JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are a Non-Licensed Operator.
2. The control switch for 2AF017A is not functioning.
3. 2BEP-0 is in progress, due to a LOOP.
4. Unit 2 CST has been damaged by a tornado.

INITIATING CUES:

1. The US has directed you locally open 2AF017A, at MCC 231X3, per 2BOA ELEC-5, Attachment C.
2. The SM has given you a jumper.

JOB PERFORMANCE MEASURE Rev. 0, 03/20/06

TASK TITLE: Locally Open SX to AF Pump Suction Valve JPM No.: Plt 100

TPO No: K&A No.: 061 K1.07 K&A IMP. 3.6/3.8

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE___X____

LOCATION: IN PLANT___X___

MATERIALS:

1. Electrical jumpers (simulated for In Plant)
2. Copy of 2BOA ELEC-5, Attachment C
3. Safety Equipment and OPS Policy 200-08, HVS Gear Information and Use.
4. Pre-stage a screwdriver in the AB and provide a lazer pointer.
5. OPS Policy 500-07, MOV Operability Guidelines.

GENERAL REFERENCES:

2BOA ELEC-5, Local Emergency Control of Safe Shutdown Equipment (Rev. 100)

TASK STANDARDS:

Complete the steps necessary to locally, electrically, open 2AF017A, then demonstrate local, manual, operation of 2AF017A.

TASK CONDITIONS:

1. You are a Non-Licensed Operator.
2. The control switch for 2AF017A is not functioning.
3. 2BEP-0 is in progress, due to a LOOP.
6. Unit 2 CST has been damaged by a tornado.

INITIATING CUES:

1. The US has directed you locally open 2AF017A, at MCC 231X3, per 2BOA ELEC-5, Attachment C.
2. The SM has given you a jumper.

CRITICAL ELEMENTS: (*) 3, 7 & 12

APPROXIMATE COMPLETION TIME: 20 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME_____

1. Refer to 2BOA ELEC-5, Attachment C **Note: (if asked) Provide a copy of OPS Policy 200-08 and/or 500-07.** **Cue: <u>(if asked) The valve is SX to AF suction valve</u>** **Cue: <u>(if asked) The cubicle for the valve is B5 on MCC 231X3</u>**	° OPEN 2BOA ELEC-5, Attachment C	o	o	o
2. Locate proper MCC and cubicle	° LOCATE MCC 231X3 Cubicle B5	o	o	o

<u>NOTE</u>

Cubicle location may be given to examinee after they display a method of retrieving this information (e.g. call control room, 'E' L/U's etc.)

(401’ M20 for 231X3)

After Cubicle is located, move to MCC-134V3, Cubicle F3, which is in a low traffic area.

CAUTION

Do not open breaker or cubicle door on energized MCC breakers!

The rest of this JPM may be continued on unassigned cubicle F3 on MCC-134V3.

Protective clothing required is Full Class 3 plus Safety Glasses and Hardhat with Class 2 Face Shield.

*3. Turn breaker Off **Cue: Breaker handle is in the ‘DOWN’ position (OFF)**	At MCC 231X3Cubicle B5: • Turn breaker OFF	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
4. Open cubicle door **Cue: Door is OPEN**	At MCC 231X3Cubicle B5: • OPEN cubicle door	o	o	o
5. Install jumper **Cue: Jumper is installed between points 2 and 3**	At MCC 231X3Cubicle B5: • INSTALL jumper between points 2 and 3 on the terminal board at front of cubicle	o	o	o
6. Override interlock and then turn breaker on. **Note: This is done by pushing the silver tab above the breaker switch.** **Cue: Breaker and door interlock overriden** **Cue: Breaker handle is in the 'UP' position (ON) and the small square in the center of the contactor is recessed.** **Cue: <u>(After ~2 seconds)</u> The small square in the center of the contactor has returned to its current position.**	At MCC 231X3Cubicle B5: • OVERRIDE breaker and door interlock • TURN breaker ON	o	o	o
*7. Turn breaker off. **Cue: Breaker handle is in the 'DOWN' position (OFF)**	At MCC 231X3Cubicle B5: • WHEN 'M' contactor drops out, IMMEDIATELY turn breaker OFF	o	o	o
8. Remove the jumper. **Cue: Jumper is removed**	At MCC 231X3Cubicle B5: ° REMOVE jumper	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
9. Close the cubicle door. **Cue: Cubicle door is closed**	At MCC 231X3Cubicle B5: ° CLOSE cubicle door	o	o	o
NOTE Valve location may be given to examinee after they display a method of retrieving this information (e.g. call the Control Room, "M" lineups, etc.) (383' M18 for 2AF017A)				
Note: Alternate Path Starts here				
10. Check Local Valve position **Cue: Valve is in the position shown**	° Verify 2AF017A is open	o	o	o
11. Notify Control Room **Cue: Shift Manager directs you to locally open valve 2AF017A**	° Control Room notified that 2AF017A is closed	o	o	o
*12. Locally open 2AF017A **Cue: Valve is open**	Simulate manually opening 2AF017A by: • Depressing the lever (Declutching the motor from the valve) • and rotating handwheel counter-clockwise.	o	o	o

PERFORMANCE CHECKLIST		STANDARDS	SAT	UNSAT	N/A
13. Notify Control Room	°	Control Room notified that 2AF017A is open	o	o	o

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

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are a Non-Licensed Operator.

2. Unit-_ is experiencing a loss of Essential Service Water.

INITIATING CUES:

The Unit Supervisor has directed you to perform the actions necessary to align FP cooling to the _A Centrifugal Charging pump per _BOA PRI-7, Attachment B.

JOB PERFORMANCE MEASURE Rev. 02, 03/20/06

TASK TITLE: Align Fire Protection Cooling to a Centrifugal Charging Pump JPM No.: Plt 200

TPO No: IV.D.OA-69 K&A No.: 086 K1.02 K&A IMP. 2.7/3.2

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT__**X**___

MATERIALS:

None

GENERAL REFERENCES:

_BOA PRI-7, Essential Service Water Malfunction, (Rev. 101 for U1 & Rev 102 for U2)

TASK STANDARDS:

Perform the actions necessary to align FP cooling to the 1A Centrifugal Charging pump

TASK CONDITIONS:

1. You are a Non-Licensed Operator.
2. Unit-_ is experiencing a loss of Essential Service Water.

INITIATING CUES:

The Unit Supervisor has directed you to perform the actions necessary to align FP cooling to the _A Centrifugal Charging pump per _BOA PRI-7, Attachment B.

CRITICAL ELEMENTS: (*) 2 & 3

APPROXIMATE COMPLETION TIME: 10 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
RECORD START TIME_____				
1. Refer to _BOA PRI-7, Attachment B, Essential Service Water Malfunction **Note: This step may be performed at any time.**	◦ OPEN _BOA PRI-7, Attachment B, Essential Service Water Malfunction	o	o	o
NOTE The Hose stations for both Units are located at V-18, 364' (Outside the 2A CV Pump Rm)				
*2. Connect FP cooling to _A Centrifugal Charging pump **Cue: FP supply hose CONNECTED**	• CONNECT FP supply hose	o	o	o
*3. Align FP cooling to _A Centrifugal Charging pump **Cue: (U1) 0FP5170 is OPEN** **(U2) 0FP5171 is OPEN**	At 364 V-18 AB2: • OPEN 0FP5170 (U1) or 0FP5171 (U2), FP hose supply isolation valve	o	o	o
Cue: _SX2200A is OPEN **Cue: _SX2199A is CLOSED**	At _A CV pump: • OPEN _SX2200A, • CLOSE _SX2199A,			

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
4. Place a portable fan in door opening.	At the _A CV Pump Room Door.	o	o	o
Cue: Another NLO will bring and place the fan	o Place portable fan			

Cue: This JPM is completed

RECORD STOP TIME_____

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are a non-licensed operator.

2. The unit had experienced a Battery Charger _11 failure.

3. Maintenance has repaired 125 VDC Battery Charger _11 and all clearance orders are lifted.

INITIATING CUES:

The US directs you to startup 125 VDC Battery Charger _11 per _BOP DC-1.

JOB PERFORMANCE MEASURE Rev. 2, 3/20/06

TASK TITLE: Respond to a Loss of DC Power. (Startup of a 125 VDC ESF Battery Charger) JPM No.: Plt 300

TPO No: IV.D.OA-23 K&A No: 063 A3.01 K&A IMP: 2.7/3.1

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____

MATERIALS:

1. Copy of _BOP DC-1
2. Calibrated hand held digital voltmeter, optional.
3. Copy of OPS Policy 200-08

GENERAL REFERENCES:

1. _BOP DC-1, 125V DC ESF Battery Chargers Start-up (Rev. 11)

TASK STANDARDS:

Take the actions necessary to start-up a 125V DC ESF battery charger.

TASK CONDITIONS:

1. You are a non-licensed operator.
2. The unit had experienced a Battery Charger _11 failure.
3. Maintenance has repaired 125 VDC Battery Charger _11 and all clearance orders are lifted.

INITIATING CUES:

The US directs you to startup 125 VDC Battery Charger _11 per _BOP DC-1.

CRITICAL ELEMENTS: (*) 7, 8, 9, 10

APPROXIMATE COMPLETION TIME: 15 minutes

PERFORMANCE CHECKLIST	STANDARD	SAT	UNSAT	N/A
RECORD START TIME _____				
1. Refer to _BOP DC-1, 125V DC ESF Battery Chargers Start-up **Note: (if asked) Provide a copy of OPS Policy 200-08.** **Note: Step 1 may be performed at any time.** **Cue: All prerequisites have been met**	◦ LOCATE and OPEN _BOP DC-1	❑	❑	❑
Note: Bus _31X, Compartment 4B is located on 426 elevation				
2. 480 VAC feed breaker to battery charger **Cue: Bus _31X, Compartment 4B 'RED' light is LIT –OR- the breaker is OPEN**	◦ VERIFY/OPEN Bus _31X, Compartment 4B	❑	❑	❑
3. 125 VDC feed breaker from battery charger to battery **Cue: AF-1 is pointing to the left (OFF)**	◦ VERIFY/OPEN 125 V DC ESF Distribution Center _11 Compartment AF-1	❑	❑	❑
4. AC power breaker on battery charger **Cue: AC power breaker, CB-1 is in the DOWN (off) position**	◦ VERIFY/OPEN AC power breaker, CB-1 on _11 Battery Charger	❑	❑	❑
5. DC power breaker on battery charger **Cue: DC power breaker, CB-2 is in the DOWN (off) position**	◦ VERIFY/OPEN DC power breaker, CB-2 on _11 Battery Charger	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
6. Float/Equalize selector switch and equalize timer (2 steps) **Cue: Float/Equalize selector switch is over to the LEFT (float) position** **Cue: Equalize timer is set at ZERO**	ENSURE Battery Charger _11: ° Float/Equalize selector switch in FLOAT ° Equalize timer is TIMED OUT	❑	❑	❑

NOTE

The Safety Rule Book is unclear regarding the personnel protection equipment requirements for this manipulation. Ensure the trainee can describe how they would close the breaker in the next step.

Note: Bus _31X, Compartment 4B is located on 426 elevation

*7. Energize the battery charger **Note: Small Blue Push-To-Close Button can be viewed through the window on the breaker door.** **Cue: Breaker _31X compartment 4B 'GREEN' light is LIT** **OR (if remaining at the Battery Charger)** **Cue: Breaker _31X compartment 4B breaker is CLOSED**	• CLOSE bus _31X compartment 4B	❑	❑	❑
*8. Connect the battery charger to the distribution panel **Cue: AF-1 pointing up (ON)**	• CLOSE breaker AF-1 on ESF distribution panel _11	❑	❑	❑
*9 DC power breaker **Cue: CB-2 is in the UP (on) position**	• CLOSE breaker CB-2 on Battery Charger _11	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*10 Energize the DC bus and batteries from the battery charger **Cue: CB-1 is in the UP (on) position** **Cue: (If requested) Battery charger amp meter is at 80 and slowly decreasing**	• CLOSE breaker CB-1 on Battery Charger _11	❑	❑	❑

NOTE

In the following step, if a voltmeter is not available, have the trainee demonstrate how voltage would be measured then:

Cue: Battery _11 terminal voltage = 128.9 volts (measured between cells #1 & #58)

If voltage is measured elsewhere modify voltage as required, on the right side each row is 17 cells (37.81 volts) and each left side is 12 cells (26.69 volts)

11. Verify the battery and charger are operating properly **NOTE: see cue above**	◦ MEASURE battery terminal voltage ◦ ENSURE voltage between 128.2 and 130.5 VDC	❑	❑	❑
12. Battery charger alarm **Cue: Unit _ NSO reports _-21-E8, 125V DC BATT CHGR _11 TROUBLE has CLEARED** **Cue: This JPM is completed** **RECORD STOP TIME**_____	◦ CHECK _-21-E8 annunciator CLEAR	❑	❑	❑

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are an extra NSO.
2. The Unit is near full power with excess letdown in service and flow directed to the CV pump suction header.
3. Valve strokes for 1CV8152 and 1CV8160 are complete and normal letdown has been restored.

INITIATING CUES:

1. The US has directed you to secure excess letdown operations.

JOB PERFORMANCE MEASURE Rev. 1

TASK TITLE: **Remove Excess Letdown from Service** JPM No.:Sim 100

TPO No: IV.C.CV-07 K&A No.: 004 A4.06 K&A IMP. 3.6/3.1

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM___X ___ SIMULATE _____

LOCATION: IN PLANT _____ SIMULATOR____X __

MATERIALS:

None

GENERAL REFERENCES:

1. BOP CV-15, Rev. 7, Excess Letdown Operations.

TASK STANDARDS:

Remove excess letdown from service.

TASK CONDITIONS:

1. You are an extra NSO.
2. The Unit is near full power with excess letdown in service and flow directed to the CV pump suction header.
3. Valve strokes for 1CV8152 and 1CV8160 are complete and normal letdown has been restored.

INITIATING CUES:

1. The US has directed you to secure excess letdown operations.

CRITICAL ELEMENTS: (*)

2,4

APPROXIMATE COMPLETION TIME: 5 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME_____

NOTE

Provide examinee with a copy of BOP CV-15 when located.

1.	Refer to BOP CV-15, step F.2. **Cue: All Prerequisites and Precautions have been met.**	• Locate and Open BOP CV-15,step F.2.	o	o	o
*2.	Isolate excess letdown flowpath.	At 1PM05J • SLOWLY CLOSE 1CV123, Exc Ltdwn HX Flow Cont Vlv,	o	o	o
3.	Isolate excess letdown flowpath	At 1PM05J • CLOSE 1CV8153A, Exc Ltdwn HX 1A Inlet Isol Vlv, • CLOSE 1CV8153B, Exc Ltdwn HX 1B Inlet Isol Vlv,	o	o	o
*4.	Isolate excess letdown flowpath	At 1PM05J • CLOSE 1RC8037A, Loop drain Vlv ° CLOSE 1RC8037B, Loop drain Vlv ° CLOSE 1RC8037C, Loop drain Vlv ° CLOSE 1RC8037D, Loop drain Vlv	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
5. Isolate Component Cooling Water Flow to Excess Letdown HXs.	At 1PM06J • CLOSE 1CC9437A, CC to Exc Ltdwn HX Isol Vlv • CLOSE 1CC9437B, CC from Exc Ltdwn HX Isol Vlv Vlv	o	o	o
6. Restore CV lineup.	At 1PM05J ° VERIFY 1CV8143, Exc Ltdwn to Seal Filter or RCDT Vlv in the VCT position	o	o	o
7. Aligning Seal Return Flow. **Cue: If asked, step F.1.d.(1) and (2) were not performed.** **Cue:This completes the JPM.**	° Locally open _CV8484, Seal Wtr HX Outlet to CV Pp Suct Hdr ° Locally close _CV8482, Seal Wtr HX Outlet to VCT Isol Vlv	o	o	o

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

JPM NO: Sim 100

REQUIRED SIMULATOR MODE(S): 99.8% power steady state

MALFUNCTION #'S: N/A

COMMENTS:

1) Place excess letdown in service using only loop A drain valve, 1RC8037A and both excess letdown heat exchangers, 1CV8153A and 1CV8153B per BOP CV-15.

2) Leave flow aligned to CV pump suction header (1CV8482 closed, 1CV8484 Open).

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JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.

2. Unit 1 has experienced a LOCA.

3. 1BEP-0 is in progress in response to the event.

INITIATING CUES:

You are directed to verify Control Room, Auxiliary Building, and Fuel Handling Building ventilation is aligned for emergency operation per steps 21, 22, and 23 of 1BEP-0.

JOB PERFORMANCE MEASURE Rev. 6, 3/28/06

TASK TITLE: Align Ventilation Systems for Emergency Operations (Failure of Inaccessible Filter Plenum Fans to Start) JPM No.: Sim 200

TPO No: 4D.EP-19 K&A No.: 013 K1.13 K&A IMP. 2.8/3.1

EXAMINEE: _____ DATE: ___/___/___

The Examinee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__**X**___

MATERIALS:

1. Copy of 1BEP-0, steps 21 - 23
2. Copy of BOP VA-5

GENERAL REFERENCES:

1. 1BEP-0, Reactor Trip or Safety Injection (Rev. 107)
2. BOP VA-5, Aux Building Charcoal Booster Fan Operation (Rev. 6)

TASK STANDARDS:

Perform the actions necessary to align the Control Room, Auxiliary Building, and Fuel Handling Building for emergency operations.

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. Unit 1 has experienced a LOCA.
3. 1BEP-0 is in progress in response to the event.

INITIATING CUES:

You are directed to verify Control Room, Auxiliary Building, and Fuel Handling Building ventilation is aligned for emergency operation per steps 21, 22, and 23 of 1BEP-0.

CRITICAL ELEMENTS: (*) 9, 10

APPROXIMATE COMPLETION TIME: 10 minutes

PERFORMANCE CHECKLIST	STANDARD	SAT	UNSAT	N/A

RECORD START TIME_____

1. Refer to 1BEP-0, Reactor Trip or Safety Injection, Step 21 **Note: Provide examinee a copy of 1BEP-0, steps 21 - 23**	• LOCATE and OPEN 1BEP-0 to Step 21	❑	❑	❑

Note:

JPM steps 2 through 6 verify that control room ventilation is aligned for emergency operation

2. Dispatch an NLO to trip Control Room Office HVAC Supply Fans **Cue: <u>0VV01CA is tripped</u>** **Cue: <u>0VV01CB is tripped</u>**	Dispatch NLO to trip: • 0VV01CA • 0VV01CB	❑	❑	❑
3. Operating VC train equipment alignment	At 0PM02J, VERIFY 0A train equipment RUNNING: ° Supply Fan ° Return Fan ° M/U Fan ° Chilled Water Pump ° MCR Chiller	❑	❑	❑

4. Operating VC train dampers alignment	At 0PM02J, Verify:
	• M/U fan outlet damper NOT FULLY CLOSED:
	  • 0VC24Y (Train A)
	  o 0VC08Y (Train B)
	• M/U filter light LIT
		❑	❑	❑

PERFORMANCE CHECKLIST	STANDARD	SAT	UNSAT	N/A
5. Operating VC train charcoal absorber alignment	At 0PM02J, VERIFY VC train charcoal absorber ALIGNED: • Train A • 0VC43Y Bypass damper CLOSED: • 0VC21Y Inlet damper OPEN • 0VC22Y Outlet damper OPEN OR ° Train B o 0VC44Y Bypass damper CLOSED: o 0VC05Y Inlet damper OPEN o 0VC06Y Outlet damper OPEN	❑	❑	❑
6. MCR pressure **Cue: Control room pressure reads approximately +0.2 inches of water**	At 0PM02J: • CHECK control room pressure > +.125" H_2O	❑	❑	❑

Note: Alternate Path starts here

Note:

The examinee will find the fans for plenums 0A and 0B off and the dampers in the corresponding positions for fans off.

PERFORMANCE CHECKLIST	STANDARD	SAT	UNSAT	N/A
7. Inaccessible filter plenums. VERIFY 2 Plenums aligned with Charcoal Absorbers on-line: **Note: Determines that Fans 0VA03CB and 0VA03CA are not running**.	• At 0PM02J (PLENUM 0A), verify fan run light LIT, flow control damper OPEN and bypass damper CLOSED: ◦ 0VA03CA run light NOT LIT 0VA022Y OPEN 0VA020Y CLOSED OR • 0VA03CB run light NOT LIT 0VA023Y OPEN 0VA436Y CLOSED ◦ At 0PM02J (PLENUM 0B), verify fan run light LIT, flow control damper OPEN and bypass damper CLOSED: ◦ 0VA03CC run light LIT 0VA024Y OPEN 0VA021Y CLOSED OR ◦ 0VA03CD run light LIT 0VA025Y OPEN 0VA437Y CLOSED • At 0PM02J (PLENUM 0C), verify fan run light LIT, flow control damper OPEN and bypass damper CLOSED: ◦ 0VA03CE run light LIT 0VA067Y OPEN 0VA052Y CLOSED OR • 0VA03CF run light LIT 0VA072Y OPEN 0VA438Y CLOSED	❑	❑	❑

Note:

In the following step, the lead fan to start in each plenum is the second (e.g. B, D, or F for A, B, or C plenum respectively).

The examinee may attempt to manually start 0VA03CB or may attempt to place 0VA03CA in service but these attempts will not be successful, thus 0B plenum may be placed in service per BOP VA-5 prior to verifying 0C plenum in service.

8. Refer to BOP VA-5, Aux Building Charcoal Booster Fan Operation

- LOCATE and OPEN BOP VA-5, step F.1 ❑ ❑ ❑

Note: Provide the examinee a copy of BOP VA-5

Cue: If asked, prerequisites are met.

Note:

Since more than 15 seconds have elapsed since the SI signal occurred, both the 0C and 0D fans will start as soon as the 0B plenum has been aligned. The RNO directs the use of BOP VA-5 for start of fans. VA-5 directs placing one fan in PTL for this situation, with the option of restoring to After Trip after the first fan starts.

*9. Place one out of the two plenum B fans in Pull to Lock (PTL)

At 0PM02J (PLENUM 0B), place 0B fan in PTL ❑ ❑ ❑

- 0VA03CC

OR

- 0VA03CD

*10. Align plenum B

At 0PM02J: ❑ ❑ ❑

- OPEN 0VA085Y
  - CLOSE 0VA084Y

PERFORMANCE CHECKLIST	STANDARD	SAT	UNSAT	N/A
11. Verify fan running in plenum B and aligned to charcoal absorber	At 0PM02J (PLENUM 0B), verify fan run light LIT, flow control damper OPEN and bypass damper CLOSED: • 0VA03CC run light LIT • 0VA024Y OPEN • 0VA021Y CLOSED OR • 0VA03CD run light LIT • 0VA025Y OPEN • 0VA437Y CLOSED	❑	❑	❑

Note:

Student may take non running 0B Plenum fan out of PTL

12. Verify FH bldg ventilation aligned	At 0PM02J, VERIFY:
	• Train B
	  • 0VA04CB running
	  • 0VA055Y OPEN
	  • 0VA062Y OPEN
	  • 0VA435Y CLOSED
		❑	❑	❑

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

RECORD STOP TIME_____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

JPM NO: Sim 200

REQUIRED SIMULATOR MODE(S): N/A

MALFUNCTION #'S:

1. IMF HV02A
2. IMF HV02B
3. IMF AN01M
4. IOR ZLOBYAN14 Off
5. MRF RP70 in
6. MRF RP44 in
7. IOR ZDI1WO01PA Trip

COMMENTS:

1. Verify 0A and 0C Plenums online

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit 1 NSO.

2. Unit 1 is in hot shutdown

INITIATING CUES:

1. Unit 1 RWST level is 90%.

2. The Unit Supervisor directs you to align and initiate makeup to the Unit 1 RWST using BOP SI-13 starting at step f.4, to achieve 94% level.

JOB PERFORMANCE MEASURE Rev. 9, 03/17/06

TASK TITLE: Fill the Refueling Water Storage Tank JPM No.: Sim 300

TPO No: IV.C.CV-17 K&A No.: 006 A4.03 K&A IMP. 3.5/3.5

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM___X___ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__X____

MATERIALS:

Calculator
BOP SI-13, Filling the RWST (Rev. 21) filled out to step f.4

GENERAL REFERENCES:

1. BOP SI-13, Filling the RWST (Rev. 21)
2. 1BCB Fig. 16, Blended Flow (Rev. 1)

TASK STANDARDS:

Makeup to RWST with $\geq$ 2300 ppm blended flow from RCMS.

TASK CONDITIONS:

1. You are the Unit 1 NSO.
2. Unit 1 is in hot shutdown.

INITIATING CUES:

1. Unit 1 RWST level is 90%.
2. The Unit Supervisor directs you to align and initiate makeup to the Unit 1 RWST using BOP SI-13 starting at step f.4, to achieve 94% level.

CRITICAL ELEMENTS: (*) 2, 3, 4, 6 &7

APPROXIMATE COMPLETION TIME: 15 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME_____

Note:

Provide the examinee a copy of BOP SI-13

1. Refer to BOP SI-13, Filling the RWST **Cue: All prerequisites, precautions, limitations and actions are met**	◦ REVIEW prerequisites, precautions, limitations and actions	❑	❑	❑
*2. Prepare RMCS for RWST fill	At 1PM05J: • PLACE makeup control switch to 'Stop' • PLACE reactor makeup mode select switch to 'Manual' • PLACE 1CV110B to 'Close' • PLACE 1CV111B to 'Close'	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*3. Setup PW totalizer	At _PM05J: • SET 1FY-0111 • PRESS ‘RST’ on PW total flow totalizer and Verify the counter reads 0. • PRESS ‘PST’ on PW total flow totalizer • PRESS ‘→’ until desired digit flashes on the lower data display • PRESS ‘+’ or ‘-‘ to change flashing digit until the desired gallons is indicated on the lower data display • PRESS ‘ENT’ to lock-in the desired number of gallons (**18360 gals**) ◦ Verify the correct number of desired gallons is displayed on the lower data display with no numbers flashing	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

*4. Setup Boric Acid totalizer	At 1PM05J:
	• SET 1FY-0110
	  • PRESS 'RST' on BA total totalizer and Verify the counter reads 0.
	  • PRESS 'PST' on BA total totalizer
	  • PRESS '→' until desired digit flashes on the lower data display
	  • PRESS '+' or '-' to change flashing digit until the desired gallons is indicated on the lower data display
	  • PRESS 'ENT' to lock-in the desired number of gallons (**6169.0 gals**)
	  ° Verify the correct number of desired gallons is displayed on the lower data display with no numbers flashing
		❑	❑	❑

5. Determine desired blended flow control setpoints	• SET 1FK110 = 8.4 (+/- 1 turn) • SET 1FK111 = 6.25 (+/- 1 turn)	❑	❑	❑

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*6. Perform valve alignment	DIRECT operator to:	❑	❑	❑
Cue: Local operator reports 1CV8553 is CLOSED	◦ VERIFY/CLOSED 1CV8553			
Cue: Local operator reports 1CV8432 is OPEN	• OPEN 1CV8432			
Cue: Local operator reports 1CV8434 is OPEN	• UNLOCK and OPEN 1CV8434			
*7. Fill RWST with ≥ 2300 ppm blended flow	• PLACE makeup control switch to 'Start' ◦ VERIFY PW pump starts ◦ Verify boric acid transfer pump starts ◦ Verify BA and PW flowrates are as expected on 1FR-0110 ◦ MONITOR RWST level and BAT level	❑	❑	❑
8. Sample blended flow	◦ REQUEST chemistry notify control room when ready to sample blender	❑	❑	❑
Cue: Chemistry acknowldges request				
Cue: This completes this JPM.				

RECORD STOP TIME_____

COMMENTS:

Simulator Setup Instructions

JPM NO: Sim 300

REQUIRED SIMULATOR MODE(S): N/A

MALFUNCTION #'S:

1. Enter and Set Monitor Parameter RHMRWST to 3.43 e6
2. MRF CV65 100

COMMENTS:

Ensure BOP SI-13, Filling the RWST (Rev. 21) is filled out to step f.4 and PW and BA totalizers are reset.

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit 1 NSO.
2. The Unit is at 100% power. .

INITIATING CUES:

1. Annunciator 1-7-B3 “RCP SEAL LEAKOFF FLOW HIGH” has just gone into alarm.

JOB PERFORMANCE MEASURE Rev. 1, 3/28/06

TASK TITLE: **Respond to High RCP Seal Leakoff Flow** JPM No.: Sim 400

TPO No: IV.D.OA.05 K&A No.: 003 A2.01 K&A IMP. 3.5/3.9

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM___X___ SIMULATE _____

LOCATION: IN PLANT _____ SIMULATOR__X___

MATERIALS:

1BOA RCP-1, Rev. 102, Reactor Coolant Seal Failure

GENERAL REFERENCES:

1. 1BOA RCP-1, Rev. 102, Reactor Coolant Seal Failure
2. BAR 1-7-B3, Rev 10, RCP Seal Leakoff Flow High

TASK STANDARDS:

Respond to RCP Leakoff from No. 1 Seal.

TASK CONDITIONS:

1. You are the Unit 1 NSO.
2. The Unit is at 100% power.

INITIATING CUES:

Annunciator 1-7-B3 “RCP SEAL LEAKOFF FLOW HIGH” has just gone into alarm.

CRITICAL ELEMENTS: (*)

3,4 & 5

APPROXIMATE COMPLETION TIME: 5 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME_____

1.	Refer to BAR 1-7-B3, and perform Immediate Operator Actions. **Cue: The extra NSO will take care of subsequent actions** **Cue: US Directs NSO to Implement 1BOA RCP-1**	Locate and Open BAR 1-7-B3 and perform the following Immediate Operator Actions: • CHECK Seal Injection Flows. • DETERMINE which pump is alarming by SER printout. • REFER to 1BOA RCP-1.	o	o	o

Note:

Provide examinee a copy of 1BOA RCP-1

2.	Enter 1BOA RCP-1 and Check No. 1 Seal DP.	• CHECK 1B RCP No. 1 Seal DP GREATER THAN 200 PSID.	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*3. Check No. 1 Seal Leakoff Flow **NOTE: Examinee may take trip actions based on OAS Page.**	Perform the following to DETERMINE RCP Seal Leakoff Flow is HIGH: ° DETERMINE Seal DP by comparing Charging Header Pressure to VCT Pressure. • CHECK 1B RCP No. 1 Seal Leakoff Flows. • DETERMINE Actual 1B RCP No. 1 Seal Leakoff Flow is HIGH by comparing to Figure 1BOA RCP-1-1 and GO TO step 6.	o	o	o
Note: <u>Alternate Path starts here</u>				
*4. Monitor RCP Seal Parameters	• Determine 1B RCP No. 1 seal leakoff flow is greater than 6 GPM and implements RNO Step	o	o	o
*5. Perform an Immediate RCP Shutdown. **Cue: US acknowledges the tripping of the Rx** **Cue: This completes the JPM.** **RECORD STOP TIME** _____ COMMENTS:	• Trip the reactor. • Trip the affected pump.	o o	o o	o o

SIMULATOR SETUP INSTRUCTIONS

JPM NO: Sim 400

REQUIRED SIMULATOR MODE(S): 100% power steady state

MALFUNCTION #'S:

1) IMF CV27B Ramp from 5 gpm to 12 gpm over 180 seconds.

COMMENTS:

1) Insert malf and freeze simulator, go to run after examinee has been cued.

2) Ensure SER is on and the correct SER point (2072) is visible on the terminal at the NSO desk.

3) VCT level at top of green band.

4) 1B RCP Leakoff recorder should indicate greater than 6 gpm.

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit 1 NSO.
2. Unit 1 is at 100% power with all systems and controls in automatic.
3. Unit 2 is in Mode 3.

INITIATING CUES:

Annunciator 1-19-B6, GENERATOR FIELD FORCING comes in.

JOB PERFORMANCE MEASURE Rev. 3, 03/17/06

TASK TITLE: Respond to 345 KV Grid or Voltage Regulator Instability (recoverable) JPM No.: Sim 500

TPO No: IV.D.OA-48 K&A No.: 045 K3.01 K&A IMP. 2.9/3.2

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM___X___ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR___X___

MATERIALS:

None

GENERAL REFERENCES:

1. BAR 1-19-B6, GENERATOR FIELD FORCING (Rev. 5)
2. BCB-1, Fig. 20b, Generator Capability Curves and Underexcitation Limiter Settings (Rev. 2)

TASK STANDARDS:

Take the actions necessary to respond to an automatic voltage regulator failure per BAR 1-19-B6.

TASK CONDITIONS:

1. You are the Unit 1 NSO.
2. Unit 1 is at 100% power with all systems and controls in automatic.
3. Unit 2 is in Mode 3.

INITIATING CUES:

Annunciator 1-19-B6, GENERATOR FIELD FORCING comes in.

CRITICAL ELEMENTS: (*) 2, 3

APPROXIMATE COMPLETION TIME: 5 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

1. Refer to BAR 1-19-B6, GENERATOR FIELD FORCING **Note: JPM step 1 may be performed at any time** **Cue: If asked, Grid is stable.**	• LOCATE and OPEN BAR 1-19-B6	☐	☐	☐
*2. Turn voltage regulator off	• SHIFT voltage regulator to OFF	☐	☐	☐

Note:

The generator field amps will decrease when the voltage regulator is placed in off and the base adjuster is lowered. The trainee should NOT have to trip the reactor.

*3. Reduce excitation	• REDUCE base adjuster setting • OBSERVE exciter field current < 100 amps ° Notify Electric Operations	☐	☐	☐
4. Check for Grid Instabilities. **Cue: Grid is stable.**	° If Grid instabilities are present , Then Notify Electric Operations of alarm	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
5. Check Unit 2 for Main Generator adverse trends. **Cue: Unit 2 is off-line.**	° Check Unit 2 for adverse Main Generator Trends ° If adverse trends noted, reference SPOG 1-8 for necessary actions	☐	☐	☐
6. Verify amps less than 109.	° If generator field current CANNOT be reduced to less than 109 amps, then trip Rx if above P8 or trip turbine if below P8	☐	☐	☐
7. Notify Electric Operations **Cue: Electric Operations has been notified of the voltage regulator failure** **Cue: Both MW and VAR values are within Figure 20b limits.** **Cue: <u>This JPM is completed</u>**	° INFORM Electric Operations of voltage regulator failure ° ENSURE MW and VAR within BCB-_, Figure 20b limits	☐	☐	☐

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

JPM NO: Sim 500

REQUIRED SIMULATOR MODE(S): 100% power steady state

MALFUNCTION #'S:

1) IMF EG03 from 90 - 93% over 180 seconds.

COMMENTS:

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.

2. Unit 1 is at 100% power.

INITIATING CUES:

1. Unit 1 PRT level has risen to 90% due to inadvertent opening of a PZR PORV.

2. The US has directed you to return the Unit 1 PRT level to within its normal operating band.

JOB PERFORMANCE MEASURE Rev. 1, 03/17/2006

TASK TITLE: Drain the PZR Relief Tank (PRT) JPM No.: Sim 600

TPO No: IV.C.RY-03 K&A No.: 007 A1.01 K&A IMP: 2.9 / 3.1

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM__X___ SIMULATE_____

LOCATION: PLANT__ __ SIMULATOR__X__

MATERIALS:

1. Copy of BOP RY-4

GENERAL REFERENCES:

1. BOP RY-4, Rev. 5, Draining the Pressurizer Relief Tank

TASK STANDARDS:

1. Decrease PRT level to < 88%, but > 59%.
2. Restores PRT Pressure to > 0 psig, if reduced to $\leq$ 0 psig.

TASK CONDITIONS:

1. You are the Unit 1 Assist NSO.
2. Unit 1 is at 100% power.

INITIATING CUES:

1. Unit 1 PRT level has risen to 90% due to inadvertent opening of a PZR PORV.
2. The US has directed you to return the Unit 1 PRT level to within its normal operating band.

CRITICAL ELEMENTS: (*) 6, 7, 9, 11, 12 & 13

APPROXIMATE COMPLETION TIME: 10 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note:

Examinee may refer to BAR 1-12-A7 "PRT Level High Low"

Actions here will direct:

1) Checking PORV and Safety Valves NOT open, 2) Pump down the PRT, 3) Check RCS leakage. It is not required for the examinee to perform these actions, but is acceptable if done. Initiating cues provided the cause for the high level alarm.

1.	Refer to BOP RY-4, Draining the Pressurizer Relief Tank	• LOCATE and OPEN BOP RY-4	o	o	o

Cue: Prerequisites are met.

Note:

Provide the examinee with a copy of BOP RY-4.

2.	Verify/Close 1RY469.	At 1PM05J: ◦ Verify/Close 1RY469	o	o	o
3.	Verify 1RY8034 is maintaining PRT pressure.	At 1PM05J: o Verify PRT pressure is ~3 psig	o	o	o
4.	Verify/Open 1RY8033.	At 1PM05J: o Verify/Open 1RY8033	o	o	o
5.	Verify/Open 1RE9170	At 1PM11J: o Verify/Open 1RE9170	o	o	o
*6.	Verify/Open 1RE1003	At 1PM11J: • Verify/Open 1RE1003	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*7. Open 1RY8031	At 1PM05J: • Open 1RY8031	o	o	o
Note: Alternate Path starts here. **1RE01PB is interlocked to Auto Start when 1RY8031 OPENs.**				
8. Verify/Start 1RE01PB **Cue: US acknowledges that pump didn't start as expected and informs the NSO to continue with the procedure.**	At 1PM05J: o Verify/Start 1RE01PB o Inform US that 1RE01PB did not start	o	o	o
*9. Start 1RE01PA	At 1PM05J: • Start 1RE01PA ° Verify that 1RE01PA started	o	o	o
10. Ensure PRT pressure remains above 0 psig.	At 1PM05J: o Monitor PRT pressure on 1PI-469	o	o	o
*11. Close 1RY8031.	At 1PM05J: • Close 1RY8031	o	o	o
*12. Stop 1RE01PA	At 1PM05J: • Stop 1RE01PA	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*13. Close 1RE1003	At 1PM11J: • Close 1RE1003	o	o	o

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

JPM NO: Sim 600

REQUIRED SIMULATOR MODE(S): 100% power steady state

MALFUNCTION #'S:

1. IOR ZDI1RE01PB (Stop)

COMMENTS:

1. Raise PRT level to 90% by opening PW supply to PRT.

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.

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. 5, 3/17/06

TASK TITLE: Synchronize a D/G to a Bus and Load to 5400 KW (DG will not pick up load) JPM No.: Sim 700

TPO No: IV.C.DG-02 K&A No.: 064 A4.06 K&A IMP. 3.9/3.9

TRAINEE:_____ DATE: ___/___/___

The Trainee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM__X____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__**X**___

MATERIALS:

BOP DG-11, Diesel Generator Startup (Rev. 19) completed thru step F.4

GENERAL REFERENCES:

1. BOP DG-11, Diesel Generator Startup (Rev. 19)
2. BOP DG-11T1, Diesel Generator Start /Stop Log (Rev. 2)

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

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
RECORD START TIME _____				
1. Refer to BOP DG-11, Diesel Generator Startup **Cue: All prerequisites have been met** **Cue: (If asked) The 1A DG was started per step F.1** **Note: This step may be performed at any time.**	• LOCATE and OPEN BOP DG-11, step F.5	o	o	o
2. Notify Electric Operations of pending diesel generator parallel operation, estimated run time, and loading **Cue: Electric Operations has been informed**	° Notify Electric Operations	o	o	o
3. Auto Re-close Circuit Arm Selector	At 1PM01J: ° PLACE Auto Re-close Circuit Arm Selector Switch to SURV TEST	o	o	o
4. Verify DG operating properly	At 1PM01J, CHECK: ° DG frequency ° DG voltage	o	o	o
5. Verify the same voltage across each phase.	At 1PM01J, CHECK: ° DG phase voltages	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*6. Turn on the 1A DG Feed to 141 Sync Selector switch.	At 1PM01J: • TURN Sync Selector switch for DG 1A Feed to KV Bus 141 to ON	o	o	o
7. Adjust the incoming voltage.	At 1PM01J: ◦ ADJUST incoming voltage SLIGHTLY HIGHER than running voltage using DG 1A Volt Adj control	o	o	o
8. Adjust 1A DG speed.	At 1PM01J: ◦ Adjust speed so synchroscope rotates SLOWLY in FAST DIRECTION using DG 1A Gov Adj control	o	o	o
*9. Synchronize the DG **Cue: If requested, NLO is locally monitoring temperatures per notes in BOP**	At 1PM01J: • PLACE control switch for ACB 1413 to CLOSE when synchroscope is slightly before 12 o'clock	o	o	o
10. Verify the synchroscope is locked in.	At 1PM01J: ◦ VERIFY synchroscope "locks in" at 12 o'clock	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
Note: Alternate Path starts here				
*11. Immediately load the 1A DG to 1000 KW. **Note: The governor adjust is failed such that the diesel generator will NOT load**	At 1PM01J: ° IMMEDIATELY load DG to 1000 KW by going to RAISE on Gov Adj Control • OPEN output breaker within One minute and prior to Reverse Power.	o	o	o
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** **RECORD STOP TIME** _____ COMMENTS:	° NOTIFY Unit Supervisor of the unsuccessful loading of the diesel	o	o	o

SIMULATOR SETUP INSTRUCTIONS

JPM NO: Sim 700

REQUIRED SIMULATOR MODE(S): 99.8% power steady state

MALFUNCTION #'S:

1. trgset 7 "ZLO1HSDG026(3).gt.0"
2. trg 7 "imf eg07a 22"

COMMENTS:

1. Start 1A DG
2. MRF eg06 reset
3. Set trigger

JOB PERFORMANCE MEASURE

TASK CONDITIONS:

1. You are the Unit NSO.
2. The reactor is at 100% power.
3. All systems and controls are in automatic.

INITIATING CUE:

Respond to MCB alarms on 1PM05J.

JOB PERFORMANCE MEASURE Rev. 8, 4/3/2006

TASK TITLE: Response to a Power Range NI Failure JPM No.: Sim 800

TPO No: IV.D.OA-15 K&A No.: 015 A2.01 K&A IMP. 3.5 / 3.9

EXAMINEE: _____ DATE: ___/___/___

The Examinee: PASSED_____ this JPM TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

EVALUATION METHOD: PERFORM_____ SIMULATE_____

LOCATION: IN PLANT_____ SIMULATOR__**X**___

MATERIALS:

1. Copy of 1BOA INST-1, Attachment A

GENERAL REFERENCES:

1. 1BOA INST-1, Nuclear Instrumentation Malfunction (Rev. 104)
2. BAR 1-10-A3, PWR RNG HIGH STPT RX TRIP ALERT (Rev. 51)
3. BAR 1-10-A4, PWR RNG UPPER DET FLUX DEV HIGH (Rev. 5)
4. BAR 1-10-A7, ROD DEV POWER RNG TILTS (Rev. 16)
5. BAR 1-10-B5, PWR RNG FLUX HIGH ROD STOP (Rev. 1)

TASK STANDARDS:

1. Respond to a PR NI failure.
2. Trip the associated bistables.

TASK CONDITIONS:

1. You are the Unit 1 NSO.
2. The reactor is at 100% power.
3. All systems and controls are in automatic.

INITIATING CUE:

1. Respond to MCB alarms on 1PM05J.

CRITICAL ELEMENTS: (*) 2, 3, 7, 8, & 9

APPROXIMATE COMPLETION TIME: 10 minutes

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note:

Once the examinee has the Unit, Inform Machine Operator to insert malfunction

1. Refer to 1BOA INST-1, Nuclear Instrumentation Malfunction **Note**: **This may be performed at any time**. **Cue**: **SM will evaluate E-Plan**.	• LOCATE and OPEN 1BOA INST-1, Attachment A ◦ Inform SM to evaluate conditions for the E-Plan	o	o	o

Note:

Provide the examinee a copy of 1BOA INST-1, Attachment A.

*2. Check rod control status	At 1PM05J: • PLACE Rod Bank Select switch in MANUAL	o	o	o

Cue: When the examinee reports the failure to the US, acknowledge the report and give the following direction: <u>Perform actions required and the U1 Assist NSO will monitor the Unit while you continue</u>.

*3. Check for Rod Stop	At 1PM05J: • Check Alarm 1-10-B5 is LIT At 1PM07J: • PLACE Rod Stop Bypass switch in the N-41 position	o	o	o
4. Check Tave-Tref deviation	At 1PM05J: ◦ CHECK Tave-Tref STABLE and within 1 °F	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
5. Match Tave to Tref **Cue: U1 Assist NSO will restore Tave**	RESTORE Tave-Tref to within 1 °F by: ° Manual rod control ° Adjusting turbine load ° Adjusting RCS boron	o	o	o
6. Check SG levels	At 1PM04J: ° CHECK SG levels	o	o	o
*7. Bypass PR 41	At 1PM07J: BYPASS N41 on the Detector Current Comparator: • Upper current comparator • Lower current comparator BYPASS N41 on the Miscellaneous Control and Indication Section: • Power mismatch bypass ◦ Rod Stop bypass BYPASS N41 on the Comparator and Rate Panel: • Comparator channel defeat	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

Note:

Placement of orange dots is one method of ensuring coincidence will not be met, causing a reactor trip. The evaluator should apply discretion in accepting alternate methods since no specific method is stated in 1BOA INST-1.

*8. Trip Hi/Lo and Positive rate Rx trip bistables for channel N-41	At 1PM07J:
	• REMOVE control power fuses for N-41 to TRIP bistables:
	  • NC41P
	  • NC41R
	  • NC41U/K
		o	o	o

*9. Trip Hi/Lo and Positive rate Rx trip bistables for channel N-41 **Cue: Required Bistables have been TRIPPED**	Locally TRIP bistables by placing switches in TEST: • TB411C • TB411D	o	o	o
10. Select operable channels	At 1PM05J, SELECT operable channel for: • Loop ΔT recorder	o	o	o

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
11. Defeat effected channel inputs to PDMS	Using the OPCON computer: • REMOVE N0049A from scan • Place N0041 in TEST • Place N0042 in TEST • Place U1144 in TEST	o	o	o
Cue: This JPM is completed.				

RECORD STOP TIME _____

COMMENTS:

Simulator Setup Instructions

JPM NO: Sim 800

REQUIRED SIMULATOR MODE(S): 100% power steady state

MALFUNCTION #'S:

1. IMF NI09a to 120 when directed by examiner
2. To Trip Bistables:
    a. MRF RP20 for Cab Door 1PA01J
    b. MRF RX013 Trip (OTΔT trip, C1-124, BS-3)
    c. MRF RX135 Trip (OTΔT runback, C1-124, BS-4)

COMMENTS:

Ensure computer points are restored to normal status after each examinee.