• Direct NLO to Reset safety indicators on local control panel	□	□	□

NOTE

Procedure steps F.11-F.13 require no actions. They are information steps for the local operator

The candidate may direct the NLO to report Steps F.11-F.13, if this occurs provide the following cues:

CUE:11. Program timer light will came on. 12. Oil pump started in ~25 seconds. 13 Compressor started ~30 seconds after oil pump starts.

14.	Check that the program timer light goes off. ***Cue: NLO reports The program timer light is off***	• Direct NLO to Check that the program timer light goes off.	□	□	□
15.	Momentarily CLOSE 1SX147B until dual indication is present. ***Cue: 1SX147B has dual indication***	• Momentarily CLOSE 1SX147B until dual indication is present.	□	□	□

NOTE

The candidate may direct the NLO to report Steps F.16-F.22, if this occurs provide the cues for steps 16-21

16.	Verify oil d/p remains acceptable ***Cue: NLO reports 1PIWO064 is reading 27psig***	• Direct NLO to Verify oil d/p remains between 6 and 40 psig locally on 1PIWO064	□	□	□
17.	Verify oil temperature stabilizes between 135F and 160F ***Cue: NLO reports oil reservoir temperature is stable at 146F***	• Direct NLO to Verify oil temperature stabilizes between 135F and 160F	□	□	□
18.	Verify bearing oil temperature stabilizes between 140F and 170F ***Cue: NLO reports bearing oil temperature is stable at 149F***	• Direct NLO to Verify bearing oil temperature stabilizes between 140F and 170F	□	□	□
19.	Set electrical demand to 60% for 5 minutes ***Cue: NLO reports electrical demand has been at 60% for 5 minutes***	• Direct NLO to Set electrical demand to 60% for minimum of 5 minutes	□	□	□

20. Set electrical demand to 80% for 5 minutes ***Cue: NLO reports electrical demand has been at 80% for 5 minutes***	• Direct NLO to Set electrical demand to 80% for minimum of 5 minutes	□	□	□
20. Ensure thermostat set to maintain between 16.5" Hg vac and 15.0" Hg vac, evaporator pressure ***Cue: NLO reports 1PI-WO081 is reading 16.2" Hg vac***	• Direct NLO to Ensure thermostat set to maintain between 16.5" Hg vac and 15.0" Hg vac, evaporator pressure	□	□	□
21. Ensure load demand is set to `100% ***Cue: NLO reports Load demand is set to 100%***	• Direct NLO to Ensure load demand is set to `100%	□	□	□

Cue: This JPM is completed.

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE Rev. 0, 8/28/2001

TASK TITLE: Respond to a DRPI failure JPM No.: N-301

TPO No: K&A No.: 014A1.02 K&A IMP: 3.2/3.6

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR___X____

MATERIALS:

BOP RD-8 DRPI SYSTEM TROUBLESHOOTING Rev.0

GENERAL REFERENCES:

1. BOP RD-8 DRPI SYSTEM TROUBLESHOOTING Rev.0

TASK STANDARDS:

Perform 1BOP RD-8 to determine if DRPI LCO's and TLCO's are met.

TASK CONDITIONS:

1. You are the Assist NSO.

2. Unit 1 is in mode 3 preparing for Startup

3. Based on recent alarms, the DRPI status is in question

INITIATING CUES:

The Unit Supervisor has directed you to perform BOP RD-8 to determine if DRPI Limiting Conditions for Operation and TLCO's are met.

CRITICAL ELEMENTS: (*) 3, 9, 11

APPROXIMATE COMPLETION TIME: 18 minutes

RECORD START TIME _____

NOTE: If this JPM is given on the simulator, only the cues <u>underlined</u> are required to be given to the Candidate.
NOTE: Candidate may determine that LCO's and TLCO's are met at any time during this JPM
NOTE: Give Candidate a Copy of BOP RD-8, DRPI System Troubleshooting

1. Refer to BOP RD-8, DRPI System Troubleshooting	• Locate and open BOP RD-8, DRPI System Troubleshooting	❑	❑	❑
2. Check if SER 2151 alarm status ***<u>CUE: (If asked) SER point 2151 is NOT in alarm</u>***	• Determine SER 2151 is not in alarm.	❑	❑	❑

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*3. Check SER point 2150 alarm status	Determine SER point 2150 is in alarm record data per Step F.2	❑	❑	❑

CUE: (If asked)SER point 2150 is in alarm

CUE: GW for Rod K6	• General Warning
CUE: Rod K6	• Individual Rod
CUE: Rod K6 at 0 steps	• Rod Position
CUE: NO Central Control Failure	o Central Control Failure
CUE: NO Urgent Alarm	o Urgent alarm
CUE: NO Data A failure	o Data A Failure
CUE: Data B Failure LIT	• Data B Failure

Note:

Candidate may inform Unit NSO/US that upcoming actions will change DRPI state

4. Test Data Train on the back of the DRPI display panel ***CUE: Unit Supervisor directs you to place the ACCURACY MODE switch in the(desired) position***	• Place the ACCURACY MODE switch on the back of the DRPI display panel in the A ONLY position	❑	❑	❑

5. Record data for the selected accuracy mode ***CUE: GW for ALL RODS*** ***CUE: ALL*** ***CUE: N/A*** ***CUE: NO Central Control Failure*** ***CUE: NO Urgent Alarm*** ***CUE: NO Data A failure*** ***CUE: Data B Failure LIT***	With ACCURACY MODE selected to the A ONLY position record data • General Warning • ALL o Rod Position o Central Control Failure o Urgent alarm o Data A Failure • Data B Failure	❑	❑	❑

NOTE:

ROD CONTROL URGENT FAILURE (1-10-C6) will alarm when next step is performed. The EXAMINER will provide the following cue to the candidate after it is silenced.

CUE: Unit 1 Operator has silenced alarm 1-10-C6

6. Test other Data Train on the back of the DRPI display panel ***CUE: (If asked) Unit Supervisor directs you to place the ACCURACY MODE switch in the (desired) position***	• Place the ACCURACY MODE switch on the back of the DRPI display panel in the B ONLY position	❑	❑	❑

7. Record data for other Data train ***CUE: GW for ALL RODS*** ***CUE: ALL*** ***CUE: N/A*** ***CUE: NO Central Control Failure*** ***CUE: NO Urgent Alarm*** ***CUE: NO Data A failure*** ***CUE: Data B Failure LIT***	With the ACCURACY MODE is selected to B ONLY positionrecord data: • General Warning • ALL o Rod Position o Central Control Failure • Urgent alarm • Data A Failure • Data B Failure	❑	❑	❑
8. Evaluate data and determine and record which channel is operable	• Evaluate data and determine channel A is operable	❑	❑	❑

NOTE: A is the OPERABLE Channel

NOTE:

Procedure says ACCURACY MODE Switch SHOULD remain in the A+B position if only one channel on an individual rod is failed.

*9. Place the ACCURACY MODE switch on the back of the DRPI display panel to an operable channel ***CUE: (IF ASKED) As Unit Supervisor ask for recommended position*** ***CUE: US concurs with your evaluation on the accuracy mode switch position.***	• Place the ACCURACY MODE switch on the back of the DRPI display panel to an operable channel o A+B o A ONLY	❑	❑	❑

10. If Central Control Failure is indicated perform step F.3.c ***CUE(IF ASKED) Reactor Engineer states that NO Central Control card failure exists.***	• Determine Central Control Failure is not indicated	❑	❑	❑
*11 Determine if DRPI LCO's and TLCO's are met ***CUE: Tech Spec books may be referred to as necessary*** **NOTE: All LCO's and TLCO's are satisfied.** ***Cue: This JPM is completed.***	• Determine applicable Technical Specifications LCO's & TLCO's are being met. • TLCO 3.1.g • LCO 3.1.7	❑	❑	❑

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE Rev. 1, 08/05/2002

TASK TITLE: Swap SX Pumps (1SX016B is Closed) JPM No.: N-109

TPO No: 4C.SX-03 K&A No.: 075A4.01 K&A IMP. 3.2/3.2

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: SIMULATOR __**X**___

MATERIALS:

Batch file N-109

GENERAL REFERENCES:

1. BOP SX-9, Switching a Standby Essential Service Water Pump with an Operating Essential Service Water Pump (Rev. 13)

TASK STANDARDS:

Take the actions necessary to swap Essential Service Water Pumps.

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO
2. The Unit is in Mode 1, all conditions are normal
3. Essential service water pump 1A is in service with increased amps (165)

INITIATING CUES:

The Unit Supervisor directs you to start essential service water pump 1B and then stop Essential Service Water Pump 1A.
An NLO is in the field ready to provide any local operations

CRITICAL ELEMENTS: (*) 3, 6, & 9

APPROXIMATE COMPLETION TIME: 20 minutes

RECORD START TIME _____

NOTE

If this JPM is performed on the simulator, only the cues underlined are required to be provided to the trainee.

1. Refer to BOP SX-9, Essential Service Water Pump Startup **Note: JPM step 1 may be performed at any time** ***Cue: All prerequisites have been met*** ***Cue: (if asked) U2 will swap SX pumps after you are done***	◦ LOCATE and OPEN BOP SX-9	□	□	□
2. Verify SX Tower alignment Cue: There are 6 0SX163 valves OPEN Cue: (If asked) There are NO 0SX162 valves OPEN	At 0PM01J VERIFY/OPEN: • Adequate flow path ◦ 2 0SX163 valves are OPEN, per pump -OR- ◦ 1 0SX162 valve is OPEN per pump	□	□	□

*3. Verify RCFC system alignment Cue: 1SX016B ‘RED’ light is LIT Cue: (after the 1SX016B is opened) 1SX016B ‘GREEN’ light is lit Cue: 1SX027B ‘GREEN’ light is LIT	At 1PM06J VERIFY/OPEN: • 1SX016B, RCFC 1B and 1D SX supply ◦ 1SX027B, RCFC 1B and 1D SX return	□	□	□
4. Verify system alignment <u>Cue: 1SX001B is de-energized open</u>	At 1PM06J VERIFY/OPEN: ◦ 1SX001B, 1B SX pump suction	□	□	□

5. SX pump 1B local alignment	DIRECT local operator to:	□	□	□
Cue: <u>Local operator reports that 1SX143B is OPEN</u> (step F.6)	◦ VERIFY/OPEN 1SX143B, 1B SX pump dsch vlv			
Cue: <u>Local operator reports that 1SX2180B is OPEN</u> (step F.7)	◦ VERIFY/OPEN 1SX2180B, 1B SX pump oil cooler SX inlet isolation			
Cue: <u>Local operator reports that 1SX2179B is THROTTLED OPEN</u> (step F.8)	◦ VERIFY/OPEN or THROTTLED 1SX2179B, 1B SX pump oil cooler outlet isolation			
Cue: <u>Local operator reports that the 1B SX pump has been vented</u> (step F.9 & F.10)	◦ VENT the 1B SX pump			
Cue: <u>Local operator reports that the auxiliary lube oil pump for the 1B SX pump is running</u> (step F.11) -AND/OR- The 'Aux Oil Run' light is LIT	◦ START the auxiliary lube oil pump for the 1B SX pump			
*6. Start the pump	At 1PM06J:	□	□	□
Cue: The 1B SX pump control switch is in the START position	• START 1B SX pump			
Cue: The 1B SX pump 'GREEN' light is LIT				
Cue: The 1B SX pump control switch is in the AFTER-START position				

7. Auxiliary lube oil pump			□	□	□
Cue: ***<u>The local operator reports that the 1B SX pump auxiliary lube oil pump has been stopped and that the shaft driven lube oil pump discharge pressure is 12 psig</u> (step F.13) - AND/OR- The 'Aux Oil Run' light is NOT LIT***	°	DIRECT the local operator to STOP the 1B SX pump auxiliary lube oil pump paying attention to the CAUTION			
8. Auxiliary lube oil pump			□	□	□
Cue: ***<u>Local operator reports that the auxiliary lube oil pump for the 1A SX pump is running</u> (step F.14) AND/OR- The 'Aux Oil Run' light is LIT***	°	DIRECT the local operator to START the 1A SX pump auxiliary lube oil pump			
*9. Stop the pump		At 1PM06J:	□	□	□
Cue: ***The 1A SX pump control switch is in the TRIP position***	•	TRIP 1A SX pump			
Cue: ***The 1A SX pump 'BLUE' light is LIT***					
Cue: ***The 1A SX pump control switch is in the AFTER-TRIP position***					
10. Aux oil pump		DIRECT local operator to:	□	□	□
Cue: <u>The local operator reports that the 1A SX pump auxiliary oil pump is OFF</u> (step F.16) AND/OR- The 'Aux Oil Run' light is NOT LIT	°	STOP 1A SX pump aux oil pump when SX pump shaft stops turning			
	°	VERFIY/OPEN 1SX143A, 1A SX pump discharge valve			
Cue: <u>The local operator reports that 1SX143A is OPEN</u> (step F.17)					
Cue: <u>This JPM is completed</u>					

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the extra NSO.

2. The unit's ESF busses are being supplied by the SATs.

3. The 1A Diesel Generator has been running unloaded for approximately fifteen minutes after a manual start for a post maintenance run..

4. Jacket water and lube oil temperatures are acceptable for loading the diesel generator.

INITIATING CUES:

The Unit Supervisor directs you to parallel and load the 1A Diesel Generator to 5400 KW per step F.5 of BOP DG-11.

JOB PERFORMANCE MEASURE Rev. 4, 10/02/2002

TASK TITLE: Synchronize a D/G to a Bus and Load to 5400 KW (DG will not pick up load) JPM No.: N-19a

TPO No: IV.C.DG-02 K&A No.: 064A2.09 K&A IMP. 3.1/3.3

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__**X**___

MATERIALS:

None

GENERAL REFERENCES:

1. BOP DG-11, Diesel Generator Startup (Rev. 17)
2. BOP DG-11T1, Diesel Generator Start /Stop Log (Rev. 1)

TASK STANDARDS:

Perform the actions necessary to synchronize and load the 1A Diesel Generator to it's ESF bus.

TASK CONDITIONS:

1. You are the extra NSO.
2. The unit's ESF busses are being supplied by the SATs.
3. The 1A Diesel Generator has been running unloaded for approximately fifteen minutes after a manual start.
4. Jacket water and lube oil temperatures are acceptable for loading the diesel generator.

INITIATING CUES:

The Unit Supervisor directs you to parallel and load the 1A Diesel Generator to 5400 KW per step F.5 of BOP DG-11.

CRITICAL ELEMENTS: (*) 6, 9, & 11

APPROXIMATE COMPLETION TIME: 15 minutes

RECORD START TIME _____

NOTE

If this JPM is given on the simulator, only the cues underlined are required to be given to the trainee.

Provide candidate a copy of BOP DG-11. If requested provide candidate a copy of BOP DG-11T1.

1. Refer to BOP DG-11, Diesel Generator Startup ***Cue: <u>All prerequisites have been met</u>*** ***Cue: (If asked) <u>The 1A DG was started per step F.1</u>*** ***Cue: (If asked) <u>The 1A DG was started fiftiveen minutes ago</u>*** **Note: This step may be performed at any time.**	◦	LOCATE and OPEN BOP DG-11, step F.5	❑	❑	❑
2. Notify Electric Operations of pending diesel generator parallel operation, estimated run time, and loading ***Cue: <u>Electric Operations has been informed</u>***	◦	Notify Electric Operations	❑	❑	❑
3. Auto Re-close Circuit Arm Selector Switch ***Cue: The Auto Re-close Circuit Arm Selector Switch is in the SURV TEST position***	At 1PM01J: ◦	PLACE Auto Re-close Circuit Arm Selector Switch to SURV TEST	❑	❑	❑

4.	Verify DG operating properly ***Cue: DG frequency is 60 Hz*** ***Cue: DG voltage is 4160 volts***	At 1PM01J, CHECK: ◦ DG frequency ◦ DG voltage	❑	❑	❑
5.	Verify the same voltage across each phase. ***Cue: All DG phase voltages are approximately equal***	At 1PM01J, CHECK: ◦ DG phase voltages	❑	❑	❑
*6.	Turn on the 1A DG Feed to 141 Sync Selector switch. ***Cue: The Sync Selector switch for DG 1A Feed to 4KV Bus 141 is ON***	At 1PM01J: • TURN Sync Selector switch for DG 1A Feed to 4KV Bus 141 to ON	❑	❑	❑
7.	Adjust the incoming voltage. ***Cue: Incoming voltage is 2 volts higher than running voltage***	At 1PM01J: ▪ ◦ ADJUST incoming voltage SLIGHTLY HIGHER than running voltage using DG 1A Volt Adj control	❑	❑	❑
8.	Adjust 1A DG speed. ***Cue: The synchroscope is rotating slowly in the FAST direction***	At 1PM01J: ◦ Adjust speed so synchroscope rotates SLOWLY in FAST DIRECTION using DG 1A Gov Adj control	❑	❑	❑

*9. Synchronize the DG ***Cue: (If requested) NLO is locally monitoring temperatures per notes in BOP*** ***Cue: ACB 1413 'RED' light is LIT***	At 1PM01J: • PLACE control switch for ACB 1413 to CLOSE when synchroscope is slightly before 12 o'clock	❑	❑	❑
10. Verify the synchroscope is locked in. ***Cue: The synchroscope is "locked in" at the 12 o'clock position***	At 1PM01J: ◦ VERIFY synchroscope "locks in" at 12 o'clock	❑	❑	❑

NOTE

ALTERNATE PATH BEGINS AT STEP 11

*11. Immediately load the 1A DG to 1000 KW. ***Cue: The diesel generator is NOT loading*** ***Note: The governor adjust is failed such that the diesel generator will NOT load*** ***Cue: The diesel generator output breaker 'GREEN' light is LIT***	At 1PM01J: ◦ IMMEDIATELY attempt to load DG to 1000 KW by going to RAISE on Gov Adj Control • OPEN output breaker	❑	❑	❑
12. Notify the US of the unsuccessful loading of the diesel ***Cue: The Unit Supervisor acknowledges the failure and will initiate an WR for maintenance to investigate*** ***Cue: This JPM is completed***	◦ NOTIFY Unit Supervisor of the unsuccessful loading of the diesel	❑	❑	❑

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are an extra NSO.
2. The unit is in mode 31.
3. All controls are in automatic.
4. Annunciator 1-5-B2, ACCUM 1B PRESS HIGH LOW, is Lit.

INITIATING CUES:

You are directed to take action in accordance with the BAR.

JOB PERFORMANCE MEASURE Rev. 7, 09/16/02

TASK TITLE: Decrease SI Accumulator Pressure JPM No.: N-04

TPO No: IV.C.SI-04 K&A No.: 006A1.13 K&A IMP. 3.5 / 3.7

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__**X**___

MATERIALS:

Batch file N-04

GENERAL REFERENCES:

1. BOP SI-9, Lowering SI Accumulator Pressure (Rev. 8)
2. BAR 1-5-B2, ACCUM 1B PRESS HIGH LOW (Rev. 1)
3. Tech Spec 3.5.1

TASK STANDARDS:

Perform actions necessary to return accumulator pressure to within Technical Specification limits.

TASK CONDITIONS:

1. You are an extra NSO.
2. The unit is in mode 31.
3. All controls are in automatic.
4. Annunciator 1-5-B2, ACCUM 1B PRESS HIGH LOW, is Lit.

INITIATING CUES:

You are directed to take action in accordance with the BAR.

CRITICAL ELEMENTS: (*)

7, 8, & 11

APPROXIMATE COMPLETION TIME: 9 Minutes

RECORD START TIME _____

NOTE

If this JPM is given on the simulator, only the cues underlined are required to be given to the Traineeexaminee.

1.	Check Accumulator 1B parameters. ***Cue: Pressure is 650 psig on MCB meters 1PI-962 & 963.*** ***Cue: Both level channels indicate 55% and stable.*** ***Cue: (If requested) SER points 0602 and 2067 have printed out***	Check Accum 1B: o Pressure o Level	□❑	□❑	□❑
2.	Enter Tech Specs LCOAR. **Cue: *US has entered LCOAR , and directs you to LOWER SI Accumulator Pressure to within Tech Spec limits.***	◦ Insure Tech Spec LCOAR entered due to high pressure and US is aware.	□❑	□❑	□❑

NOTE

Provide candidate a copy of BOP SI-9

3.	Refer to BOP SI-9, Lowering SI Accumulator Pressure. **Cue: *There are no personnel are in CNMT***	Locate and open BOP SI-9. o Verify there are no people in U1 CNMT	□❑	□❑	□❑

4.	Verify/Close 1SI8880, Accumulator N2 Supply Isolation Valve. **Cue:** ***Valve 1SI8880 'GREEN' light is LIT.***	At 1PM06J: o Verify/Close 1SI8880.	□❑	□❑	□❑
5.	Verify/Close 1SI943, Accumulator Vent Control Valve. **Cue:** ***Valve 1SI943 potentiometer is at 0%.***	At 1PM06J: o Verify/Close 1SI943.	□❑	□❑	□❑
6.	Initiate 1BOL 5.1. **Cue:** ***<u>The US has initiated 1BOL 5.1.</u>***	o Inform US to iInitiate 1BOL 5.1.	□❑	□❑	□❑
*7.	Open 1SI8875B, 1B Accumulator Vent Valve. **Cue:** ***Valve 1SI8875B 'RED' light is LIT***	At 1PM06J: • Open 1SI8875B.	□❑	□❑	□❑
*8.	Throttle open 1SI943, Accumulator Vent Control Valve. **Cue:** ***Valve 1SI943 indicates DEMANDED position.***	At 1PM06J: • Throttle/Open 1SI943.	□❑	□❑	□❑
9.	Verify Pressure decrease **NOTE:** ***As the trainee examineecandidate verifies his indications on 1PI-962 &/or 963, announce 5 psig incremental pressure changes 5 seconds apart .***	Monitor SI Accumulator Pressure Indicators: ◦ 1PI-962 ◦ 1PI-963	□❑	□❑	□❑

10.	Close Accumulator Vent Valve. **Cue:** ***Valve 1SI943 potentiometer is at 0%***	When accumulator pressure is IN NORMAL BAND, 602-647 PSIG: • Close 1SI943	□❑	□❑	□❑
*11.	Close 1SI8875B, 1B Accumulator Vent Valve. **Cue:** ***Valve 1SI8875B 'GREEN' light is LIT***	At 1PM06J: • Close 1SI8875B.	□❑	□❑	□❑
12.	Exit LCOAR. **Cue:** ***<u>US has been notified and LCOAR will be exited.</u>***	Notify US LCOAR can be exited.	□❑	□❑	□❑

Cue: <u>This JPM is completed.</u>

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: N-08a(NOT READY)

TASK CONDITIONS:

1. You are the Unit Extra NSO
2. The unit is in Mode 1.

INITIATING CUES:

You have been directed by the Unit Supervisor to perform adjust the NI's following a calorimetric per _1BOSR 3.1.2-11, using the Plant Process Computer.

JOB PERFORMANCE MEASURE Rev. 07, 8/1325/20031

TASK TITLE: Perform Calorimetric Using Process Plant ComputerNI ADJUSTMENT FOLLOWING CALORIMETRIC JPM No.: N-08a

TPO No: 4C.NI-05 K&A No.: 015A1.01 K&A IMP. 3.5 / 3.8

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____

LOCATION: IN PLANT_____ SIMULATOR __**X**___

MATERIALS:

1. Plant Process Computer
12. Copy of 1_BOSR 3.1.2-1

GENERAL REFERENCES:

1_BOSR 3.1.2-1, Calorimetric Calculation Daily Surveillance (Rev. 108)

TASK STANDARDS:

Perform the actions necessary to access the plant computer and run the calorimetric program.adjust NI's to meet the acceptance criteria of 1BOSR 3.1.2-1, Calorimetric Calculation Daily Surveillance (Rev. 10)

TASK CONDITIONS:

1. You are the Unit Extra NSO.
2. The unit is in Mode 1.

INITIATING CUES:

You have been directed by the Unit Supervisor to adjustment the NI's following a calorimetric per 1BOSR 3.1.2-1.You have been directed by the Unit Supervisor to perform a calorimetric per _BOSR 3.1.2-1, using the Plant Process Computer.

CRITICAL ELEMENTS: (*) 31, 52, 64, 96, 7, 8, 10

APPROXIMATE COMPLETION TIME: 181 minutes

NOTE

If this JPM is performed on the simulator, only the cues underlined are required to be provided to the trainee.

RECORD START TIME _____

NOTE

Provide candidate with a copy of 1BOSR 3.1.2-1.

*1. Refer toObtain the Current percent power reading from N43 and record on Data Sheet D8 _BOSR 3.1.2-1, Calorimetric Calculation Daily Surveillance ***Note: Step 1 may be performed at any time.*** ***Cue: All prerequisites and precautions are metN43 is reading 54.3***	• ◦ LOCATE and OPENRecord current reading of N43 on Data Sheet D8 _BOSR 3.1.2-1	❑	❑	❑
*2. Data sheet D2 blocks 1 and 2Subtract power difference from step F.28 from current N43 reading and record on Data Sheet D8	• Record the result of the calculation on Data Sheet D8 RECORD: º Date/time/name º Gross MW º Control bank positions º Prerequisites met	❑	❑	❑
*3. Data sheet D2 block 3Place Rod Control in Manual ***Cue: Rod Control is in manual***	• • Place Rod Control in Manual RECORD NIS power	❑	❑	❑

NOTE:

Evaluator will have the fuses for N41 to give to the candidate.

*4. Install control power fuses for inoperable channel ***Cue: Control Power fuses installed***	• Install control power fuses for N41	❑	❑	❑
5. Adjust the gain pot until the Hi Rx Trip bistable is RESET4. Go to the process computer menu. ***Cue: HI Rx Trip bistable is RESET***	○ VERIFY/RESET the HI Rx Trip bistable◦ On OPCON page of HMI computer DEPRESS MENU key	❑	❑	❑
*65. Select option “23” calorimetricReset the Positive Rate Trip by placing the RATE MODE Switch to RESET ***Cue: HI Positive Rate Trip bistable is RESET***	• SELECT option 23Reset the Positive Rate Trip	❑	❑	❑

NOTE:

Alternate Path starts here

The Positive Rate trip for N43 will alarm when the candidate adjusts the gain pot.

*76. Determine type of calorimetric to useAdjust the OOT channel to the value recorded in step 2 by adjusting the gain pot ***Cue: (If asked) There are no flow inconsistenciesN43 is reading 56.5***	• SELECT the 10 minute average long outpAdjust N43 to value recorded in step 2ut	❑	❑	❑
*8. VERIFY/RESET Positive Rate Trips at 1PM07JSelect desired output device ***Cue: For this JPM, use the CRT Positive Rate Trips Reset.***	◦ SELECT CRT Verify Positive Rate Trips RESET	❑	❑	❑

98. Verify SG blowdown flowAfter adjustments completed initial data sheet ***Cue: Radwaste operator reports that blowdown flows are (same as values in computerData Sheet has been initialed)***	• ◦ CONTACT radwaste to verify SG blowdown flowInitial Data Sheet 8 for adjustment complete on N43	❑	❑	❑
*109. Run the programRemove the Control Power fuse for the INOPERABLE NI Channel ***Cue: Fuses have been removed***	• DEPRESS ExecuteVERIFY/RESET on the OPERABLE CHANNEL • HI Pwr HI Flux RX Trip • Positive Rate Trip • Remove the CONTROL POWER Fuse for N41 • VERIFY the following bistables have tripped o Lo Pwr HI Flux Rx Trip • HI Pwr HI Flux RX Trip	❑	❑	❑
110. Data sheet D8 blocks 26 and 27Return Rod Control to AUTO ***Cue: Rod Control is in AUTO*** ***Cue: <u>This JPM is completed</u>***	o When Tave within 1 degree of Tref Place Rod Control System in AUTO◦ RECORD NIS and calorimetric power values	❑	❑	❑

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. The Unit 1 has tripped 15 minutes ago, and 1BEP-0 has been exited.
3. 1BEP ES-0.1 is in progress.
4. Both AF pumps have failed to start and cannot be started at this time.

INITIATING CUES:

1. ***The US has directed you to restore FW per Attachment C of 1BEP ES-0.1 and inform the US when levels are trending toward normal.***
2. ***Call the WEC for in field assistance if required.***

JOB PERFORMANCE MEASURE Rev. 0, 09/19/2002

TASK TITLE: Restore FW per Attachment C of 1BEP ES-0.1 JPM No.: N-121

TPO No: IV.D.EP-11 K&A No.: 059A4.11 K&A IMP: 3.1/3.3

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: PLANT_____ SIMULATOR__**X**___

MATERIALS:

1. Copy of 1BEP ES-0.1, Attachment C

GENERAL REFERENCES:

1. 1BEP ES-0.1, Rev 101, Reactor Trip Response

TASK STANDARDS:

1. Correctly performs the actions to restore FW.
2. Demonstrates the use of good Core Work Practices (CWP).

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. The Unit has tripped 15 minutes ago, and 1BEP-0 has been exited.
3. 1BEP ES-0.1 is in progress.
4. Both AF pumps have failed to start and cannot be started at this time.

INITIATING CUES:

1. The US has directed you to restore FW per Attachment C of 1BEP ES-0.1.

CRITICAL ELEMENTS: (*) 8, 9, 11, & 12

APPROXIMATE COMPLETION TIME: 15 minutes

RECORD START TIME _____

NOTE

If this JPM is performed on the simulator, only the cues underlined are required to be provided to the trainee.

1. Refer to 1BEP ES-0.1, Reactor Trip Response **Note: Step 1 may be performed at any time (Aattachment C)**	◦ LOCATE and OPEN 1BEP ES-0.1	☐ ❏	☐ ❏	☐ ❏

NOTE

Provide the trainee with a copy of 1BEP ES-0.1, Aattachment C.

2. Check Bus 159 energized. ***Cue: The Bus 159 bus alive light is lit***	At 1PM01J:	☐	☐	☐
	◦ Check Bus 159 energized	☐	☐	☐
3. Check at least two CD/CB pumps running. ***Cue: The 1A and 1B CD/CB pumps 'GREEN' lights are lit***	At 1PM03J:	☐	☐	☐
	o Check at LEAST two CD/CB pumps running	❏	❏	❏
4. Verify running CD/CB pump recirc valves are in AUTO. ***Cue: The 1CB113A and 1CB113B control switches are in auto***	At 1PM03J:	☐	☐	☐
	o Verify the running CD/CB pump associated 1CB113 is in AUTO	❏	❏	❏

5. Place the FW Reg Valves to ZERO demand. ***Cue: (for each valve) The controller for 1FW5_0 is in manual*** ***Cue: (after/as demand is lowered) The controller for 1FW5_0 is at zero demand***	At 1PM04J, place in manual and lower demand to ZERO: o 1FW510 o 1FW520 o 1FW530 o 1FW540	☐ ❑	☐ ❑	☐ ❑
6. Place the FW Bypass Reg Valves to ZERO demand. ***Cue: (for each valve) The controller for 1FW5_0A is in manual*** ***Cue: (after/as demand is lowered) The controller for 1FW5_0A is at zero demand***	At 1PM04J, place in manual and lower demand to ZERO: o 1FW510A o 1FW520A o 1FW530A o 1FW540A	☐ ❑	☐ ❑	☐ ❑
7. Place the FW tempering flow control valves to ZERO demand. ***Cue: (for each valve) The controller for 1FW034_ is in manual*** ***Cue: (after/as demand is lowered) The controller for 1FW034_ is at zero demand***	At 1PM04J, place in manual and lower demand to ZERO: o 1FW034A o 1FW034B o 1FW034C o 1FW034D	☐ ❑	☐ ❑	☐ ❑
*8. Depress both FW Isolation reset pushbuttons. ***Cue: The Train 'A' FWI reset pushbutton has been depressed*** ***Cue: The Train 'B' FWI reset pushbutton has been depressed***	At 1PM06J depress: • Train 'A' FW Isolation reset pushbutton • Train 'B' FW Isolation reset pushbutton	☐ ❑	☐ ❑	☐ ❑

*9. Depress both FW Isolation Aux relay reset pushbuttons. ***Cue: The Train 'A' FWI Aux Relay reset pushbutton has been depressed*** ***Cue: The Train 'B' FWI Aux Relay reset pushbutton has been depressed***	At 1PM06J depress: • Train 'A' FW Isolation Aux Relay reset pushbutton • Train 'B' FW Isolation Aux Relay reset pushbutton	☐ ❑	☐ ❑	☐ ❑
10. Check FW isolation Aux relay lights not lit. ***Cue: The Train 'A' FWI Aux Relay 'RED' light is not lit*** ***Cue: The Train 'B' FWI Aux Relay 'RED' light is not lit***	At 1PM06J, check: o Train 'A' FW Isolation Aux Relay lightt not lit o Train 'B' FW Isolation Aux Relay lightt not lit	☐ ❑	☐ ❑	☐ ❑

NOTE

Candidate may request local start of Auxiliary Oil Pump(AOP), direct candidate to call the WEC on the phone and request local start of (AOP). Simulator operator will start the AOP..

*11. Start the S/U FW pump. ***Cue: The 1FW059 'RED' light is lit*** ***Cue: The 1FW076 control switch is in modulate and the associate 'RED' light is lit*** ***Cue: The S/U FW pump 'RED' light is lit***	At 1PM04J: • Open 1FW059 • Place 1FW076 in modulate and the valve opens • Start the S/U FW pump	☐ ❑	☐ ❑	☐ ❑

*12. Establish FW tempering flow. ***Cue: (for each valve) The 1FW0354_ 'GREEN' light is lit*** ***Cue: (for each valve) The 1FW0354_ shows dual indication*** ***Cue: (if asked, for each valve) The controller for 1FW034_ indicates 90 gpm flow***	At 1PM04J: • Open 1FW035A • Open 1FW035B • Open 1FW035C • Open 1FW035D • Throttle open 1FW034A • Throttle open 1FW034B • Throttle open 1FW034C • Throttle open 1FW034D	☐ ❑	☐ ❑	☐ ❑
13. Check SG levels stable or increasing. ***Cue: <u>All four SG levels are increasing slowly</u>***	At 1PM04J, check (or via HMI): o SG levels stable or increasing o If feedwater flow is NOT sufficient • Trip main FW pumps and close the associated recirc valves o 1FW012A o 1FW012B o 1FW012C	☐ ❑	☐ ❑	☐ ❑

Cue: <u>This JPM is completed</u>

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE Rev. 3, 7/17/2001

TASK TITLE: Perform RCS Controlled Leakage Monthly Surveillance JPM No.: N-72a

TPO No: IV.C.RC-10 K&A No.: 004A4.11 K&A IMP. 3.4/3.3

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR_____

MATERIALS:

Copy of 1BOSR 5.5.1-1

GENERAL REFERENCES:

1. 1BOSR 5.5.1-1, Seal Injection Flow Verification Monthly Surveillance (Rev. 2)
2. Tech Specs, Figure 3.5.5-1, Seal Injection Flow Limits (Amendment 106)

TASK STANDARDS:

Perform actions necessary to complete a seal injection flow verification monthly surveillance.

TASK CONDITIONS:

1. You are the unit NSO.
2. Unit 1 is in Mode 1.
3. All systems and controls are in automatic.
4. 120 gpm letdown is in service.

INITIATING CUES:

1. The US directs you to perform 1BOSR 5.5.1-1, Seal Injection Flow Verification Monthly Surveillance.
2. The SM has signed and dated the data package cover sheet.

CRITICAL ELEMENTS: (*) 3, 6, 7, 8, 9, 11, 12

APPROXIMATE COMPLETION TIME: 15 minutes

RECORD START TIME_____

NOTE

Provide candidate with a copy of 1BOSR 5.5.1-1.

NOTE

If this JPM is given on the simulator, only the cues underlined are required to be given to the candidate.

1. ☐☐ Ensure all applicable prerequisites, precautions, and limitations and actions are satisfactorily addressed.

Cue: Permission to perform has been granted

RCS pressure = 2235 psig

- CHECK RCS pressure between 2215 and 2255 psig

1CV8369A-D have been set for full RCS pressure

- Check 1CV8369A-D set for full RCS Pressure

1A CV pump run light is LIT

- Check only 1 CV pump running

☐ ☐ 2. Record Initial Conditions

Record Initial Conditions

Cue: Unit in mode 3

1A CV pump run light is LIT

1CV121 is in auto

P0480=2235 P0481=2234

P0482=2236 P0483=2235

- Unit Mode
- CV pump Status
- 1CV121 Status
- Pressurizer Pressure
- Calculate Average Pressure

☐ ☐ *3. Lineup CV system for leakrate

Cue: 1CV 121 is in MANUAL

- PLACE 1CV 121 in MANUAL

NOTE

Notification to the SM of failure to meet acceptance criteria can be made at any time during any of the following steps.

NOTE

WHEN the SM or his designee is notified that the acceptance criteria for the surveillance has NOT been met, provide the following cue:

Cue: The SM understands the LCOAR for RCS controlled leakage should be entered.

☐ 4☐ Record data

RECORD:

Cue: 1A RCP = 10.2 gpm

- 1A RCP seal injection 1FI-145A ____gpm

Cue: 1B RCP = 10 gpm

- 1B RCP seal injection 1FI-144A ____gpm

Cue: 1C RCP = 10.2 gpm

- 1C RCP seal injection 1FI-143A ____gpm

Cue: 1D RCP = 10.1 gpm

- 1D RCP seal injection 1FI-142A ____gpm

Cue: Total Injection flow is 40.5 gpm

- Total Injection Flow ___gpm

☐ ***5. Record Data***

Cue: 1CV121 is 38% open

- 1CV121 position ____% Open

Cue: Charging header pressure = 2310 psig

- Charging header pressure 1PI-120A _____psig

Cue: RCS pressure = 2235 psig

- Avg RCS pressure_____ psig

*6. Calculate charging header / RCS D/P

- CALCULATE charging pump discharge header pressure to RCS pressure D/P_____

Cue: 75 psid

*7. Verify total RCP seal injection flow

- DETERMINE total RCP seal injection flow is NOT within acceptance region of TS Figure 3.5.5-1

*☐ Notify SM that total RCP seal injection flow is NOT within acceptance region	• NOTIFY SM that seal injection flow is NOT within acceptance region
Cue: ***<u>The SM understands that seal injection flow is NOT within acceptance region.</u>***	• Go to Section F.4 to adjust injection flow

<u>NOTE</u>

Alternate Path starts here. Operator is directed to proceed to step F.4 of the procedure to adjust seal injection flow. Simulator operator will need to adjust 1CV8369A/B/C/D as directed by the Operator.

CUE:*<u>There are sufficient operators in the field to complete adjustments quickly call 4155 to contact NLO to perform adjustments.</u>*

*☐ Adjustment of seal injection for 1A CV pump	• ADJUST 1CV121 to 100% open
Cue: ***1CV121 is full open***	• Adjust 1CV182 and seal injection throttle valves as necessary to within limits of T.S. Figure 3.5.5-1
Cue: ***<u>SIM OPERATOR 1CV8369A/B/C/D adjusted (as requested)</u>***	

10. Record data ***Cue: 1A RCP = 7.8 gpm*** ***Cue: 1B RCP = 7.8 gpm*** Cue: 1C RCP = 7.8 gpm Cue: 1D RCP = 7.8 gpm Cue: Total Injection flow is 31.2 gpm Cue: Charging header pressure = 2340 psig ***Cue: RCS pressure = 2235 psig***	RECORD: o 1A RCP seal injection 1FI-145A ____gpm o 1B RCP seal injection 1FI-144A ____gpm o 1C RCP seal injection 1FI-143A ____gpm o 1D RCP seal injection 1FI-142A ____gpm • Total Injection Flow ___gpm • Charging header pressure _PI-120A _____psig • RCS pressure_____ psig
*11. Calculate charging header / RCS D/P ***Cue: 105 psid***	• CALCULATE charging pump discharge header pressure to RCS pressure D/P____
*12. Verify total RCP seal injection flow	• DETERMINE total RCP seal injection flow is within acceptance region of TS Figure 3.5.5-1
13. Adjust 1CV182 to establish normal charging and seal injection flows ***Cue: Normal charging and seal injection flow established***	Reestablish normal charging and seal injection flows • Adjust 1CV121 and 1CV182 to establish normal charging and seal injection flow

NOTE:

When the Operator has started to adjust charging flow to begin trending Pressurizer level back to normal level, the intent of step 14 is satisfied.

14. Adjust 1FK121 to maintain normal Pressurizer level.

- Adjust 1CV121 to maintain Pressurizer level

Cue: Pressurizer level is stable in normal range.

15. Place 1FK121 to Auto if desired

- Place 1FK 121 in AUTO

Cue: 1FK121 is in AUTO

Cue: <u>This JPM is completed</u>

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE Rev. 0, 8/16/2002

TASK TITLE: Local Abnormal Start of a D/G (cranking air valves closed) JPM No.: N-35c

TPO No: IV.D.OA-34 K&A No.: 064A4.01 K&A IMP. 4.0 / 4.3

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT___**X**__

MATERIALS:

Copy of 1BOA ELEC-3, Attachment D

GENERAL REFERENCES:

1BOA ELEC-3, Loss of 4KV ESF Bus (Rev. 101)

TASK STANDARDS:

Perform the actions necessary to complete a local abnormal start of a diesel generator.

TASK CONDITIONS:

1. You are a non-licensed operator.
2. Unit-1 is in Mode 3.
3. A fault on a 345KV line has caused the SATs to trip.
4. Bus 141 is energized by Diesel Generator 1A.
5. Bus 142 Bus Alive light is NOT LIT.
6. Step 1 of 1BOA ELEC-3, Attachment D is complete.

INITIATING CUES:

The Unit Supervisor directs you to perform a local start of Diesel Generator 1B using 1BOA ELEC-3, Attachment D and report when the 1B Diesel Generator is running.

CRITICAL ELEMENTS: (*) 7 OR 10 & 13

APPROXIMATE COMPLETION TIME: 20 minutes

RECORD START TIME _____

1. Refer to 1BOA ELEC-3, Attachment D, Local Start of 1B DG **Note: This step may be performed at any time.**	◦ LOCATE and OPEN 1BOA ELEC-3, Attachment D	❑	❑	❑

NOTE
Provide the examinee with a copy of 1BOA ELEC-3, Attachment D.

NOTE
Simulate obtaining keys from Center Desk.

2. Get keys for local diesel generator operation ***Cue: Keys have been obtained***	GET keys from center desk: ◦ U1 PRI-5 keys ◦ B-core masters	❑	❑	❑

3. Check diesel generator shutdown		❑	❑	❑
Cue: The Running Idle light is NOT LIT	◦ CHECK Running Idle light NOT LIT			
Cue: The Emergency Stop pushbutton is DEPRESSED	◦ DEPRESS Emergency Stop pushbutton			
Cue: (If requested) Annunciators B-6 and E-3 are LIT and the Unit Avail For Emerg Start light is NOT LIT				

NOTE

For cueing steps 4, 5, 6, 7, 8, and 10 for DC control power, starting air receiver pressure, *cranking air valves after realignment*, and support systems status, have the examinee use actual values if the diesel generator is operable. If the diesel generator is inoperable or the actual parameter is out of spec, give the listed cues after the examinee locates the component.

4. Check DC control power available	CHECK lights LIT:	❑	❑	❑
Cue: DC Power On/Bus #1 light is LIT	◦ DC POWER ON/BUS #1			
Cue: DC Power On/Bus #2 light is LIT	◦ DC POWER ON/BUS #2			

NOTE

1PI-DG096B/097B are located at the air receivers, NOT at 1PL08J. If the examinee uses the pressure indicators on 1PL08J, then note that on **Self Check Standard –** *Accurately locate and manipulate components/controls*.

5. Check starting air available	CHECK at least one air receiver >100 psig:	❑	❑	❑
Cue: 1PI- DG096B = 250 psig	◦ Left bank 1PI-DG096B			
Cue: 1PI-DG097B = 250 psig	◦ Right bank 1PI-DG097B			

6. Check support system status ***Cue: 1SA140B operating handle is parallel to the pipe*** ***Cue: 1SA140D operating handle is parallel to the pipe*** ***Cue: The turning gear is DISENGAGED*** ***Cue: Fuel rack manual trip lever is LATCHED IN THE VERTICAL POSITION*** ***Cue: Left cranking air handle is pointing right*** **Cue: Left non-failsafe air handle is pointing right**	◦ VERIFY air receiver outlet valves OPEN: ◦ 1SA140B AND ◦ 1SA140D ◦ VERIFY turning gear DISENGAGED ◦ VERIFY fuel rack manual trip lever LATCHED IN VERTICAL POSITION VERIFY left bank control air lineup: ◦ Cranking air ON ◦ Non-fail safe air ON	❑	❑	❑

NOTE

Opening either cranking air valve in the next step would provide sufficient starting air for the diesel generator, however both are closed bullets in the procedure. **Opening either the right or left bank would satisfy one of the critical elements (Either step 7 <u>OR</u> 10 is required).**

****7. Correct Left bank misalignment.*** ***Cue: Left cranking air handle is pointing up*** ***Cue: Left non-failsafe air handle is pointing up*** ***Cue: Left air drain handle is pointing right***	Align Left Bank Control Air: • Cranking air ON ◦ Non-fail safe air ON ◦ Air drain CLOSED	❑	❑	❑

8.	***Check support systems status***	Verify:	❑	❑	❑
Cue:	***The fuel head tank's lower bull's eye is FULL***	◦ CHECK fuel head tank lower bull's eye FULL			
Cue:	***Oil level is WITHIN THE SIGHTGLASS***	◦ VERIFY overspeed governor oil level WITHIN SIGHTGLASS			
		VERIFY electro-hydraulic governor settings:			
Cue:	***Speed droop is set to ZERO***	◦ Speed droop = 0			
Cue:	***Load limit is at MAX FUEL***	◦ Load limit = MAX FUEL			
Cue:	***Speed is set to 12.96***	◦ Speed - per LOCAL PLACARD on 1PL08J			
Cue:	***Oil level is WITHIN THE SIGHTGLASS***	◦ Oil level WITHIN SIGHTGLASS			
Cue:	**Output shaft is at MAX FUEL**	◦ Output shaft = MAX FUEL			
9.	Continue to check status of remaining support systems	VERIFY right bank control air lineup:	❑	❑	❑
Cue:	***Right cranking air handle is pointing right.***	◦ Cranking air ON			
Cue:	***Right non-failsafe air handle is pointing right.***	◦ Non-failsafe air ON			

*10. Correct Right bank misalignment ***Cue: Right cranking air handle is pointing up.*** ***Cue: Right non-failsafe air handle is pointing up.*** Cue: Right air drain handle is pointing right.	Align Right Bank Control Air: • Cranking air ON ◦ Non-failsafe air ON ◦ Air drain CLOSED	❑	❑	❑
11. Continue to check status of remaining support systems ***Cue: The lube oil sump level is WITHIN SIGHTGLASS*** ***Cue: Jacket water expansion tank level is WITHIN SIGHTGLASS*** Cue: The overspeed butterfly valve is OPEN	VERIFY: ◦ CHECK lube oil sump level WITHIN SIGHTGLASS ◦ VERIFY Jacket water standpipe level WITHIN SIGHTGLASS ◦ VERIFY overspeed butterfly valve OPEN	❑	❑	❑

12. Prepare for 1B D/G start. ❑ ❑ ❑

Cue: Unit 1 NSO verifies that Bus 142 is still DEAD

- ° CONTACT Unit 1 to check Bus 142 DEAD

Cue: Diesel generator is CLEAR of personnel

- ° VERIFY diesel generator clear of personnel

REQUEST Unit 1 verify DG 1B controls are ALIGNED FOR AUTO START:

Cue: Unit 1 NSO verifies that DG 1B start switch is in the AFTER TRIP position

- ° DG 1B start switch in AFTER TRIP

Cue: Unit 1 NSO verifies that ACB 1423 control switch is in the AFTER TRIP position

- ° ACB 1423 control switch in AFTER TRIP

Cue: Annunciator and system reset switch has been placed in RESET and RELEASED

- ° RESET Annunciator and System Reset switch

*13. Start diesel ❑ ❑ ❑

Cue: The Emergency Stop Reset pushbutton has been DEPRESSED

- **• DEPRESS Emergency Stop Reset pushbutton**

Cue: Engine is CRANKING

Cue: Engine speed is 600 rpm

- **° CHECK engine cranking**

Cue: 1SX169B 'RED' light is LIT

- ° CHECK engine speed > 590 rpm

Cue: The Running Loaded light is LIT

- ° VERIFY 1SX169B OPEN
- ° CHECK Running Loaded light LIT

14. Report to Unit Supervisor that the 1B Diesel Generator is running ***Cue: The Unit Supervisor acknowledges 1B Diesel Generator running*** ***Cue: This JPM is completed***	◦	Inform Unit Supervisor of successful local start of 1B Diesel Generator.	❑	❑ ❑

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE Rev. 0, 8/16/2002

TASK TITLE: Local Abnormal Start of a D/G (cranking air valves closed) (U2 Version) JPM No.: N-35cU2

TPO No: IV.D.OA-34 K&A No.: 064A4.01 K&A IMP. 4.0 / 4.3

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT___**X**__

MATERIALS:

Copy of 2BOA ELEC-3, Attachment D

GENERAL REFERENCES:

2BOA ELEC-3, Loss of 4KV ESF Bus (Rev. 101)

TASK STANDARDS:

Perform the actions necessary to complete a local abnormal start of a diesel generator.

TASK CONDITIONS:

1. You are a non-licensed operator.
2. Unit-2 is in Mode 3.
3. A fault on a 345KV line has caused the SATs to trip.
4. Bus 241 is energized by Diesel Generator 2A.
7. Bus 242 Bus Alive light is NOT LIT.
8. Step 1 of 2BOA ELEC-3, Attachment D is complete.

INITIATING CUES:

The Unit Supervisor directs you to perform a local start of Diesel Generator 2B using 2BOA ELEC-3, Attachment D and report when the 2B Diesel Generator is running.

CRITICAL ELEMENTS: (*) 7 OR 9 & 11

APPROXIMATE COMPLETION TIME: 20 minutes

RECORD START TIME _____

1. Refer to 2BOA ELEC-3, Attachment D, Local Start of 2B DG	◦	LOCATE and OPEN 2BOA ELEC-3, Attachment D	❑	❑ ❑

Note: This step may be performed at any time.

NOTE

Provide the examinee with a copy of 2BOA ELEC-3, Attachment D.

NOTE

Simulate obtaining keys from Center Desk.

2. Get keys for local diesel generator operation			❑	❑ ❑
Cue: Keys have been obtained		GET keys from center desk:		
	◦	U2 PRI-5 keys		
	◦	B-core masters		

3. Check diesel generator shutdown ❑ ❑ ❑

Cue: The Running Idle light is NOT LIT

◦ CHECK Running Idle light NOT LIT

Cue: The Emergency Stop pushbutton is DEPRESSED

◦ DEPRESS Emergency Stop pushbutton

Cue (If requested) Annunciators B-6 and E-3 are LIT and the Unit Avail For Emerg Start light is NOT LIT

NOTE

For cueing steps 4, 5, 6, 7, 8 and 9 for DC control power, starting air receiver pressure, *cranking air valves after realignment*, and support systems status, have the examinee use actual values if the diesel generator is operable. If the diesel generator is inoperable or the actual parameter is out of spec, give the listed cues after the examinee locates the component.

4. Check DC control power available CHECK lights LIT: ❑ ❑ ❑

Cue: DC Power On/Bus #1 light is LIT

◦ DC POWER ON/BUS #1

Cue: DC Power On/Bus #2 light is LIT

◦ DC POWER ON/BUS #2

NOTE

2PI-DG096B/097B are located at the air receivers, NOT at 2PL08J. If the examinee uses the pressure indicators on 2PL08J, then note that on **Self Check Standard –** *Accurately locate and manipulate components/controls*.

5. Check starting air available	CHECK at least one air receiver >100 psig:	❑	❑	❑
Cue: 2PI- DG096B = 250 psig	° Left bank 2PI-DG096B			
Cue: 2PI-DG097B = 250 psig	° Right bank 2PI-DG097B			

6. Check support system status ***Cue: 2SA140B operating handle is parallel to the pipe*** ***Cue: 2SA140D operating handle is parallel to the pipe*** ***Cue: The fuel head tank's lower bull's eye is FULL*** ***Cue: Speed droop is set to ZERO*** ***Cue: Load limit is at MAX FUEL*** ***Cue: Speed is set to 9.70*** ***Cue: Oil level is WITHIN THE SIGHTGLASS*** ***Cue: Output shaft is at MAX FUEL*** ***Cue: Oil level is WITHIN THE SIGHTGLASS*** ***Cue: The turning gear is DISENGAGED*** ***Cue: Fuel rack manual trip lever is LATCHED IN THE VERTICAL POSITION*** ***Cue: Left cranking air handle is pointing right*** ***Cue: Left non-fail safe air handle is pointing right***	◦ VERIFY air receiver outlet valves OPEN: ◦ 2SA140B AND ◦ 2SA140D ◦ CHECK fuel head tank lower bull's eye FULL VERIFY electro-hydraulic governor settings: ◦ Speed droop = 0 ◦ Load limit = MAX FUEL ◦ Speed - per LOCAL PLACARD on 2PL08J ◦ Oil level WITHIN SIGHTGLASS ◦ Output shaft = MAX FUEL ◦ VERIFY overspeed governor oil level WITHIN SIGHTGLASS ◦ VERIFY turning gear DISENGAGED ◦ VERIFY fuel rack manual trip lever LATCHED IN VERTICAL POSITION VERIFY left bank control air lineup: ◦ Cranking air ON ◦ Non-failsafe air ON	❑	❑	❑

NOTE

Opening either cranking air valve in the next step would provide sufficient starting air for the diesel generator, however both are closed bullets in the procedure. **Opening either the right or left bank would satisfy one of the critical elements (Either step 7 OR 9 is required).**

7. Correct Left bank misalignment.** ***Cue: Left cranking air handle is pointing up ***Cue: Left non-failsafe air handle is pointing up*** ***Cue: Left air drain handle is pointing right***	Align Left Bank Control Air: • Cranking air ON ◦ Non-fail safe air ON ◦ Air drain CLOSED	❑	❑	❑
8. Check status of remaining support systems ***Cue: Jacket water expansion tank level is WITHIN SIGHTGLASS*** ***Cue: The overspeed butterfly valve is OPEN*** ***Cue: The lube oil sump level is WITHIN SIGHTGLASS*** ***Cue: Right cranking air handle is pointing right*** ***Cue: Right non-failsafe air handle is pointing right***	Verify: ◦ Jacket water standpipe level WITHIN SIGHTGLASS ◦ VERIFY overspeed butterfly valve OPEN ◦ CHECK lube oil sump level WITHIN SIGHTGLASS VERIFY right bank control air lineup: ◦ Cranking air ON ◦ Non-failsafe air ON	❑	❑	❑

*9. Correct Right bank misalignment ***Cue: Right cranking air handle is pointing up.*** ***Cue: Right non-failsafe air handle is pointing up.*** Cue: Right air drain handle is pointing right.	Align Right Bank Control Air: ● Cranking air ON ◦ Non-failsafe air ON ◦ Air drain CLOSED	❑	❑	❑
10. Prepare for 2B D/G start. ***Cue: Unit 2 NSO verifies that Bus 242 is still DEAD*** ***Cue: Diesel generator is CLEAR of personnel*** ***Cue: Unit 2 NSO verifies that DG 2B start switch is in the AFTER TRIP position*** ***Cue: Unit 2 NSO verifies that ACB 2423 control switch is in the AFTER TRIP position*** ***Cue: Annunciator and system reset switch has been placed in RESET and RELEASED***	◦ CONTACT Unit 2 to check Bus 242 DEAD ◦ VERIFY diesel generator clear of personnel REQUEST Unit 2 verify DG 2B controls are ALIGNED FOR AUTO START: ◦ DG 2B start switch in AFTER TRIP ◦ ACB 2423 control switch in AFTER TRIP ◦ **RESET Annunciator and System Reset switch**	❑	❑	❑

*11. Start diesel		❑	❑	❑
Cue: ***The Emergency Stop Reset pushbutton has been DEPRESSED***	• **DEPRESS Emergency Stop Reset pushbutton**			
Cue: ***Engine is CRANKING***				
Cue: Engine speed is 600 rpm	° **CHECK engine cranking**			
Cue: 2SX169B 'RED' light is LIT	° CHECK engine speed > 590 rpm			
	° VERIFY 2SX169B OPEN			
Cue: ***The Running Loaded light is LIT***	° CHECK Running Loaded light LIT			
12. Report to Unit Supervisor that the 2B Diesel Generator is running	° Inform Unit Supervisor of successful local start of 2B Diesel Generator.	❑	❑	❑
Cue: ***The Unit Supervisor acknowledges 2B Diesel Generator running***				
Cue: ***This JPM is completed***				

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

3. You are the opposite Unit Unit Assist NSO
4. A The unit is in Mode 1.Unit _ Reactor Trip has just occurred
5. The _B Aux Feedwater Pump is OOS
6. 120 VAC Instrument Bus _11 de-energized concurrent with the Reactor Trip
7. The _A Aux Feedwater Pump has started on Lo-2 Steam Generator level, but the _AF005A, B, C, and D all went closed.

INITIATING CUES:

You have been directed by the Unit _ Unit Supervisor to perform calorimetric per _BOSR 3.1.2-1, using the Plant Process Computer.take LOCAL control of _AF005A, B, C, and D at the Unit _ remote shutdown and establish flow to the Unit _ steam generators at approximately 170 gpm each per Step 1 of Attachment A of _BOA PRI-5.

JOB PERFORMANCE MEASURE Rev. 07, 87/2531/20012003

TASK TITLE: Perform Calorimetric Using Process Plant ComputerLOCAL Control of the _AF005A-D at the Remote Shutdown panel

JPM No.: Bj(N-08a941)

TPO No: IV.C.AF-014C.NI-05 K&A No.: 061A2.05015A1.01 K&A IMP. 3.5 1* / 3.85*

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR _____
X_____

MATERIALS:

1. Plant Process Computer
2. Copy of _BOSR 3.1.2-1Copy of _BOA PRI-5, CONTROL ROOM INACCESSIBLILITY UNIT _, rev. 103(U1), rev. 105(U2)

GENERAL REFERENCES:

1. _BOSR 3.1.2-1, Calorimetric Calculation Daily Surveillance (Rev. 8)_BOA PRI-5, CONTROL ROOM INACCESSIBLILITY UNIT _, rev. 103(U1), rev.105 (U2)
2. BAR _-3-D7, AF FLOW CONT SETTING LOW, rev. 4(U1), rev. 2(U2)

TASK STANDARDS:

Perform the actions necessary to access the plant computer and run the calorimetric program.establish LOCAL control of the _AF005 valves at the Remote Shutdown Panel.

TASK CONDITIONS:

1. You are the opposite Unit Assist NSO
2. A Unit _ Reactor Trip has just occurred
3. The _B Aux Feedwater Pump is OOS
4. 120 VAC Instrument Bus _11 de-energized concurrent with the Reactor Trip
5. The _A Aux Feedwater Pump has started on Lo-2 Steam Generator level, but the _AF005A, B, C, and D all went closed.

1. You are the Unit NSO.
2. The unit is in Mode 1.

INITIATING CUES:

You have been directed by the Unit _ Unit Supervisor to take LOCAL control of _AF005A, B, C, and D at the Unit _ remote shutdown and establish flow to the Unit _ steam generators at approximately 170 gpm each per step 1 of Attachment A of _BOA PRI-5.

You have been directed by the Unit Supervisor to perform a calorimetric per _BOSR 3.1.2-1, using the Plant Process Computer.

CRITICAL ELEMENTS: (*) 3, 5, 6, 9

APPROXIMATE COMPLETION TIME: 11 minutes

NOTE

It is the intention of this JPM that it NOT be simulated but rather actually performed either in the simulator or at the plant.

RECORD START TIME _____

1. Refer to _BOSR 3.1.2-1, Calorimetric Calculation Daily Surveillance_BOA PRI-5 ***Note: Step 1 may be performed at any time.*** ***Cue: <u>All prerequisites and precautions are met</u>***	◦ LOCATE and OPEN _BOSR 3.1.2-1_BOA PRI-5.	❑	❑	❑

NOTE

Provide Atrainee with a copy of _BOA PRI-5 is available at the associated Remote Shutdown Panel_BOSR 3.1.2-1. The candidate may elect to print a copy from EDMS prior to proceeding to the Remote Shutdown Panel, if so provide a copy of _BOA PRI-5 Attachment A page 47 of 83 to the candidate.

2. Data sheet D2 blocks 1 and 2Proceed to Unit _ Remote Shutdown Panel. (383 Elev. Auxiliary Building)	◦ RECORD: º Date/time/name º Gross MW º Control bank positions º Prerequisites metLocate Unit _ Remote Shutdown Panel.	❑	❑	❑

*3. Data sheet D2 block 3Identify local controls for _AF005 A-D on _PL04J.	◦	• RECORD NIS powerLocate _PL04J controls for _AF005 A-D.	❑	❑ ❑

NOTE

The candidate may elect to not perform the following step as described in the procedure branches to step F.23 when using the process computer. The intention of this JPM is to do the same. Because the branching instruction is contained within a procedure note the trainee may miss the branch. If this happens, ***Cue: The Unit Supervisor wants the calorimetric to be performed using the plant process computer***.Caution on page 47 of _BOA PRI-5 for this situation. The step if not performed will result in AF flow actuation when LOCAL control is selected, which is the desired resulting action.

4. Adjust the controller setting to 0 for _AF005A-D on _PL04J. ***Cue: (If asked) individual controllers for _AF005A thru D indicate zero.***Go to the process computer menu	◦	On OPCON page of HMI computer DEPRESS MENU keyReduce the controller settings to zero for _AF005 A-D on _PL04J.	❑	❑ ❑
*5. Select option “23” calorimetricLOCAL control for _AF005A, B, C, D at _PL04J. ***Cue: REMOTE LOCAL switches on _PL04J for _AF005A thru D are in the LOCAL (RSP) position.*** ***Cue: (If asked and if step 4 was performed) _AF005A thru D left GREEN lights are LIT.*** ***Cue: (If asked and if step 4 was NOT performed) _AF005A thru D left and right GREEN lights are LIT.***		• SELECT option 23Place REMOTE LOCAL switches in LOCAL at _PL04J for _AF005A, B, C, D.	❑	❑ ❑

NOTE

If asked, the intention is to use current data and NOT to manually enter any of the values.The normal setting at the Remote Shutdown Panel is 15%, this should equate to a flow less than 100 gpm, the candidate will have to increase the setting to obtain 170 gpm. A setting of 50% should equate to approx. 170 gpm. Cue the candidate as appropriate for increasing flow as the setting is increased.

*6. Determine type of calorimetric to useIncrease control setpoint on _PL04J for _AF005 A thru D. ***Cue: (If asked) There are no flow inconsistenciescontroller setpoints on _PL04J for _AF005A-D are are set to (setting described by candidate)***	• SELECT the 10 minute average long outputAdjust _AF005 A thru D controller setpoints on _PL04J to obtain approx. 170 gpm AF flow to each steam generator.	❑	❑	❑
87. Verify _A train SG blowdown flowAF flow to steam generators indicated on _PL04J. ***Cue: Radwaste operator reports that blowdown flows are_PL04J _FI-AF011B, 013B, 015B, and 017B indicate approximately 170 gpm (same as values in computer)*** ***Cue: This JPM is completed.***	◦ Verify _A train AF flow established to Unit _ steam generators, _PL04J indications or contact unit. ◦ CONTACT radwaste to verify SG blowdown flow	❑	❑	❑

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are a Non-Licensed Operator.

2. A fire exists in the _B Diesel GeneratorAux Feed Pump room as determined by an alarm at _PM09J and local report.

3. Automatic actuation of CO_2 to the _B Aux Feed Pump Diesel Generator room has failed.

INITIATING CUES:

The Fire Chief directs you to manually initiate CO_2 to the _B Aux Feed PumpDiesel Generator room using BOP FP-22.

JOB PERFORMANCE MEASURE Rev. 5, 10/01/2002

TASK TITLE: Operate the Fire Detection/Alarm Equipment (without control power) JPM No.: N-949a

TPO No.: IV.C.FP-02 K&A No.: 086A2.04 K&A IMP. 3.3/3.9

TRAINEE:_____ DATE:_____

The Trainee PASSED_____this JPM TIME STARTED:_____

FAILED_____ TIME FINISHED:_____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT___**X**_____

MATERIALS:

1. Copy of BOP FP-22
2. Copy of BOP FP-22A20 22A27 as appropriate
3. Copy of BOP FP-22A25 22A29 as appropriate

GENERAL REFERENCES:

1. BOP FP-22, Manual Operation of the Carbon Dioxide and Halon Fire Suppression Systems (Rev. 5)
2. BOP FP-22A2022A27, Manual Initiation of CO_2 to 1B Aux Feed Pump Diesel Generator Room (Rev. 0)
3. BOP FP-22A2522A29, Manual Initiation of CO_2 to 2B Aux Feed Pump Diesel Generator Room (Rev. 0)

TASK STANDARDS:

Take the actions necessary to manually initiate CO_2 to the _B Aux Feed Pump Diesel Generator room.

TASK CONDITIONS:

1. You are a Non-Licensed Operator.

2. A fire exists in the _B Aux Feed PumpDiesel Generator room as determined by an alarm at _PM09J and local report.
3. Automatic actuation of CO_2 to the _B Aux Feed PumpDiesel Generator room has failed.

INITIATING CUES:

The Fire Chief directs you to manually initiate CO_2 to the _B Aux Feed PumpDiesel Generator room using BOP FP-22.

CRITICAL ELEMENTS: (*) 512, 147, 15, & 178

APPROXIMATE COMPLETION TIME: 14 20 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

1. Refer to BOP FP-22, Manual Operation of the Carbon Dioxide and Halon Fire Suppression Systems ***Cue: All prerequisites have been met***	◦ LOCATE and OPEN BOP FP-22	❑	❑	❑

NOTE

Provide the examinee with a copy of BOP FP-22.

2. Refer to Section G to determine attachment ***Cue: : (if requested) The detection zone in alarm is _D-71 12*** **Note: (If requested), local panel has control power indication**	DETERMINE attachment: ◦ FP-22A20 22A27 for 1B Aux Feed PumpDG 1BRoom ◦ FP-22A25 22A29 for 2B Aux Feed PumpDG Room2B	❑	❑	❑

NOTE

Provide the examinee with a copy of FP-22A20 22A27 for DG 11B Aux Feed Pump OR FP-22A25 22A29 for DG 2B Aux Feed Pump as appropriate.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
3. Request MCR to contact Security ***Cue: Security has verified the room is clear of personnel*** **NOTE: This is a prerequisite, and was met in JPM step 1.**	REQUEST Center Desk to: ° Call Security to ensure room clear of personnel	❑	❑	❑
4. Request a page announcement. ***Cue: Page announcement has been made***	REQUEST Center Desk to: ° Page plant for pending initiation	❑	❑	❑
****5. Verify open CO2 block valve.*** ***Cue: _CO5022B CO5024 is ‘‘PERPENDICULAR’ to the piping (CLOSED)*** ***Cue: (after re-alignment)_CO5024 is ‘PARALLEL’PARALLEL’ to the piping (OPEN)***	° VERIFY/OPEN _CO50224B	❑	❑	❑
6. Verify Abort Switch not in Abort. ***Cue: _HS-CO0034 is NOT in ABORTAUTOMATIC***	° VERIFY _HS-CO0034 NOT in ABORT	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*7. Pull down the CO2 push button station cover. ***Cue: _HS-CO0032 button cover is DOWN*** ***OR*** ***Cue: _HS-CO0303 button cover is DOWN*** ***Cue: (if asked) The red light associated with the button is offon***	PULL DOWN cover for: ° _HS-CO002 CO032 **OR** ° _HS-CO003CO033	❑	❑	❑
*8. Locally actuate system ***Cue: _HS-CO002 CO032 button is DEPRESSED*** **OR** ***Cue: _HS-CO0033 button is DEPRESSED***	DEPRESS CO_2 button: ° _HS-CO002 CO032 **OR** ° _HS-CO003CO033	❑	❑	❑
9. Verify system actuates locally. ***Cue: The CO_2 System Actuated light is NOT LIT on _CO03JCO14J*** **NOTE: If the examinee elects to try the other push button – repeat this cue.**	At _CO03J: ° Verify CO_2 System Actuated light LIT	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
10. Verify alarm received on _PM09J.	VERIFY:	❑	❑	❑
Cue**: **The Unit NSO reports that the suppression alarm was NOT _S-41 was received on _PM09J	° Suppression alarm on _PM09J (_S-41)			
***Cue: This JPM is completed* NOTE: If the examinee elects to try the other push button – repeat this cue.**				

RECORD STOP TIME _____

COMMENTS: