AS-ADMINISTERED WALKTHROUGH JPMS

FOR THE BYRON INITIAL EXAMINATION - OCT/NOV 2001

JOB PERFORMANCE MEASURE JPM No.: B.1.a

TASK CONDITIONS:

1. You are the Unit NSO.
2. The unit is in Mode 1.
3. All controls in automatic.
4. Annunciators 1-10-B6, ROD BANK LOW INSERTION LIMIT and 1-10-A6, ROD BANK LO-2 INSERTION LIMIT are LIT.

INITIATING CUES:

T_{ave} has been increasing and rods have been stepping in due to a suspected letdown demineralizer problem. The demineralizer has been bypassed. The Unit Supervisor has directed you to Emergency Borate using 1BOA PRI-2 until the ROD BANK LO-2 INSERTION LIMIT alarm is clear.

JOB PERFORMANCE MEASURE Rev. 2, 9/3/2001

TASK TITLE: Perform an Emergency Boration (Plugged boric acid filter) **(ALTERNATE PATH)** JPM No.: B.1.a (N-27b)

TPO No: IV.D.OA-8 K&A No.: 000024EA1.17 K&A IMP. 3.9/3.9

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR_____

MATERIALS:

None

GENERAL REFERENCES:

1. 1BOA PRI-2, Emergency Boration (Rev. 100)
2. BAR 1-10-A6, ROD BANK LO-2 INSERTION LIMIT (Rev. 2)
3. BAR 1-10-B6, ROD BANK LOW INSERTION LIMIT (Rev. 4)

TASK STANDARDS:

Complete the actions necessary to initiate an Emergency Boration flow rate of > 30 gpm of 7000 ppm boric acid flow or equivalent and regain SDM.

TASK CONDITIONS:

1. You are the Unit NSO.
2. The unit is in Mode 1.
3. All controls in automatic.
4. Annunciators 1-10-B6, ROD BANK LOW INSERTION LIMIT and 1-10-A6, ROD BANK LO-2 INSERTION LIMIT are LIT.

INITIATING CUES:

T_{ave} has been increasing and rods have been stepping in due to a suspected letdown demineralizer problem. The demineralizer has been bypassed. The Unit Supervisor has directed you to Emergency Borate using 1BOA PRI-2 until the ROD BANK LO-2 INSERTION LIMIT alarm is clear.

CRITICAL ELEMENTS: (*) 3c

APPROXIMATE COMPLETION TIME: 18 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

NOTE

If this JPM is given on the simulator, only the cues underlined are required to be given to the trainee. The trainee may reference the BARs for annunciators that are in alarm along with the performance of the BOA.

1.	Refer to 1BOA PRI-2, Emergency Boration	o	LOCATE and OPEN 1BOA PRI-2	❑	❑ ❑

Note: This may be done at any time.

2.	Check for an operating CV pump	o	CHECK at least one CV pump RUNNING	❑	❑ ❑

NOTE

1BOA PRI-2 gives the option to Emergency Borate the RCS via the blender or the emergency boration valve (e.g. the steps are open bullets). The RNO provides for flow from the RWST. Since the boric acid filter will not pass any flow in this JPM, the RWST will be the only success path. Therefore use the applicable steps, 3a or 3b and/or 3c of the JPM for cueing and evaluating the trainee's performance. Either step 3a or 3b (or both) may be N/A.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
3a. Normal boration	OPEN both boration valves: o 1CV110A o 1CV110B o START the Boric Acid Transfer pump	❑	❑	❑
NOTE: Alternate path starts here when 30 gpm boration flow is not indicated, continue with step 3c	o CHECK boration flow >30 gpm o VERIFY charging flow > 30 gpm			
3b. Emergency boration	o OPEN 1CV8104 o START the Boric Acid Transfer pump o CHECK emergency boration flow >30 gpm	❑	❑	❑
NOTE: Alternate path starts here when 30 gpm boration flow is not indicated, continue with step 3c	o VERIFY charging flow > 30 gpm			

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*3c. Alternate boration using RWST **NOTE: To achieve maximized charging flow, fully opening 1CV-121 is critical by increasing M/A station demand to 100%, adjusting 1CV-182 is NOT critical**	• OPEN at least one: o 1CV112D o 1CV112E • CLOSE at least one: o 1CV112B o 1CV112C • MAXIMIZE charging flow: o 1CV-121 o 1CV182 o VERIFY letdown ESTABLISHED	❑	❑	❑
4. Energize pressurizer backup heaters	o PLACE B/U Heaters Grp A/B/D control switch to ON	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
5. Check if boration can be stopped **NOTE: Once boration flow has been established to the RCS provide the following cue.** ***CUE: Control Bank D rods are stepping out***	• CHECK rod control bank height > LO-2 insertion limit	❑	❑	❑
	STOP emergency boration: • VERIFY/OPEN: o 1CV112B o 1CV112C • VERIFY/CLOSE: o 1CV112D o 1CV112E			
Cue: This JPM is completed				

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: B.1.b

TASK CONDITIONS:

1. The unit is in Mode 3
2. You are the Unit 1 Assist NSO.
3. 1BVSR 5.2.4-1 ASME Surveillance Requirements for 1A Safety Injection pump is in progress
4. Tech Staff is in the field awaiting a start of the 1A Safety Injection pump for ASME surveillance run.
5. An NLO has been dispatched with Tech Staff and is performing steps F.1, F.2, and F.3 of BOP SI-1

INITIATING CUES:

The Unit Supervisor has directed you to start the 1A Safety Injection pump per BOP SI-1 on minimum flow alignment with the 1SI8821A closed.

JOB PERFORMANCE MEASURE Rev. 0, 10/10/2001

TASK TITLE: 1A Safety Injection Pump ASME startup with motor hi amps **(ALTERNATE PATH)** JPM No.: B.1.b

TPO No: IV.C.SI-01 K&A No.: 006000A2.05 K&A IMP: 3.4 / 3.5

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____

MATERIALS:

Copy of 1BVSR 5.2.4-1, ASME Surveillance Requirements for 1A Safety Injection pump.

GENERAL REFERENCES:

1. BOP SI-1, Safety Injection System Startup (Rev. 9).
2. 1BVSR 5.2.4-1, ASME Surveillance Requirements for 1A Safety Injection pump.

TASK STANDARDS:

Take the actions necessary to start the 1A Safety Injection pump for an ASME surveillance run and respond to abnormal amp indication following startup.

TASK CONDITIONS:

1. The unit is in Mode 3
2. You are the Unit 1 Assist NSO.
3. 1BVSR 5.2.4-1 ASME Surveillance Requirements for 1A Safety Injection pump is in progress
4. Tech Staff is in the field awaiting a start of the 1A Safety Injection pump for ASME surveillance run.
5. An NLO has been dispatched with Tech Staff and is performing steps F.1, F.2, and F.3 of BOP SI-1

INITIATING CUES:

The Unit Supervisor has directed you to start the 1A Safety Injection pump per BOP SI-1 on minimum flow alignment with the 1SI8821A closed.

CRITICAL ELEMENTS: (*) 9, 10

APPROXIMATE COMPLETION TIME: 15 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

NOTE

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

If requested provide the candidate with a copy of 1BVSR 5.2.4-1, ASME Surveillance Requirements for 1A Safety Injection pump

1. Refer to BOP SI-1, Safety Injection System Startup (Rev. 9). **Note: Step 1 may be performed at any time.**	°	LOCATE and OPEN BOP SI-1	❑	❑	❑
2. Review BOP SI-1, steps prior to main body.	°	Review Prerequisites, Precautions, and Limitations and Actions	❑	❑	❑
3. Verify NLO has completed steps F.1, F.2 and F.3 of BOP SI-1. ***Cue: NLO reports that Steps F.1, F.2 and F.3 are complete for the 1A Safety Injection pump per BOP SI-1 Rev. 9 and the NLO and Tech Staff are ready for a start of the 1A Safety Injection pump.***	°	Contact NLO for status of steps F.1, F.2 and F.3 of BOP Si-1.	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

4. Align miniflow path for the 1A SI pump.	• Verify / Close the following valves:
	  • 1CV8804A
	  • 1SI8804B
	• Verify / Open the following valves:
	  • 1SI8814
	  • 1SI8813
		❑	❑	❑

5. Verify/Close 1SI8964	• Verify / Close 1SI8964 at 1PM11J	❑	❑	❑

6. Verify/Open valves at 1PM06J to align the 1A SI pump	• Verify / Open the following valves at 1PM06J:
	  • 1SI8806
	  • 1SI8923A
		❑	❑	❑

7. Close 1SI8888	• Close 1SI8888	❑	❑	❑
8. Prepare for starting the 1A SI pump in mode 3. ***Cue: <u>The Unit 1 NSO and Unit Supervisor acknowledges entry into LCOAR 1BOL 5.2 for 1A SI pump.</u>***	• Inform Unit 1 NSO and Unit 1 Unit Supervisor to Initiate LCOAR 1BOL 5.2. • Close 1SI8821A at 1PM06J. • Verify closed and de-energized 1SI8802A.	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

NOTE

Alternate path - for the started pump maximum steady running current is 55 amps per Limitations and Action 4 of BOP SI-1.

*9. Start the 1A SI pump. **NOTE: Alternate path starts when the pump is started and amps do not stabilize and continue to climb to greater than 55 amps.** ***Cue: (If asked) An NLO will fill out BOP SI-1T1.***	• Start the 1A SI pump and monitor discharge pressure and amps.	❑	❑	❑
*10. Identify motor hi amps and shutdown the 1A SI Pump ***Cue: The Unit Supervisor acknowledges problem with 1A SI pump.*** ***Cue: (If asked) Acknowledge placing 1A SI pump in PTL to prevent SI start.*** ***Cue: This JPM is completed***	• STOP the 1A SI pump ° Inform the Unit Supervisor of problem with 1A SI pump.	❑	❑	❑

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.:B.1.c

TASK CONDITIONS:

1. You are the Unit NSO.
2. 1BGP 100-5 is in progress, step 38 has just been completed.
3. RCS has been in Mode 4 for four hours.
4. All plant systems are normal for this point in the cooldown.
5. The standby CC pump has been started.
6. The RH system has been sampled and verified to have a boron concentration equal to the RCS boron concentration.

INITIATING CUES:

You have been directed by the Unit Supervisor to place the 1A Train of the RH system in the shutdown cooling mode per BOP RH-6.

JOB PERFORMANCE MEASURE Rev. 8, 8/2/2001

TASK TITLE: Place RH in Shutdown Cooling Mode JPM No.: B.1.c (N-20)

TPO No: IV.C.RH-03 K&A No.:005000A4.01 K&A IMP. 3.6/3.4

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR_____

MATERIALS:

None

GENERAL REFERENCES:

1. BOP RH-6, Placing the RH System in Shutdown Cooling (Rev. 20)
2. 1BGP 100-5, Plant Shutdown and Cooldown, Rev. 35

TASK STANDARDS:

Take the actions necessary to align the 1A Train of the RH system for cooldown of the RCS.

TASK CONDITIONS:

1. You are the Unit NSO.
2. 1BGP 100-5 is in progress, step 38 has just been completed.
3. RCS has been in Mode 4 for four hours.
4. All plant systems are normal for this point in the cooldown.
5. The standby CC pump has been started.
6. The RH system has been sampled and verified to have a boron concentration equal to the RCS boron concentration.

INITIATING CUES:

You have been directed by the Unit Supervisor to place the 1A Train of the RH system in the shutdown cooling mode per BOP RH-6.

CRITICAL ELEMENTS: (*) 2, 3, 6, 8, 10

APPROXIMATE COMPLETION TIME: 30 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

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 RH-6, Placing the RH System in Shutdown Cooling **Note: Step 1 may be performed at any time.** **Cue:** ***All prerequisites are met***	o	LOCATE and OPEN BOP RH-6	❑	❑	❑
*2. Establish CC flow to 1A RH HX	o	OPEN 1CC9412A	❑	❑	❑
	•	ENSURE CC flow to RH HX ~5000gpm			

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*3. Align RH suction from hot legs	VERIFY/CLOSE: o 1SI8811A o 1CV8804A o VERIFY/PLACE 1RH01PA in PTL VERIFY/CLOSE: • 1SI8812A o 1CS009A	❑	❑	❑
Cue: ***NLO reports that 1RH 8735 is LOCKED CLOSED***	o DIRECT NLO to VERIFY/CLOSE 1RH8735 ENSURE: o highest OPERABLE WR temp < 350 °F o RCS pressure < 337 psig OPEN: • 1RH8701B • 1RH8701A			
Cue: ***(If asked) The RH system has been filled and vented.***	o PLACE 1RH01PA in A/T			
4. RH pump 1A mini-flow	ENSURE: o 1RH610 OPEN o 1RH610 control switch in AUTO	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
5. RH pump 1A manual discharge isolation valve ***Cue:*** ***NLO reports that 1RH8724A is LOCKED OPEN***	o DIRECT NLO to VERIFY 1RH8724A LOCKED OPEN	❑	❑	❑
*6. RH HX 1A outlet flow control valve	• VERIFY/CLOSE 1RH606	❑	❑	❑
7. RH HX 1A bypass flow control valve	o VERIFY/CLOSE 1RH618 in Manual	❑	❑	❑
*8. RH discharge header cross-tie	• CLOSE 1RH8716A	❑	❑	❑
9. RH to cold leg Isolation valve	o VERFIY/OPEN 1SI8809A	❑	❑	❑
*10. Start 1A RH pump **NOTE: Responding to annunciator as an expected alarm is NOT critical** ***Cue:*** ***(If asked) Unit supervisor acknowledges expected alarm for starting 1A RH pump.*** ***Cue:*** ***(If asked) NLO reports local recirculation flow for the 1A RH pump indicates 600 gpm.***	• START 1A RH pump. o Recognize annunciator 1-6-C1 "RH PUMP 1A DSCH FLOW LOW" as expected. o Verify 1RH610 open.	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
11. Increase RH flow	o SLOWLY ESTABLISH an increasing RH flow by ADJUSTING 1RH618	❑	❑	❑
12. RH flow control in automatic	o PLACE 1RH618 in AUTO	❑	❑	❑
13. Warm RH HX and commence RCS cooldown	• TROTTLE OPEN 1RH606 to 5%	❑	❑	❑

Cue: ***This JPM is completed***

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: B.1.d

TASK CONDITIONS:

1. You are the Unit NSO.
2. A primary LOCA is in progress.
3. RCS pressure is ~ 100 psig.
4. 1BEP ES-1.3, Transfer to Cold Leg Recirculation is in progress, Step 8 has just been completed.
5. RWST level is at 6%.
6. The LO-3 RWST level annunciator 1-6-A7 is LIT.
7. The CS pumps were shutdown when RWST level reached 7%.

INITIATING CUES:

You have been directed to perform Step 9, Align CS System for recirculation of 1BEP ES-1.3, Transfer to Cold Leg Recirculation.

JOB PERFORMANCE MEASURE Rev. 0, 9/3/2001

TASK TITLE: Align CS to Cold Leg Recirculation JPM No.: B.1.d

TPO No: IV.D.EP-14 K&A No.: 000011EA1.12 K&A IMP. 4.1 / 4.4

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR_____

MATERIALS:

None

GENERAL REFERENCES:

1. 1BEP-1, Loss of Reactor or Secondary Coolant (Rev. 101)
2. 1BEP ES-1.3, Transfer to Cold Leg Recirculation (U-1 Rev. 100, U-2 Rev. 101)
3. BAR 1-6-A7, RWST LEVEL LO-3 (Rev. 4)

TASK STANDARDS:

Take the actions necessary to align Containment Spray for cold leg recirculation.

TASK CONDITIONS:

1. You are the Unit NSO.
2. A primary LOCA is in progress.
3. RCS pressure is ~ 100 psig.
4. 1BEP ES-1.3, Transfer to Cold Leg Recirculation is in progress, Step 8 has just been completed.
5. RWST level is at 6%.
6. The LO-3 RWST level annunciator 1-6-A7 is LIT.
7. The CS pumps were shutdown when RWST level reached 7%.

INITIATING CUES:

You have been directed to perform Step 9, Align CS System for recirculation of 1BEP ES-1.3, Transfer to Cold Leg Recirculation.

CRITICAL ELEMENTS: (*) 3, 4, 5

APPROXIMATE COMPLETION TIME: 8 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

NOTE

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

RECORD START TIME _____

1.	Refer to Step 9 of 1BEP ES-1.3, Transfer to Cold Leg Recirculation.	o LOCATE and OPEN 1BEP ES-1.3	❑	❑	❑
2.	Align CS for recirculation	CHECK: o RWST level < 12% o RWST LEVEL LO-3 status lights LIT	❑	❑	❑
*3.	Align CS pump suction to the CNMT Recirc Sump	• OPEN CS pump sump suction valves: • 1CS009A • 1CS009B	❑	❑	❑
*4.	Isolate CS pump suction from the RWST	• CLOSE CS pump RWST suction valves: • 1CS001A • 1CS001B	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

NOTE

In the following step, there is NOT an RNO direction and CS pumps can be started using the MCB control switches. Using the CS Actuation switches will also start both CS pumps.

*5. Start both CS pumps using individual pump control switches or CS actuation switches.	• VERIFY CS pumps: • BOTH running • 1A CS pump • 1B CS pump	❑	❑	❑

Cue: ***This JPM is completed***

RECORD STOP TIME _____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: B.1.e

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. The unit is in mode 1, with a normal "at power" electrical lineup.
3. Diesel Generator 1A has been running paralleled to the grid for 4 hours at 5400 KW.

INITIATING CUES:

1. The Unit Supervisor has just directed you to shutdown the 1A Diesel Generator per BOP DG-12.
2. Electric Operations has been notified and expects the DG load to be reduced and then removed from parallel operation.

JOB PERFORMANCE MEASURE Rev. 11, 7/30/2001

TASK TITLE: Unload and Shutdown a Diesel Generator JPM No.: B.1.e (N-06)

TPO No: IV.C.DG-04 K&A No.: 064000A4.06 K&A IMP. 3.9/3.9

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR_____

MATERIALS:

None

GENERAL REFERENCES:

1. BOP DG-11T1, Diesel Generator Start/Stop Log (Rev 1)
2. BOP DG-12, Diesel Generator Shutdown (Rev. 15)

TASK STANDARDS:

Perform the actions necessary to shutdown a diesel generator.

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. The unit is in mode 1, with a normal "at power" electrical lineup.
3. Diesel Generator 1A has been running paralleled to the grid for 4 hours at 5400 KW.

INITIATING CUES:

1. The Unit Supervisor has just directed you to shutdown the 1A Diesel Generator, per BOP DG-12.
2. Electric Operations has been notified and expects the DG load to be reduced and then removed from parallel operation.

CRITICAL ELEMENTS: (*) 2, 4, 9

APPROXIMATE COMPLETION TIME: 14 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

NOTE

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

1. Refer to BOP DG-12, Diesel Generator Shutdown. **Cue:** ***All prerequisites have been met*** **Note: This step may be performed at any time**	◦ LOCATE and OPEN BOP DG-12	❑	❑	❑

NOTE

Cue the candidate at each plateau that the time frame has been met.

*2. Reduce load on the 1A DG. ***Cues: 2 minutes have elapsed*** ***2 minutes have elapsed*** ***15 minutes have elapsed***	• LOWER the DG Gov Adj control to REDUCE load to < 250 KW ◦ Reduce load on the DG per the schedule in the note: ◦ 4100 KW for 2 min. ◦ 2750 KW for 2 min. ◦ 1400 KW for 15 min. ◦ 0 KW for 5 minutes	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
3. Reduce reactive load.	• ADJUST DG KVARS to ZERO using the 1A DG VOLT ADJ	❑	❑	❑
*4. Open DG output breaker.	• OPEN ACB 1413	❑	❑	❑

NOTE

The completion of BOP DG-11T1 is NOT required for this JPM, the candidate can be cued that another operator will complete BOP DG-11T1.

5. Record time. ***Cue: Use current time*** ***Cue: Another operator will complete BOP DG-11T1***	◦ RECORD the time ACB 1413 was opened on BOP DG-11T1	❑	❑	❑
6. DG ACB 1413 auto re-close circuit arm selector switch.	◦ VERIFY/PLACE the Auto Re-close Circuit Arm Selector Switch to the NORM position	❑	❑	❑
7. Start mode selector. ***Cue: The NLO reports the start mode selector switch is in FAST***	◦ DIRECT NLO to VERIFY/PLACE the Start Mode Selector switch in FAST at 1PL07J	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
8. Control mode selector switch. ***Cue: The NLO reports the control mode selector switch is in REMOTE*** **Note: The operator may check the white light NOT LIT**	◦ DIRECT the NLO to VERIFY the Control Mode Selector Switch is in REMOTE	❑	❑	❑
*9. Stop the 1A DG.	• PLACE the 1A DG Start Switch to STOP ◦ CHECK STOP light LIT	❑	❑	❑
10. Verify DG standby configuration. ***Cue: The five minute cooldown is complete***	◦ WAIT for 5 minute auto cooldown cycle to complete DIRECT NLO to:	❑	❑	❑
Cue: The NLO reports that the DG pre-lube pump is RUNNING	◦ VERIFY/START the DG pre-lube pump at ~ 280 rpm			
Cue: The NLO reports that the DG has STOPPED	◦ REPORT when the DG has STOPPED			
Cue: (If asked)Another operator will complete BOP DG-11T1				
Cue: This JPM is completed				

RECORD STOP TIME _____

COMMENTS:

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. Unit 1 Containment Vent Release Package is approved for release.
3. Unit 1 Containment pressure is at 0.8 psig.

INITIATING CUES:

The Unit Supervisor has directed you to perform BOP VQ-6, Containment Mini-Purge System Operation Step F.4 to vent Unit 1 Containment.

JOB PERFORMANCE MEASURE Rev. 0, 10/10/2001

TASK TITLE: Align for Unit 1 Containment Vent Release (incomplete isolation following flow initiation) **(ALTERNATE PATH)** JPM No.: B.1.f

TPO No: IV.C.CC-05 K&A No.: 013000A4.01 K&A IMP: 3.3 / 3.1

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____

MATERIALS:

1. BCP 400-TCNMT/ROUTINE, Gaseous Effluent Release Form, Routine Containment Release
2. 1BOSR 11.b.5-1, Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance Cnmt Purge Effluent (1PR01J Source/Channel Check)

GENERAL REFERENCES:

1. BCP 400-TCNMT/ROUTINE, Gaseous Effluent Release Form, Routine Containment Release
2. BOP VQ-6, Containment Mini-Purge System Operation (Rev. 5).
3. BAR RM11-4-1AR11J, Containment Fuel Handling Incident (Rev 6)

TASK STANDARDS:

Take the actions necessary to manually align containment mini-purge system for containment vent release and secure on failure of auto isolation from CNMT rad monitor.

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. Unit 1 Containment Vent Release Package is approved for release.
3. Unit 1 Containment pressure is at 0.8 psig.

INITIATING CUES:

The Unit Supervisor has directed you to perform BOP VQ-6, Containment Mini-Purge System Operation Step F.4 to vent Unit 1 Containment.

CRITICAL ELEMENTS: (*) 4, 7

APPROXIMATE COMPLETION TIME: 10 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

NOTE

Provide the candidate with a completed copy of BCP 400-TCNMT/ROUTINE, Gaseous Effluent Release Form, Routine Containment Release.

If Asked provide the candidate with a completed copy of 1BOSR 11.b.5-1, Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance Cnmt Purge Effluent (1PR01J Source/Channel Check)

1. Refer to BOP VQ-6, Containment Mini-Purge System Operation.	°	LOCATE and OPEN BOP VQ-6	❑	❑	❑
NOTE: Step 1 may be performed at any time.					
2. Review BOP VQ-6, steps prior to main body.	°	Review Prerequisites, Precautions, and Limitations and Actions	❑	❑	❑
3. Record CNMT initial pressure on the Gaseous Effluent Release Form.	°	Record CNMT pressure on Release form.	❑	❑	❑
*4. Open CNMT Mini-Flow Purge Exhaust Isolation valves.	•	At 0PM02J Open: • 1VQ005A • 1VQ005B • 1VQ005C	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

NOTE

1AR011, Unit 1 CNMT Fuel Handling Incident Rad monitor, fails. This would result in a CNMT Vent Isolation Signal that should close the A train valves 1VQ005A and 1VQ005C, but the isolation signal is not generated and the valves fail to automatically close.

5. Record the time the valves were opened and release began on the Gaseous Effluent Release Form. **NOTE: The alternate path starts here when a containment vent isolation signal from 1AR11J fails to close 1VQ005A and C.**	° Record the start time of the release on the Gaseous Effluent Release Form.	❑	❑	❑
6. Respond to Unit 1 RM-11 alarm. **NOTE: If the candidate does not respond to the unit 1 RM-11 alarm then use the following cue.** ***Cue*** ***(If asked) Unit Supervisor directs you to respond to the RM-11 alarm.***	• Refer to BAR RM11-4-1AR11J for immediate and subsequent operator actions.	❑	❑	❑
*7. Manually close A Train containment isolation valves per BAR RM11-4-1AR11J.	At 0PM02J Close: • 1VQ005A ° 1VQ005B • 1VQ005C	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
8. Perform Subsequent actions of BAR RM11-4-1AR11J	• Terminate the U-1 Containment Release • Close 1VQ005B	❑	❑	❑
Cue: Rad protection acknowledges request to perform BRP 5820-13 for 1AR11J.	• Inform Rad Protection to perform BRP 5820-13 for 1AR11J			
Cue: The Unit Supervisor / Shift Manager acknowledges condition of 1AR11J and failure of Cnmt Vent Isolation auto actuation.	• Inform the Unit Supervisor and/or Shift Manager of Rad monitor 1AR11J status and failure of auto Cnmt Vent Isolation.			
Cue: This JPM is completed				

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: B.1.g

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.

2. Release Tank 0WX026T liquid release is pending.

INITIATING CUES:

The Unit Supervisor directs you to perform Section F Steps 11 and 12 of BCP 400-TWX26 in preparation for this release.

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

TASK TITLE: Change RM-11 Setpoints in Preparation for a Liquid Release JPM No.: B.1.g

TPO No: IV.C.WX-02 K&A No.: 073000A4.01 K&A IMP: 3.9/3.9

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR_____

MATERIALS:

Copy of BCP 400- TWX26, Liquid Radwaste Release Form for Release Tank 0WX26T completed up to Section F Step 11

GENERAL REFERENCES:

BCP 400- TWX26, Liquid Radwaste Release Form for Release Tank 0WX26T (Rev. 21).

TASK STANDARDS:

Take the actions necessary to perform Section F steps 11 and 12 of BCP 400-TWX26.

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. Release Tank 0WX026T liquid release is pending.

INITIATING CUES:

The Unit Supervisor directs you to perform Section F Steps 11 and 12 of BCP 400-TWX26 in preparation for this release.

CRITICAL ELEMENTS: (*) 4, 6, 7, 8, 11, 12

APPROXIMATE COMPLETION TIME: 15 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

NOTE

If this JPM is performed on the simulator, only the underlined cue need to be provided to the trainee.

To initiate this JPM, hand the partially completed BCP 400-TWX26 to the candidate.

1.	Refer to the partially completed BCP 400-TWX26	°	REVIEW BCP 400-TWX26 for completeness up to Section F Step 10	❑	❑ ❑

NOTE

The steps for performing a rad monitor channel check are contained in 0BOSR 0.1-0, Shiftly and Daily Operating Surveillances step F.2. (Other references are available that dictate the same sequence of actions and criteria)

DH 11/1/01

2.	PERFORM a channel check on 0PR010.	•	SELECT 0PR010	❑	❑ ❑
			• SELECT Grid 1		
			• KEY IN "0110"		
			• DEPRESS the SEL key		
			• DEPRESS the STATUS key		
		•	Verify 0PR010 indicates Green status.		

NOTE: 0PR010 rad monitor is shown on RM-11 as 0PS110.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
3. PERFORM a loss of flow check on 0PR010. **NOTE: Loss of sample flow can be verified from the alarm message at the bottom of the RM-11 screen or from the STATUS screen for 0PS110.** ***Cue: (If asked) Unit Supervisor acknowledges logbook LCOAR entry for 0BOL 11.a for 0PR010J.***	• DEPRESS the FLOW key • Verify loss of sample flow audible alarm and status indication of 0PR010 changes to Dark Blue.	❑	❑	❑
*4. Restore 0PR010 to proper status. ***Cue: (If asked) Unit Supervisor acknowledges logbook LCOAR exit for 0BOL 11.a for 0PR010J.***	• DEPRESS the FLOW key • Verify loss of sample flow alarm status clears and 0PR010 status color changes to Green.	❑	❑	❑
5. VERIFY/ADJUST the HIGH and ALERT alarm setpoints for 0PR010 to the values in section E.8. per Attachment A guidance.	° Refer to Attachment A to adjust 0PR010 setpoints per step 12	❑	❑	❑
*6. Select Grid 1 and select monitor 0PS110 by typing 0110 and Depressing the ENTER key	• SELECT 0PR010 • SELECT Grid 1 • KEY IN "0110" • DEPRESS the SEL key	❑	❑	❑
*7. Select channel items	• DEPRESS Channel Item key	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*8. RM-11 supervisory mode	• PLACE RM-11 in Supervisory Mode by depressing Supervisor/Normal key	❑	❑	❑
9. Select high alarm setpoint channel	• DEPRESS Channel Item key • KEY IN "9" • DEPRESS the SEL key	❑	❑	❑
10. High alarm setpoint	• Verify high alarm setpoint on 0PR010 is 3.23E-6. ◦ RECORD value	❑	❑	❑
*11. Select alert alarm channel	• DEPRESS Channel Item key • KEY IN "10" • DEPRESS the SEL key	❑	❑	❑

*12. Alert alarm setpoint.	• Change alert alarm setpoint on 0PR010 to 2.02E-6
	  • KEY IN "202-6"
	  • DEPRESS ENTER key
	  • Verify new value displayed
	◦ RECORD new value
		❑	❑	❑

13. RM-11 Normal mode	• PLACE RM-11 in Normal Mode by depressing Supervisor/Normal key	❑	❑	❑

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

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: B.2.a

TASK CONDITIONS:

1. You are an extra NSO.
2. A steamline break inside containment is occurring.
3. A safety injection has occurred.
4. 1BFR-H.1, Response to Loss of Secondary Heat Sink, is in progress at Step 7e.
5. FW ISOL ACTD relay lights are LIT

INITIATING CUES:

The Unit Supervisor has directed you to pull Feedwater Isolation Auxiliary Relay fuses per Step 7e RNO of 1BFR-H.1, Response to Loss of Secondary Heat Sink.

JOB PERFORMANCE MEASURE Rev. 3, 8/7/2001

TASK TITLE: Local Reset of FW Isolation Signal JPM No.: B.2.a (N-43)

TPO No: IV.D.EF-03 (RO) K&A No.:013000A4.02 K&A IMP: 4.3/4.4
VII.D.FR-009-A (SRO)

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____

MATERIALS:

1. Keys to or drawings of cabinets 1PA27J and 1PA28J
2. Copy of 1BFR-H.1, Response to Loss of Secondary Heat Sink (Rev. 101)

GENERAL REFERENCES:

1BFR-H.1, Response to Loss of Secondary Heat Sink (Rev. 101)

TASK STANDARDS:

Take the actions required to deenergize FW isolation auxiliary relays per 1BFR-H.1, Response to Loss of Secondary Heat Sink

TASK CONDITIONS:

1. You are an extra NSO.
2. A steamline break inside containment is occurring.
3. A safety injection has occurred.
4. 1BFR-H.1, Response to Loss of Secondary Heat Sink, is in progress at Step 7e.
5. FW ISOL ACTD relay lights are LIT

INITIATING CUES:

The Unit Supervisor has directed you to pull Feedwater Isolation Auxiliary Relay fuses per Step 7e RNO of 1BFR-H.1, Response to Loss of Secondary Heat Sink.

CRITICAL ELEMENTS: (*) 4, 5

APPROXIMATE COMPLETION TIME: 10 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
RECORD START TIME _____				
1. Refer to 1BFR-H.1, Response to Loss of Secondary Heat Sink. **Note: Step 1 may be performed at any time.**	° LOCATE and OPEN 1BFR-H.1 to Step 7.e RNO	❑	❑	❑

NOTE
Provide the candidate with a copy of 1BFR-H.1.

2. Obtain keys for 1PA27J and 1PA28J	• Go to Work Execution Center (WEC) to obtain keys for: • 1PA27J • 1PA28J	❑	❑	❑
3. Go to AEER **Note: 451' elevation, Auxiliary Building**	• LOCATE the Auxiliary Electrical Equipment Room	❑	❑	❑

CAUTION
The next two steps are to be simulated only. Have the candidate point out the applicable fuses in the cabinets. If access to the inside of the cabinets is not allowed, use the appropriate photo or drawing. Steps 3 and 4 may be performed in any order.

*4. Pull fuses at 1PA27J ***Cue: Fuse 24 is removed*** ***Cue: Fuse 27 is removed***	• LOCATE and open 1PA27J REMOVE: • Fuse FU-24 • Fuse FU-27	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*5. Pull fuses at 1PA28J ***Cue: Fuse 24 is removed*** ***Cue: Fuse 27 is removed***	• LOCATE and open 1PA28J REMOVE: • Fuse FU-24 • Fuse FU-27	❑	❑	❑

NOTE

The next jpm step cues are for the candidate returning to the Main Control Room (MCR), if the trainee elects to contact the MCR to verify FW ISOL ACTD relay lights NOT LIT, then provide the following alternate cues:

Cue: The Unit Supervisor reports that the FW ISOL ACTD relay lights are NOT LIT.

Cue: This JPM is completed

6. FW ISOL ACTD relay lights status ***Cue: The feedwater isolation actuated relay lights are NOT LIT*** ***Cue: This JPM is completed***	At 1PM06J: ° VERIFY the FW ISOL ACTD relay lights NOT LIT	❑	❑	❑

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE JPM No.: B.2.b

TASK CONDITIONS:

1. You are the Unit 1 Auxiliary Building NLO.
2. Unit 1 has experienced a large break LOCA.
3. Unit 1 containment hydrogen concentration is 3.0%.
4. Unit 1 containment temperature is 220°F and pressure is 6.3 psig.

INITIATING CUES:

The Unit Supervisor has directed you to startup the 0A Hydrogen Recombiner and align it to Unit 1 using Division 12 powered valves according to BOP OG-10, Startup of a Hydrogen Recombiner.

JOB PERFORMANCE MEASURE Rev. 1, 8/3/2001

TASK TITLE: Startup of a Hydrogen Recombiner JPM No.: B.2.b (N-31)

TPO No: IV.D.QZ-13 K&A No.: 028000A2.02 K&A IMP. 3.5/3.9

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____

MATERIALS:

1. Keys #207 and #491 for the hydrogen recombiner.
2. Copy of BOP OG-10, Startup of a Hydrogen Recombiner (Rev. 7).
3. Copy of BOP OG-10T2, Hydrogen Recombiner __ Data Sheet (Rev. 2).

GENERAL REFERENCES:

1. BOP OG-10, Startup of a Hydrogen Recombiner (Rev. 7).
2. BOP OG-10T2, Hydrogen Recombiner __ Data Sheet (Rev. 2).

TASK STANDARDS:

Perform the required operator actions of BOP OG-10, Startup of a Hydrogen Recombiner.

TASK CONDITIONS:

1. You are the Unit 1 Auxiliary Building NLO.
2. Unit 1 has experienced a large break LOCA.
3. Unit 1 containment hydrogen concentration is 3.0%.
4. Unit 1 containment temperature is 220°F and pressure is 6.3 psig.

INITIATING CUES:

The Unit Supervisor has directed you to startup the 0A Hydrogen Recombiner and align it to Unit 1 using Division 12 powered valves according to BOP OG-10, Startup of a Hydrogen Recombiner.

CRITICAL ELEMENTS: (*) 5, 7, 11, 12

APPROXIMATE COMPLETION TIME: 15 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

NOTE

For cues where as found equipment status meets standard then provide the following cue:

Cue: condition is as seen.

Provide the candidate with a copy of BOP OG-10, Startup of a Hydrogen Recombiner and BOP OG-10T2, Hydrogen Recombiner __ Data Sheet

RECORD START TIME _____

1. Refer to BOP OG-10, Startup of a Hydrogen Recombiner **Note: Step 1 may be performed at any time.**	° LOCATE and OPEN BOP OG-10	❑	❑	❑
2. Obtain key #491 to unlock the panel door and key #207 to operate the start switch ***Cue: (If asked) Radiation Protection has been notified for surveys and reported that all areas are satisfactory***	° PROCEED to the SM office and OBTAIN keys for 0OG04J	❑	❑	❑
3. Locate 0A hydrogen recombiner control cabinet 0OG04J **Note: 401' Auxiliary Building, P13**	° LOCATE 0OG04J ° UNLOCK using key #491	❑	❑	❑

NOTE

For the rest of this JPM, use cues only when plant equipment is not available to provide this information.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
4. Set temperature controls	SET:	❑	❑	❑
Cue: 1TIC-0GO47 is set at 1325 °F	° 1TIC-0GO47 at 1325 °F			
Cue: 1TSH-0GO45 is set at 1325 °F	° 1TSH-0GO45 at 1325 °F			
Cue: 1TSH-0GO51 is set at 150 °F	° 1TSH-0GO51 at 150 °F			
*5 Align breakers	CLOSE the following breakers by placing each to the ON position:	❑	❑	❑
Cue: CB-1 is closed	• CB-1			
Cue: CB-2 is closed	• CB-2			
Cue: CB-3 is closed	• CB-3			
Cue: CB-4 is closed	• CB-4			
Cue: CB-5 is closed	• CB-5			
6. Lineup the hydrogen recombiner		❑	❑	❑
Cue: HS-1 is in the STOP position	° VERIFY/PLACE HS-1 in STOP			
Cue: KS-1 is set at 120 minutes	° SET KS-1 to 2 hours (120 minutes)			
Cue: JS-1 is in AUTO	VERIFY in AUTO:			
Cue: JS-2 is in AUTO	° JS-1			
	° JS-2			

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*7. Line up Division 12 powered valves ***Cue: Unit 1 NSO reports that 1OG080 is OPEN*** ***Cue: Unit 1 NSO reports that 1OG084 is OPEN*** ***Cue: Unit 1 NSO reports that 1OG082 is OPEN*** ***Cue: Unit 1 NSO reports that 1OG079 is OPEN***	DIRECT Unit 1 NSO to OPEN: • 1OG080 • 1OG084 • 1OG082 • 1OG079	❑	❑	❑

NOTE

For the performance of the next 2 steps, the candidate can describe the location of the panel and what indication is desired (the open indication (green light) is above and on the right of the valve control switch).

Locate the panel after exiting the Aux Building and when in the U-2 side lower cable spreading room have the candidate point out the panel. Do not actually go to the panel for safety reasons (requires climbing over/under cable trays).

8. Locate local control panel 0OG09J **Note: Unit 2 lower cable spreading room, 439' Q25**	◦ LOCATE 0OG09J	❑	❑	❑
9. Hydrogen recombiner "A" discharge valve **Note: 0OG060 can be checked by using local valve indication at 401' U15 next to 0A Hydrogen Recombiner.** ***Cue: 0OG060 indication green light is lit.***	At 0OG09J: • VERIFY/OPEN 0OG060	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
10. Locate local control panel 0OG08J **Note: 401' AB, P13.**	• LOCATE 0OG08J	❑	❑	❑
*11. Hydrogen recombiner "A" suction valve. **Note: Normal as found position is closed green light lit.** ***Cue: 0OG059 indication red light is lit***	At 0OG08J: • VERIFY/OPEN 0OG059	❑	❑	❑
*12. Start the hydrogen recombiner ***Cue: HS-1 is in the START position***	At 0OG04J: • Using key #207, PLACE key-lock switch HS-1 in START	❑	❑	❑
13. Establish flow rate ***Cue: 1FI-0OG041 indicates 80 CFM*** ***Cue: (If asked) another operator will perform the steps for placing the analyzer in service.*** ***Cue: This JPM is completed***	• THOTTLE 0OG059 to obtain > 70 SCFM as indicated on 1FI-0OG041	❑	❑	❑

RECORD STOP TIME_____

COMMENTS:

TASK CONDITIONS:

1. You are a NLO.
2. A fire exists in the 2B D/G Room as determined by an alarm at 2PM09J and local report.
3. The automatic actuation of CO_2 to the 2B D/G Room has failed.

INITIATING CUES:

The Fire Chief has directed you to manually initiate CO_2 to 2B D/G Room using BOP FP-22.

JOB PERFORMANCE MEASURE Rev. 3, 7/25/00

TASK TITLE: Operate the Fire Detection/Alarm Equipment **(ALTERNATE PATH)** JPM No.: B.2.c (N-49a)

TPO No.: IV.C.FP-02 K&A No.: 086000A2.04 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_____

MATERIALS:

1. BOP FP-22, Manual Operation of CO2 and Halon Fire Suppression Systems
2. BOP FP-22A25, Manual Initiation of CO2 to 2B Diesel Generator Room.

GENERAL REFERENCES:

1. BOP FP-22, Manual Operation of CO2 and Halon Fire Suppression Systems. (Rev. 5)
2. BOP FP-22A25, Manual Initiation of CO2 to 2B Diesel Generator Room. (Rev. 0)

TASK STANDARDS:

Perform actions necessary to manually initiate CO_2 to 2B D/G Room.

TASK CONDITIONS:

1. You are a NLO.
2. A fire exists in the 2B D/G Room as determined by an alarm at 2PM09J and local report.
3. The automatic actuation of CO_2 to the 2B D/G Room has failed.

INITIATING CUES:

The Fire Chief has directed you to manually initiate CO_2 to 2B D/G Room using BOP FP-22.

CRITICAL ELEMENTS: (*) 9, 10, 11, 12 & 14

APPROXIMATE COMPLETION TIME: 14 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. **Note: Provide the Candidate with a copy of BOP FP-22.** ***Cue: All prerequisites, precautions, limitations & actions have been met.***	o Locate and Open procedure BOP FP-22.	❑	❑	❑
2.	Determine location of Fire Zone affected. ***Cue: Fire has been verified in the 2B Diesel Generator Room.***	o Determine fire location using 2PM09J or report.	❑	❑	❑
3.	Refer to Section G to determine attachment for affected zone. **Note: Provide the Candidate with a copy of BOP FP-22A25 for the 2B DG.** **Note: Control power availability is determined by a "control power" light at the local fire suppression panel outside of the Diesel Generator Room. Provide the following cue when at the panel 2CO03J.** ***Cue: (If asked) local panel has control power indication.***	o Identify BOP FP-22A25, locate and open.	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
4. Prepare to actuate CO2 to room. ***Cue: Security reports room is CLEAR.*** ***Cue: Page announcement has been made.***	Request Center Desk: o Call Security to ensure room clear of personnel. o Page plant for pending initiation.	❑	❑	❑
5. Ensure system enabled. ***Cue: 2B DG - 2CO5022B is OPEN. (401' K28)*** ***Cue: 2B DG - 2HS-CO004 is NOT in ABORT. (401' K29)***	Verify: o Block valve 2CO5022B is open. o Abort Switch 2HS-CO004 NOT in abort.	❑	❑	❑
6. Attempt to actuate the system using the CO2 pushbuttons. (401' : K28/ K29) ***Cue: 2HS-CO00_ pushbutton is DEPRESSED.***	Pull down cover/ depress pushbutton:(simulate) o 2HS-CO002 OR o 2HS-CO003	❑	❑	❑
7. Verify system actuates. **NOTE: Alternate path starts here when CO2 system fails to manually actuate.** ***Cue: CO2 SYSTEM ACTUATED light NOT LIT on 2CO03J.*** ***Cue: No suppression alarm received on 2PM09J.*** **Note: If candidate elects to try other pushbutton -- give same cues.**	Verify Alarm Actuation: o "CO2 SYSTEM ACTUATED" on 2CO03J. o Suppression alarm on 2PM09J.	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
8. Determine manual initiation without control power is required.	Proceed to step B.1.	❑	❑	❑
*9. Break glass on appropriate master EMPC Cabinet ***Cue: Glass has been broken on 0CO09J cover.***	• Locate the Master EMPC (0CO09J) and (simulate) breaking the glass cover.	❑	❑	❑
*10. Prepare to manually initiate CO2 to room . ***Cue: 0CO09J actuator lever is in the OPEN position.*** ***Cue: Block valve is OPEN. (already checked step #5)***	Verify/Open: • Place Master EMPC (0CO09J) to open. o Block Valve (2CO5022B)	❑	❑	❑
*11. Break glass on appropriate EMPC Cabinet (2CO03JB, 401' K28). ***Cue: Glass has been broken on 2CO03JB cover.***	• Identify the proper EMPC as 2CO03JB and (simulate) break the glass cover.	❑	❑	❑
*12. Attempt to actuate using the EMPC actuator lever. ***Cue: 2CO03JB actuator lever is in the OPEN position, time noted.***	• Place the ACTUATOR LEVER for 2CO03JB in the OPEN position (simulate) and note time.	❑	❑	❑
13. Determine initiation occurs. ***Cue: NSO reports 2S-37 suppression alarm RECEIVED.***	o Verify suppression alarm received on 2PM09J.	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

NOTE

The time associated with the next step is the minimum time to ensure the area is flooded with CO2.

*14.	Time CO2 discharge. ***Cue: 1min. 40 sec. has passed.***	o Wait a minimum of 1 min. 40 sec. Before performing the next step.	❑	❑	❑
15.	Secure CO2 actuation. ***Cue: 2CO03JB EMPC actuator lever is in CLOSED position.*** ***Cue: 2CO5022B is CLOSED.*** ***Cue: This JPM is complete***	Close: • EMPC 2CO03JB actuator lever. • 2CO5022B block valve	❑	❑	❑

RECORD STOP TIME _____

COMMENTS: