SIM JPM A

Facility: McGuire Task No.:

Task Title: Place LTOP in Service JPM No.: 2011 Systems - Control Room JPM A

K/A Reference: 010, A4.03 (4.0/3.8)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:

- A Unit 1 NC cooldown and depressurization is in progress in accordance with OP/1/A/6100/SD-4 (Cooldown to 240 Degrees F).
- Enclosure 4.2 (Cooldown to 240°F (Control Room Activities)) is in progress.
- The 1A and 1B NCPs are operating.
- NC System pressure is 340 psig and NC System temperature is 310-320°F.
- NC Pressure control via normal spray and PZR heaters.
- NC pressure is being controlled using 1NC-29C, 1B NC Loop Pzr Spray Control, in MANUAL.
- Enclosure 4.1 of OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation) has been completed through Step 3.13 1.

Task Standard: The operator will manually decrease NC System Pressure to 320-330 psig and place LTOP in service.

Required Materials: None

General References:	OP/1/A/6100/SD-4 (Cooldown to 240 Degrees F), Rev 50 OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation), Rev 32
Handouts:	Enclosure 4.2 (Cooldown to 240°F (Control Room Activities)) of OP/1/A/6100/SD-4 (Cooldown to 240 Degrees F) marked up for place-keeping through Step 3.3. OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation) Enclosure 4.1 (Placing LTOP System in Service per OP/1/A/6100/SD-4 (Cooldown to 240 degrees F)) marked up for place-keeping through Step 3.13.1.
Initiating Cue:	The CRS has directed you to adjust NC System pressure per Step 3.4 of Enclosure 4.2 (Cooldown to 240°F (Control Room Activities)) of OP/1/A/6100/SD-4 (Cooldown to 240 Degrees F). Then place the LTOP System in operation beginning with Step 3.13.2 - of Enclosure 4.1 of OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation) and monitor for proper operation.
Time Critical Task:	NO
Validation Time:	15 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset simulator to IC-96 (360°F, 980 psig, A/B RCPs running).
2. Place in RUN
3. Adjust NCS Temperature to 300-320°F, and NCS Pressure to 340 psig.
4. Insert MALF-IPE0036 = 2 to bypass P-12, and allow all SD Valves.
5. Continue to adjust NCS to adjust NCS Temperature to 300-320°F, and NCS Pressure to 340 psig.
6. Insert LOA NC043 and LOA NC044 (Wide Range)
7. Place LTOP PORV switches is NORMAL
8. Insert LOA-NI014 (1NI A), LOA-NI015 (1NI B), LOA-NV046 (1NV A) and LOA-NV045 (PD Pump) - Breakers Racked Out.
9. When NCS Temperature/Pressure in range place SDS in AUTO (SG Pressure ≈70 psig)
10. Insert LOA-NI022 = RI, LOA-NI023 = RI, LOA-NI019 = RI, LOA-NI024 = RI, LOA-NI025 = RI, LOA-NI026 = RI, LOA-ND015 = RI, LOA-ND016 = RI, LOA-NS007 = RO, and LOA-NS008 = RO.
11. Ensure that Simulator reflects that Enclosure 4.1 of OP/1/A/6100/SO-10 is completed through Step 3.13.1
12. Freeze the Simulator

OR

1. Reset to IC-250 (March, 2011)
2. Momentarily go to RUN to acknowledge Alarms then place Simulator in FREEZE.
3. Ensure that the "AFD" Computer screen displays the "C/D Tab" panel and that the "BOP" screen displays the "NCLTOP" panel.
4. Place Info Stickers on PORV Controls.
5. Leave Simulator in FREEZE until operator is ready to begin.

NOTE: **During the performance of this JPM, the simulator operator will need to control CF flow to the SGs (Monitor Wide Range Levels).**

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.2 of OP/1/A/6100/SD-4 marked up for place-keeping through Step 3.3 of OP/1/A/6100/SO-10, with Enclosure 4.1 marked up for place-keeping through step 3.13.1.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
Simulator Instructor NOTE: Leave Simulator in FREEZE until operator is ready to begin.				
*1	(Step 3.4) Continue depressurization to 320-330 psig.	The operator observes M1A1359 is 340 psig. The operator adjusts Spray Valve(s) in the OPEN direction using the UP ARROWHEAD Pushbutton, and lowers NC System Pressure to < 330 psig. When NC System Pressure < 330 psig, the operator adjusts Spray Valve(s) in the CLOSED direction in order to maintain pressure 320-330 psig. The operator proceeds to Step 3.13.2 - of Enclosure 4.1 of OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation)		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
2	(Step 3.13.2) Ensure in service: M1A1359 (NC NR Pressure for 1NC-32B actuation). M1A1365 (NC NR Pressure for 1NC-34A actuation).	The operator calls up both points on OAC.		
3	(Step 3.13.3) Monitor: M1A1359 (NC NR Pressure for 1NC-32B actuation). M1A1365 (NC NR Pressure for 1NC-34A actuation).	The operator monitors both points and observes NC NR Pressure to be between 320-330 psig.		
4	(Step 3.13.4) Ensure the following for A Cold Leg Accumulator: Pressure greater than 200 psig. Level less than 38.7% (7342 gallons maximum).	The operator observes 1NIP-5050 and 1NIP-5040, and determines A CLA pressure to be ≈625 psig. The operator observes 1NIP-5051 and 1NIP-5041, and determines A CLA Level to be ≈28%.		
5	(Step 3.13.5) Ensure the following for B Cold Leg Accumulator: Pressure greater than 200 psig. Level less than 38.7% (7342 gallons maximum).	The operator observes 1NIP-5070 and 1NIP-5060 and determines B CLA pressure to be ≈620 psig. The operator observes 1NIP-5071 and 1NIP-5061 and determines B CLA Level to be ≈28%.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
6	(Step 3.13.6) Ensure open: 1NC-31B (Pzr PORV Isol). 1NC-33A (Pzr PORV Isol).	The operator observes Red status light LIT, Green status light OFF for 1NC-31B. The operator observes Red status light LIT, Green status light OFF for 1NC-33A.		
7	(Note prior to Step 3.13.7) For NC Loop in which an NC Pump is operating, NR pressure may indicate up to 20 psig higher than NR pressure for NC Loop in which an NC Pump is NOT operating.	The operator reads the Note, and proceeds to Step 3.13.7.		
*8	(Step 3.13.7) When M1A1359 indicates 320-330 psig, perform the following: (Step 3.13.7.1) Select "LOW PRESS" on "PORV Overpress Protection Select 1NC-32B."	The operator observes M1A1359 is between 320-330 psig, and selects LOW PRESS on PORV Overpress Protection Select 1NC-32B.		
9	(Step 3.13.7.2) Check lit 1AD-6, F10 (PORV NC-32B Emerg CLA N_2 Enabled)	The operator observes that 1AD-6, F-10 is LIT.		
10	(Step 3.13.7.3) Ensure open 1NI-431B (Emerg N2 from CLA to 1NC-32B & 36B).	The operator observes that Red status light is LIT, Green status light OFF for 1NI-431B. **NOTE:** If CLOSED, the operator presses the OPEN Pushbutton and Observes Red status light is LIT, Green status light OFF for 1NI-431B.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
11	(Note prior to Step 3.13.7.4) Continue with the rest of the procedure while performing Step 3.13.7.4.	The operator reads the Note, and proceeds to Step 3.13.7.4.		
12	(Step 3.13.7.4) Place Info Sticker on control switch for 1NI-431B stating: "Do **NOT** operate, N_2 aligned to 1NC-32B for LTOP."	**Cue:** **Another operator will fill out and place an Info Sticker for 1NI-431B** The operator acknowledges and proceeds to Step 3.13.7.5.		
13	(Step 3.13.7.5) Ensure 1NC-32B (Pzr PORV) in "AUTO."	The operator observes that Control Switch for 1NC-32B is in AUTO.		
*14	(Step 3.13.8) When M1A1365 indicates 320-330 psig, perform the following: (Step 3.13.8.1) Select "LOW PRESS" on "PORV Overpress Protection Select 1NC-34A."	The operator observes M1A1365 is between 320-330 psig, and selects LOW PRESS on PORV Overpress Protection Select 1NC-34A.		
15	(Step 3.13.8.2) Check lit 1AD-6, F9 (PORV NC-34A Emerg CLA N_2 Enabled)	The operator observes that 1AD-6, F-9 is LIT.		
16	(Step 3.13.8.3) Ensure open 1NI-430A (Emerg N2 from CLA to 1NC-34A).	The operator observes that Red status light is LIT, Green status light OFF for 1NI-430A.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
17	(Note prior to Step 3.13.8.4) Continue with the rest of the procedure while performing Step 3.13.8.4.	The operator reads the Note, and proceeds to Step 3.13.8.4.		
18	(Step 3.13.8.4) Place Info Sticker on control switch for 1NI-430A stating: "Do **NOT** operate, N_2 aligned to 1NC-34A for LTOP."	**Cue:** **Another operator will fill out and place an Info Sticker for 1NI-430A** The operator acknowledges and proceeds to Step 3.13.9.5.		
19	(Step 3.13.8.5) Ensure 1NC-34A (Pzr PORV) in "Auto."	The operator observes that Control Switch for 1NC-34A is in AUTO.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM A

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

- A Unit 1 NC cooldown and depressurization is in progress in accordance with OP/1/A/6100/SD-4 (Cooldown to 240 Degrees F).
- Enclosure 4.2 (Cooldown to 240°F (Control Room Activities)) is in progress.
- The 1A and 1B NCPs are operating.
- NC System pressure is 340 psig and NC System temperature is 310-320°F.
- NC Pressure control via normal spray and PZR heaters.
- NC pressure is being controlled using 1NC-29C, 1B NC Loop Pzr Spray Control, in MANUAL.
- Enclosure 4.1 of OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation) has been completed through Step 3.13 1.

INITIATING CUE:

The CRS has directed you to adjust NC System pressure per Step 3.4 of Enclosure 4.2 (Cooldown to 240°F (Control Room Activities)) of OP/1/A/6100/SD-4 (Cooldown to 240 Degrees F).

Then place the LTOP System in operation beginning with Step 3.13.2 - of Enclosure 4.1 of OP/1/A/6100/SO-10 (Controlling Procedure for LTOP Operation) and monitor for proper operation.

SIM JPM B

Facility:	McGuire	Task No.:	
Task Title:	Manually Align Phase B HVAC Equipment	JPM No.:	2011 Systems - Control Room JPM B (Alternate Path)
K/A Reference:	028, A4.01 (4.0/4.0)		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:
- You are the Unit 2 BOP.
- Unit 1 has experienced a Large Break LOCA.
- The crew is implementing EP/1/A/5000/E-0 (Reactor Trip or Safety Injection).

Task Standard: The operator manually starts both Trains of the VE and VX Systems.

Required Materials: None

General References: EP/1/A/5000/E-0 (Reactor Trip or Safety Injection), Rev 30

Handouts: Enclosure 2 (Phase B HVAC Equipment) of EP/1/A/5000/E-0 (Reactor Trip or Safety Injection).

Initiating Cue: The CRS has directed you to check Phase B HVAC equipment in accordance with Enclosure 2, (Phase B HVAC Equipment), of EP/1/A/5000/E-0, (Reactor Trip or Safety Injection). — Serviced

Time Critical Task: NO

Validation Time: 5 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC # 39, 100% Power, MOL. Go to RUN.

2. Insert:

   a. MALF-NC008A Large Break LOCA on Trigger 1.

   b. MALF-ISE004A (Both) Failure of Train A of Phase B Containment Isolation
   MALF-ISE004B (Both) Failure of Train B of Phase B Containment Isolation

3. Actuate Trigger 1

4. Perform steps 1 through 15.h of EP/1/A/5000/E-0 (Including manual actions to overcome failure of Containment Phase B Isolation).

5. Freeze Simulator.

OR

1. Reset Simulator to Temporary Snap IC-251 (March, 2011).

2. Momentarily go to RUN to acknowledge Alarms then place Simulator in FREEZE.

3. Leave Simulator in FREEZE until operator is ready to begin.

NOTE: **FWST level is depleting rapidly and could interfere with the performance of this JPM.**

If the FWST level drops low enough to require CLR switchover the Simulator Instructor should silence the alarm.

The operator will NOT be expected to respond to this alarm.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 2 of EP/1/A/5000/E-0.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
Simulator Instructor NOTE: Leave Simulator in FREEZE until operator is ready to begin.				
1	(Steps 1/1.a) Check VE System in operation as follows: VE Fans – ON.	The operator observes the 1A VE Fan Green status light LIT, and Red status light OFF and determines that the fan is OFF. The operator observes the 1B VE Fan Green status light LIT, and Red status light OFF and determines that the fan is OFF. **(Alternate Path)**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*2	(Steps 1.a RNO a.1-2) Start fans as follows: Select "ON". Return switch to "AUTO".	The operator places the 1A VE Fan control switch to ON, and observes the Red status light LIT, Green status light OFF. The operator returns the 1A VE Fan control switch to AUTO. The operator places the 1B VE Fan control switch to ON, and observes the Red status light LIT, Green status light OFF. The operator returns the 1B VE Fan control switch to AUTO.		
3	(Step 1.b) Ensure all damper mode select switches in "AUTO": 1AVS-D-7 Mode Select 1AVS-D-8 Mode Select 1AVS-D-2 Mode Select 1AVS-D-3 Mode Select.	The operator observes that the 1AVS-D-7 Mode Select Switch is in AUTO. The operator observes that the 1AVS-D-8 Mode Select Switch is in AUTO. The operator observes that the 1AVS-D-2 Mode Select Switch is in AUTO. The operator observes that the 1AVS-D-3 Mode Select Switch is in AUTO.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
4	(Step 1.c) Annulus pressure being maintained - NEGATIVE.	The operator observes 1VEP-5100 and 1VEP-5110 are indicating -3" water column and determines that the Annulus pressure is negative.		
5	(Steps 2/2.a) Check VX System in operation as follows: Time since Phase B actuation - GREATER THAN 10 MINUTES.	After the cue, the operator recognizes that the time since Phase B actuation is greater than 10 minutes and proceeds to Step 2.b. **Cue:** **Phase B Isolation on Unit 1 actuated 12 minutes ago.**		
6	(Step 2.b) Check the following - OPEN: 1RAF-D-4 (1B Cont Air Ret Fan To Lwr Cont Test A) 1VX-2B (1B H2 Skimmer Fan Isol Test A) 1RAF-D-2 (1A Cont Air Ret Fan To Lwr Cont Test A) 1VX-1A (1A H2 Skimmer Fan Isol Test A).	The operator observes that the 1RAF-D-4 Green status light is LIT, Red status light is OFF. The operator observes that the 1VX-2B Green status light is LIT, Red status light is OFF. The operator observes that the 1RAF-D-2 Green status light is LIT, Red status light is OFF. The operator observes that the 1VX-1A Green status light is LIT, Red status light is OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*7	(Step 2.b RNO) open dampers.	The operator presses the 1RAF-D-4 OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF. The operator presses and holds the 1VX-2B OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF. The operator presses the 1RAF-D-2 OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF. The operator presses and holds the 1VX-1A OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF.		
8	(Step 2.c) Check Containment Air Return fans - ON.	The operator observes the 1A CAR Fan Green status light LIT, and Red status light OFF. The operator observes the 1B CAR Fan Green status light LIT, and Red status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*9	(Step 2.c RNO) start fans.	The operator depresses the START pushbutton for the 1A CAR Fan, and observes the Red status light LIT, Green status light OFF. The operator depresses the START pushbutton for the 1B CAR Fan, and observes the Red status light LIT, Green status light OFF.		
10	(Step 2.d) Check H_2 Skimmer fans - ON.	The operator observes the 1A H_2 Skimmer Fan Green status light LIT, and Red status light OFF. The operator observes the 1B H_2 Skimmer Fan Green status light LIT, and Red status light OFF.		
*11	(Step 2.d RNO) start fans.	The operator depresses the START pushbutton for the 1A H_2 Skimmer Fan, and observes the Red status light LIT, Green status light OFF. The operator depresses the START pushbutton for the 1B H_2 Skimmer Fan, and observes the Red status light LIT, Green status light OFF.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM B

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- You are the Unit 2 BOP.
- Unit 1 has experienced a Large Break LOCA.
- The crew is implementing EP/1/A/5000/E-0 (Reactor Trip or Safety Injection).

INITIATING CUE:

The CRS has directed you to check Phase B HVAC equipment in accordance with Enclosure 2, (Phase B HVAC Equipment), of EP/1/A/5000/E-0, (Reactor Trip or Safety Injection).

SIM JPM C

Facility: McGuire Task No.:

Task Title: Emergency Borate the RCS JPM No.: 2011 Systems - Control Room JPM C (Alternate Path)

K/A Reference: 004 A4.18, 4.3/4.1

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:
- With the plant at power, a Reactor Makeup System failure has resulted automatic Control Rod insertion.
- MCB Annunciator 1AD-2, A9, CONTROL ROD BANK LO LIMIT, has alarmed.
- The crew has entered AP/1/A/5500/38 (Emergency Boration) and completed the procedure through Step 11.
- The 1B BA Transfer Pump is OOS.

Task Standard: The operator establishes Emergency Boration flow from the FWST.

Required Materials: None

General References: OP/1/A/6100/010 C (Annunciator Response for Panel 1AD-2), Rev. 61
AP/1/A/5500/38 (Emergency Boration), Rev. 10

Handouts: AP/1/A/5500/38 (Emergency Boration), marked up through Step 11.

Initiating Cue: The CRS has directed you to initiate Emergency Boration starting with Step 12 of AP/1/A/5500/38 (Emergency Boration).

Time Critical Task: No

Validation Time: 5 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC-39 (100% Steady-state)
2. Place Simulator in Run and acknowledge Annunciator Alarms.
3. Enter MALF-NC001 = 1010, ramped at 180 seconds, and allow Controls Rods to auto insert until MCB Annunciator 1AD-2, A9, has alarmed.
4. Stabilize plant at < 100% power (NOTE; AFD is NOT within Spec).
5. Insert the following:
   - LOA-NV044, BORIC ACID XFR PUMP 1B RACKOUT (Control Switch in STOP)
   - MALF-NV12, Plugged BA Filter = 100
6. Place the 1A BA Transfer Pump Control Switch in AUTO with Pump OFF.
7. Perform Steps 1-11 of AP/1/A/5500/38.
8. Acknowledge alarms and Freeze the Simulator.

OR

1. Reset Simulator to Temporary Snap IC-252 (March, 2011)
2. Place Red Tag Sticker on 1B Boric Acid Transfer Pump.
3. Momentarily place Simulator in Run for **at LEAST 30 seconds** to acknowledge alarms.
4. Leave Simulator in FREEZE until operator is ready to begin.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout AP/1/A/5500/38 marked up through Step 11.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
Simulator Instructor NOTE: Leave Simulator in FREEZE until operator is ready to begin.				
1	(Step 12) Initiate emergency boration as follows: (Step 12.a) Check 1A or 1B NV pump- AVAILABLE	The operator observes Red status light LIT, Green status light OFF for the 1B NV Pump.		
2	(Step 12.b) Check any NV pump-ON.	The operator observes Red status light LIT, Green status light OFF for the 1B NV Pump, and that amperage is at normal running amps.		
3	(Step 12.c) Check the following boric acid system component – AVAILABLE. Boric Acid Storage Tank Boric Acid Transfer pump.	The operator observes 1NVP-5740 and determines that 1 BAT level is 82%. (Or equivalent, i.e. observes the OAC) The operator observes 1NVP-6070 and determines that 2 BAT level is 80%. (Or equivalent, i.e. observes the OAC) The operator observes Green status light LIT, Red status light OFF for the 1A BA Transfer Pump.		

PERFORMANCE INFORMATION

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
4	(Step 12.d) OPEN 1NV-265B (Boric Acid to NV Pumps).	The operator presses the OPEN pushbutton for 1NV-265B, and observes Red status light LIT, Green status light OFF.		
5	(Step 12.e) Ensure a boric acid transfer pump is running.	The operator rotates the Control Switch to START for the 1A BA Transfer Pump, and observes Red status light LIT, Green status light OFF.		
		NOTE: **The BA Filter is plugged and therefore, there will be no flow indicated in the NEXT Step.**		
6	(Step 12.f) Check boration flow using one of the following methods: IF 1NV-265B is open, THEN check "EMERGENCY BORATION FLOW" – ESTABLISHED.	The operator observes 1NVP-5440 (Or equivalent, i.e. OAC) observes 5 gpm, and determines that Emergency Boration Flow is NOT established, and proceeds to RNO. **(ALTERNATE PATH)**		
7	(Step 12.f RNO) Perform the following: (Step 12.f RNO 1) Start second boric acid transfer pump.	The operator recognizes that the 1B BA Transfer Pump is OOS, and proceeds.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*8	(Step 12.f RNO 2) IF boration flow cannot be established, THEN align NV pump suction to FWST as follows: (Step 12.f RNO 2.a) OPEN the following valves: 1NV-221A (NV Pumps Suct From FWST) 1 NV-222B (NV Pumps Suct From FWST).	The operator presses the OPEN pushbutton for 1NV-221A, and observes Red status light LIT, Green status light OFF. The operator presses the OPEN pushbutton for 1NV-222B, and observes Red status light LIT, Green status light OFF. **NOTE:** **One of the two valves must be open to satisfy the Critical nature of the step.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*9	(Step 12.f RNO 2.b) CLOSE the following valves: 1NV-141A (VCT Outlet Isol) 1NV-142B (VCT Outlet Isol).	The operator presses the CLOSE pushbutton for 1NV-141A, and observes Green status light LIT, Red status light OFF. The operator presses the CLOSE pushbutton for 1NV-142B, and observes Green status light LIT, Red status light OFF. **NOTE:** **One of the two valves must be open to satisfy the Critical nature of the step.**		
10	(Step 12.f RNO 2.c) GO TO Step 15	The operator proceeds to Step 15.		
11	(Step 15) Align Normal Charging flowpath as follows: (Step 15.a) Ensure one of the following NC loop isolation valves is OPEN: 1NV-13B (NV Supply to A NC Loop Isol) OR 1NV-16A (NV Supply to D NC Loop Isol).	The operator observes the 1NV-13B Red status light LIT, Green status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
12	(Step 15.b) Check both of the following valves- OPEN: 1NV-224A (Charging Line Cont Outside Isol) 1NV-245B (Charging Line Cont Outside Isol).	 The operator observes the 1NV-224A Red status light LIT, Green status light OFF. The operator observes the 1NV-245B Red status light LIT, Green status light OFF.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM C

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- With the plant at power, a Reactor Makeup System failure has resulted automatic Control Rod insertion.
- MCB Annunciator 1AD-2, A9, CONTROL ROD BANK LO LIMIT, has alarmed.
- The crew has entered AP/1/A/5500/38 (Emergency Boration) and completed the procedure through Step 11.
- The 1B BA Transfer Pump is OOS.

INITIATING CUE:

The CRS has directed you to initiate Emergency Boration starting with Step 12 of AP/1/A/5500/38 (Emergency Boration).

SIM JPM D

Facility:	McGuire	Task No.:	
Task Title:	Establish NC System Feed and Bleed	JPM No.:	2011 Systems - Control Room JPM D (Alternate Path)
K/A Reference:	EPE E05, EA1.1, 4.1/4.0		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:
- A Reactor Trip on Lo-Lo S/G Level has occurred due to the loss of both Main Feedwater Pumps.
- The CA System will not start.
- EP/1/A/5000/FR-H.1 (Loss of Secondary Heat Sink) has been implemented.
- Feed and Bleed initiation criteria has been met.

Task Standard: The operator establishes an RCS feed and bleed flowpath such that all NCP's off, High Pressure Injection flow is established through NI-9/10, both Pzr PORVs are open.

Required Materials: None

General References: EP/1/A/5000/FR-H.1 (Loss of Secondary Heat Sink), Rev. 15

Handouts: EP/1/A/5000/FR-H.1 (Loss of Secondary Heat Sink) marked up for place-keeping through Step 3.

Initiating Cue:	The CRS has directed you to initiate an NC System Feed and Bleed by performing Steps 22 - 28 of EP/1/A/5000/FR-H.1 (Loss of Secondary Heat Sink).
Time Critical Task:	No
Validation Time:	5 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC-39, 100%, MOL.

2. Insert the following malfunctions:

   IPE001A, Reactor fails to trip in AUTO, Train A
   IPE001B, Reactor fails to trip in AUTO, Train B
   DEH003A, Turbine fails to trip in AUTO
   CA004A, MDCA Pump A fails to start
   CA004B, MDCA Pump B fails to start
   CA005, TDCA Pump fails to start
   NI009A, 1NI-9A Fails to Open Automatically
   NI009B, 1NI-10B Fails to Open Automatically

3. Place Simulator in Run and acknowledge Annunciator Alarms.

4. Manually Trip both Feed Pumps.

5. Allow at least 3 S/G's to decrease below 24% WR level.

6. Manually trip the reactor and turbine

7. Ensure that EP/1/A/5000/FR-H.1 is completed through Step 5. (E-0 to FR-S.1 to FR-H.1)

8. Freeze the Simulator.

OR

1. Reset Simulator to Temporary Snap IC-253 (March, 2011)

2. Momentarily place Simulator in Run to acknowledge alarms.

3. Leave Simulator in FREEZE until operator is ready to begin.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout EP/1/A/5000/FR-H.1 marked up for place-keeping through Step 3.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
Simulator Instructor NOTE: Leave Simulator in FREEZE until operator is ready to begin.				
1	(Step 22) Perform Steps 23 through 27 quickly to establish NC heat removal by NC feed and bleed.	The operator reads the step and proceeds.		
*2	(Step 22) Ensure all NC Pumps – OFF.	The operator presses the STOP pushbutton for the 1A NCP Pump and observes the Green status light is LIT, and Red status light is OFF. The operator presses the STOP pushbutton for the 1B NCP Pump and observes the Green status light is LIT, and Red status light is OFF. The operator presses the STOP pushbutton for the 1C NCP Pump and observes the Green status light is LIT, and Red status light is OFF. The operator presses the STOP pushbutton for the 1D NCP Pump and observes the Green status light is LIT, and Red status light is OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(Step 24) Initiate S/I.	The operator presses the S/I INITIATE pushbuttons for Train A and Train B, and observes that the SI Actuation status light is LIT.		
4	(Step 25) Check "NV PMPS TO COLD LEG FLOW" – INDICATING FLOW.	The operator observes NI-1NVP-6080 at 0 gpm, and determines that there is NO flow from the NV Pumps, and proceeds to the Step 25 RNO. **(Alternate Path)** **NOTE:** **The operator may observe that 1NI-9A and 10B should have opened but did NOT, and open them.** **If so, proceed to JPM Step 11 (Procedure Step 26).**		
5	(Step 25 RNO) Perform the following: (Step 25 RNO a) Start NV Pumps.	The operator observes the 1A NV Pump Red status light is LIT, green status light is OFF, and amperage indicated, and determines that the 1A NV Pump is running. The operator observes the 1B NV Pump Red status light is LIT, green status light is OFF, and amperage indicated, and determines that the 1B NV Pump is running.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
6	(Step 25 RNO b) Start NI Pumps.	The operator observes the 1A NI Pump Red status light is LIT, green status light is OFF, and amperage indicated, and determines that the 1A NI Pump is running. The operator observes the 1B NI Pump Red status light is LIT, green status light is OFF, and amperage indicated, and determines that the 1B NI Pump is running.		
7	(Step 25 RNO c) OPEN the following valves: • 1NV-221A (NV Pumps Suct from FWST) • 1NV222B (NV Pumps Suct from FWST)	The operator observes the 1NV-221A Red status light is LIT, Green status light is OFF, and determines that 1NV-221A is OPEN. The operator observes the 1NV-222B Red status light is LIT, Green status light is OFF, and determines that 1NV-222B is OPEN.		
8	(Step 25 RNO d) CLOSE the following valves: • 1NV-141A (VCT Outlet Isol). • 1NV-142B (VCT Outlet Isol).	The operator observes the 1NV-141A Green status light is LIT, Red status light is OFF, and determines that 1NV-141A is CLOSED. The operator observes the 1NV-142B Green status light is LIT, Red status light is OFF, and determines that 1NV-142B is CLOSED.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*9	(Step 25 RNO e) OPEN the following valves: • 1NI-9A (NC Cold Leg Inj.). • 1NI-10B (NC Cold Leg Inj.).	The operator observes the 1NI-9A Green status light is LIT, and determines that 1NV-9A is CLOSED. The operator presses the 1NI-9A OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF. The operator observes the 1NI-10B Green status light is LIT, and determines that 1NV-10B is CLOSED. The operator presses the 1NI-10B OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF. **NOTE:** **Opening one of these valves satisfies the critical nature of this Step.**		
10	(Step 25 RNO f) IF NV S/I flowpath is established, AND NV Pump is on THEN GO TO Step 26.	The operator observes 1NVP-6080 at ≈340 gpm, and determines that there is flow from the NV Pumps, and proceeds to Step 26.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
11	(Step 26) Establish NC System bleed path as follows: (Step 26.a) Check all Pzr PORV isolation valves – OPEN.	The operator observes the 1NC-31B Red status light is LIT, and determines that 1NC-31B is OPEN. The operator observes the 1NC-33A Red status light is LIT, and determines that 1NC-33A is OPEN. The operator observes the 1NC-35B Red status light is LIT, and determines that 1NC-35B is OPEN.		
*12	(Step 26.b) Select "OPEN" on two Pzr PORVs that have an open Pzr PORV isolation valve.	The operator rotates the 1NC-32B, 34A or 36B control switch clockwise, and observes the Red status light LIT. The operator rotates the 1NC-32B, 34A or 36B control switch clockwise, and observes the Red status light LIT.		
13	(Step 26.c) Align N2 to Pzr PORVs by OPENING the following valves: • 1NI-430A (Emerg N2 From CLA to 1NC-34A). • 1NI-431B (Emerg N2 From CLA to 1NC-32B & 36B).	The operator presses the 1NI-430A OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF. The operator presses the 1NI-431B OPEN pushbutton and observes the Red status light is LIT, Green status light is OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
14	(Step 26.d) Check power to all Pzr PORV isolation valves – AVAILABLE.	The operator observes the RED status light LIT for all three PORV Isolation Valves, and determines that power is available to each.		
15	(Step 27) Check two Pzr PORVs and associated isolation valves – OPEN.	The operator observes the 1NC-32B, 34A or 36B RED status light LIT for two of the three PORVs, and determines that two valves are OPEN.		
*16	(Step 28) Isolate NV Recirc flowpath as follows: (Step 28.a) CLOSE the following valves: • 1NV-150B (NV Pumps Recirculation). • 1NV-151A (NV Pumps Recirculation).	The operator presses the 1NV-150B CLOSE pushbutton and observes the Green status light is LIT, Red status light is OFF. The operator presses the 1NV-151A CLOSE pushbutton and observes the Green status light is LIT, Red status light is OFF.		
17	(Step 28.b) Maintain NV recirc valves closed unless directed to open by subsequent steps.	The operator reports to the CRS that Steps 22-28 of EP/1/A/500/FR-H.1 have been performed.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM D

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

- A Reactor Trip on Lo-Lo S/G Level has occurred due to the loss of both Main Feedwater Pumps.
- The CA System will not start.
- EP/1/A/5000/FR-H.1 (Loss of Secondary Heat Sink) has been implemented.
- Feed and Bleed initiation criteria has been met.

INITIATING CUE:

The CRS has directed you to initiate an NC System Feed and Bleed by performing Steps 22 - 28 of EP/1/A/5000/FR-H.1 (Loss of Secondary Heat Sink).

SIM JPM E

Facility:	McGuire	Task No.:	
Task Title:	Perform the Main Turbine Overspeed Trip Test	JPM No.:	2011 Systems - Control Room JPM E (Alternate Path)
K/A Reference:	045 A3.04 (3.4/3.6)		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:
- Unit 1 is starting up after a refueling outage.
- The Turbine/Generator is off line and rolling at 1800 RPM in preparation for performing PT/1/A/4250/004C (Turbine OPC and Mechanical Overspeed Trip Test).
- All prerequisite conditions have been met and two operators have been stationed at the Turbine as required.
- Communications have been established with all involved.

Task Standard: The operator will raise Turbine speed to OPC setpoint, and then raise speed until the Turbine Overspeed trip should be actuated. The operator recognizes the turbine has failed to trip at the expected setpoint and then manually trips the Turbine.

Required Materials: Ensure test key #63 is available.

General References: PT/1/A/4250/004C (Turbine OPC and Mechanical Overspeed Trip Test), Rev. 16

Handouts: PT/1/A/4250/004C (Turbine OPC and Mechanical Overspeed Trip Test) marked up through Step 12.6.

Initiating Cue:	The CRS has directed you to complete the Turbine OPC and Mechanical Overspeed Trip Test per PT/1/A/4250/004C (Turbine OPC and Mechanical Overspeed Trip Test), starting with Step 12.7.
Time Critical Task:	No
Validation Time:	12 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC-30, Turbine at 1800 RPM
2. Insert malfunction: MAL-DEH003A, Failure of Auto Turbine Trip
3. Place voltage regulator switch to "MAN" position.
4. Ensure "excitation" is in "TRIP"
5. Ensure Main Gen MOD's open.
6. Freeze the Simulator

OR

1. Reset Simulator to Temporary Snap IC-254 (March, 2011)
2. Momentarily place Simulator in Run to acknowledge alarms.
3. Leave Simulator in FREEZE until operator is ready to begin.

NOTES: Provide an operator to acknowledge unrelated alarms and control Reactor Power (since Rods are in "Manual").

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout PT/1/A/4250/004C marked up through Step 12.6.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
Simulator Instructor NOTE: Leave Simulator in FREEZE until operator is ready to begin.				
*1	(Step 12.7) Depress ACC RATE.	The operator presses the ACC RATE pushbutton on the Turbine Control Panel, and observes White status light is LIT.		
*2	(Step 12.8) Enter acceleration rate of 25 RPM/MIN in "Variable Display"	The operator enters "0025" in the "Variable Display," and presses ENTER.		
3	(Step 12.9) Depress REFERENCE.	The operator presses the REFERENCE pushbutton on the Turbine Control Panel, and observes White status light is LIT.		
*4	(Step 12.10) Enter speed of 1860 rpm in the "Variable Display" window.	The operator enters "1860" in the "Variable Display," and presses ENTER.		

PERFORMANCE INFORMATION

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
5	(Notes prior to Step 12.11) Steps 12.11 – 12.14 should be read and understood for quick performance. Once OPC Controller actuates, going to "Mechanical Overspeed Test" on turbine will prevent multiple actuation of OPC Controller and loss of LH header pressure. Digital Control Board meter should be used in the following steps.	The operator reads the NOTEs and reviews Steps 12.11 – 12.14, and proceeds.		
6	(Step 12.11) Depress "GO."	The operator presses the GO pushbutton on the Turbine Control Panel, and observes White status light is LIT.		
7	(Step 12.12) Check Turbine starts increasing speed at selected rate.	The operator observes the Digital Turbine Speed indicator and determines that Turbine speed is rising at the expected rate.		
8	(Step 12.13) IF demand speed of 1860 rpm is reached before OPC Controller actuates, perform one of the following: (Step 12.13.1) Reduce Turbine speed to 1800 rpm (100%). OR (Step 12.13.2) IF unable to reduce speed, have operator at Turbine Trip Lever trip Turbine.	The operator observes that Turbine Speed rises to ≈1860, and stops, and places and NA in this step.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*9	(Step 12.14) After OPC Controller actuated, place "OPC" in "MECHANICAL OVERSPEED TEST" using "OPC" key #63.	The operator rotates the 63 OPC Key Switch and clockwise.		
10	(Step 12.15) IF LH header pressure fails to recover, following an OPC controller actuation,.....	The operator observes LH Fluid Pressure (Chart Recorder) and determines that pressure has recovered properly; and places an NA in this step.		
11	(Step 12.16) Record on Enclosure 13.1 (Turbine OPC Overspeed Test and Turbine Overspeed Mechanical Trip Test Data Sheet) the actual speed at which the Turbine OPC Controller actuated.	The operator provides the required Data to another operator. **Cue:** **Another operator will log the data.**		
12	(Note prior to Step 12.17) Steps 12.17 – 12.23 test Mechanical Overspeed Trip mechanism.	The operator reads the NOTE and proceeds.		
*13	(Step 12.17) Depress "ACC RATE".	The operator presses the ACC RATE pushbutton on the Turbine Control Panel, and observes White status light is LIT.		
*14	(Step 12.18) Enter acceleration rate of 50 rpm/min in "Variable Display".	The operator enters "0050" in the "Variable Display," and presses ENTER.		
*15	(Step 12.19) Depress "REFERENCE."	The operator presses the REFERENCE pushbutton on the Turbine Control Panel, and observes White status light is LIT.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*16	(Step 12.20) Enter speed of 2000 rpm in "Variable Display".	The operator enters "2000" in the "Variable Display," and presses ENTER.		
*17	(Step 12.21) Depress "GO."	The operator presses the GO pushbutton on the Turbine Control Panel, and observes White status light is LIT.		
18	(Step 12.22) Check Turbine starts increasing speed to 2000 rpm at selected rate.	The operator observes the Digital Turbine Speed indicator and determines that Turbine speed is rising at the expected rate.		
19	(Caution prior to Step 12.23) The Mechanical Overspeed Trip must occur at or before 1998 RPM (111%)	The operator reads the CAUTION and proceeds.		
20 *	(Step 12.23) IF Turbine speed reaches 1998 rpm (111%) before Mechanical Overspeed Trip actuates, trip Turbine.	The operator observes MCB Annunciator 1AD-1, B-9, TURBINE OVERSPEED (11%) TURB TRIP, alarms at ≈1880 RPM. The operator observes the Digital Turbine Speed indicator and determines Turbine has not tripped at or before 1998 RPM and trips the turbine by placing the Turbine Trip Switch in the TRIP position. The operator observes all Throttle and Governor valves indicate closed, speed is decreasing.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
21	(Step 12.24) Record on Enclosure 13.1 (Turbine OPC Overspeed Test and Turbine Overspeed Mechanical Trip Test Data Sheet) the actual speed at which the Turbine trips.	The operator provides the required Data to another operator. **Cue:** **Another operator will log the data.**		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM E

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Unit 1 is starting up after a refueling outage.
- The Turbine/Generator is off line and rolling at 1800 RPM in preparation for performing PT/1/A/4250/004C (Turbine OPC and Mechanical Overspeed Trip Test).
- All prerequisite conditions have been met and two operators have been stationed at the Turbine as required.
- Communications have been established with all involved.

INITIATING CUE:

The CRS has directed you to complete the Turbine OPC and Mechanical Overspeed Trip Test per PT/1/A/4250/004C (Turbine OPC and Mechanical Overspeed Trip Test), starting with Step 12.7.

SIM JPM F

Facility: McGuire Task No.:

Task Title: Restore from a Fire in the Unit 1 Cable Spreading Room JPM No.: 2011 Systems - Control Room JPM F (Alternate Path)

K/A Reference: APE 067 AA2.04 3.1/4.3

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:

Unit 1 and 2 are at 100% power.

A fire has been reported in the Unit 1 Cable Spreading Room.

The crew has implemented AP/1/A/5500/45 (Plant Fire) and is presently in Enclosure 17 (AB 750' Unit 1 Cable Spreading Room Fire Unit 1 and 2 Actions).

The following actions have been taken in response:

- The breaker for 1CA-7AC has been OPENED.
- The Pzr PORV Isolation Valves have been CLOSED.
- The Main Steamline PORV Manual Loaders have been closed.

The Fire Brigade has reported that the fire is no longer active.

The SSF has NOT been activated.

Station Management has indicated that the crew may return Control Room controls to normal as identified within Enclosure 17.

NLO (John) is standing by to assist.

Task Standard: The operator will determine that one Pzr PORV has inadvertently opened, and take action to isolate it by ensuring that its isolation valve is closed, and by directing that its motor breaker be opened. The operator will then open the remaining Pzr PORV isolation valves, direct that the motor breaker for 1CA-7AB be closed, and open the manual loaders for the Main Steam Line PORVs while the valves remain closed.

Required Materials:	None
General References:	AP/1/A/5500/45 (Plant Fire), Rev. 12 PT/1/A/4600/003D (Monthly Surveillance Items), Rev. 76
Handouts:	AP/1/A/5500/45 (Plant Fire), Enclosure 17 (AB 750' Unit 1 Cable Spreading Room Fire Unit 1 and 2 Actions) marked up for place-keeping through Step 20.
Initiating Cue:	The CRS has directed you to restore the Control Room controls to normal by performing Step 21.a through e of Enclosure 17 (AB 750' Unit 1 Cable Spreading Room Fire Unit 1 and 2 Actions) of AP/1/A/5500/45 (Plant Fire).
Time Critical Task:	NO
Validation Time:	12 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC # 39, 100% Power, MOL. Go to RUN.

2. Take all actions required by AP/1/A/5500/45 (Plant Fire), Enclosure 17 (AB 750' Unit 1 Cable Spreading Room Fire Unit 1 Actions), Steps 1-17 as follows:

   LOA-CA015 = Racked Out (Step 5)
   Close 1NC-31B, 33A and 35B (Step 6)
   Close the 1SV-19AB, 13AB, 7ABC, and 1AB Manual Loaders (Step 17)

3. Override 1NC32B Red Status light ON (Both RED/Green status lights should be ON, indicating valve mid-position. (This should have no effect with Isolation Valve Closed).

4. Place LOA-NC033 = Racked Out on Trigger #1.

5. Place LOA-CA015 = Racked IN on Trigger #3.

6. Allow plant time to stabilize and then Freeze Simulator.

OR

1. Reset Simulator to Temporary Snap IC-255 (March, 2011).

2. Momentarily place Simulator in Run to acknowledge alarms/Reset SLIMS.

3. Leave Simulator in FREEZE until operator is ready to begin.

NOTE: The Simulator Operator will need to operate Trigger #1 at Step 4 of this JPM, and Trigger #3 at Step 7 of this JPM.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 17 of AP/1/A/5500/45 marked up for place-keeping through Step 20.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Step 21) WHEN the fire is reduced to a non active status, THEN have station management evaluate returning controls to normal as follows: (Caution prior to Step 21.a) If the SSF has been activated..... (Step 21.a) Check the following Pzr PORVs – Closed: • 1NC-34A (PZR PORV) • 1NC-32B (PZR PORV) • 1NC-36B (PZR PORV)	The operator recognizes that the SSF has NOT been activated and proceeds. The operator observes the 1NC-34A Green status light LIT, Red status light OFF. The operator observes the 1NC-32B Green and Red status lights LIT. **(ALTERNATE PATH)** **NOTE:** **The Operator will likely address the RNO before checking the status of 1NC-36B.** The operator observes the 1NC-36B Green status light LIT, Red status light OFF. The operator determines that one PORV is OPEN (1NC-32B), and implements the Step 21.a RNO.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
2	(Step 21.a RNO) Perform the following: (Step 21.a RNO 1) Close Pzr PORV(s)	The operator rotates the 1NC-32B Control Switch counter-clockwise to the CLOSE position, and observes the 1NC-32B Green and Red status lights LIT.		
3	(Step 21.a RNO 2) IF a Pzr PORV will not close, THEN perform the following: (Step 15.a RNO 2.a) CLOSE the associated Pzr PORV isolation valve.	The operator observes the 1NC-31B Green status light LIT, Red status light OFF.		
*4	(Step 21.a RNO 2.b) Dispatch operator to open breaker for the closed Pzr PORV isolation valve.	The operator contacts NEO and directs that the breaker for 1NC-31B be opened.		
NOTE: Simulator Driver Operate Trigger #1. **Within 30 seconds report back as the NEO that the breaker for 1NC-31B has been opened.** **Examiner NOTE: (Alternate Path) It is expected that the operator will NOT re-open 1NC-31B in the subsequent Step. If the operator attempts to open the valve before the NEO reports that the breaker is open, the JPM is failed. IF the operator attempts to open 1NC-31B after the breaker has been opened, 1NC-31B will NOT open, and the operator will NOT necessarily fail the JPM.**				
*5 (See Above Note)	(Step 21.b) Open Pzr PORV isolation valves for PORVs that are verified closed.	The operator rotates the 1NC-33A Control Switch to OPEN, and observes the Red status light LIT, Green status light OFF. The operator rotates the 1NC-35B Control Switch to OPEN, and observes the Red status light LIT, Green status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
6	(Caution prior to Step 21.c) A fire induced hot short may cause valve in next step to operate when power is restored.	The operator reads the Caution, and proceeds.		
*7	(Step 21.c) Dispatch operator to close breaker 1EMXA4-2A (Unit 1 TD CA Pump Suction Isol Motor (1CA-7A) (north wall 1ETA room).	The operator contacts NEO and directs that the breaker for 1CA-7A be closed.		
NOTE: **Simulator Driver Operate Trigger #3.** **Within 30 seconds report back as the NEO that the breaker for 1CA-7AC has been closed.**				
8	(Step 21.d) Ensure 1CA-7AC (U1 TD CA Pump Suction Isol) is in proper position.	After the report of the 1CA-7AC Breaker being closed, the operator observes the 1CA-7AC Red status light is LIT, Green status light is OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*9	(Step 21.e) Slowly open the following manual loaders while ensuring that the valves remain closed: Slowly OPEN 1SV-19AB (1A Main Steam Line PORV) Slowly OPEN 1SV-13AB (1B Main Steam Line PORV) Slowly OPEN 1SV-7ABC (1C Main Steam Line PORV) Slowly OPEN 1SV-1AB (1D Main Steam Line PORV)	The operator rotates the 1SV-19AB adjust knob clockwise until the Manual Loader indicates 100%, the Green status light is LIT, and the Red status light is OFF. The operator rotates the 1SV-13AB adjust knob clockwise until the Manual Loader indicates 100%, the Green status light is LIT, and the Red status light is OFF. The operator rotates the 1SV-7ABC adjust knob clockwise until the Manual Loader indicates 100%, the Green status light is LIT, and the Red status light is OFF. The operator rotates the 1SV-1AB adjust knob clockwise until the Manual Loader indicates 100%, the Green status light is LIT, and the Red status light is OFF.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM F

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

Unit 1 and 2 are at 100% power.

A fire has been reported in the Unit 1 Cable Spreading Room.

The crew has implemented AP/1/A/5500/45 (Plant Fire) and is presently in Enclosure 17 (AB 750' Unit 1 Cable Spreading Room Fire Unit 1 and 2 Actions).

The following actions have been taken in response:

- The breaker for 1CA-7AC has been OPENED.
- The Pzr PORV Isolation Valves have been CLOSED.
- The Main Steamline PORV Manual Loaders have been closed.

The Fire Brigade has reported that the fire is no longer active.

The SSF has NOT been activated.

Station Management has indicated that the crew may return Control Room controls to normal as identified within Enclosure 17.

NLO (John) is standing by to assist.

INITIATING CUE:

The CRS has directed you to restore the Control Room controls to normal by performing Step 21.a through e of Enclosure 17 (AB 750' Unit 1 Cable Spreading Room Fire Unit 1 and 2 Actions) of AP/1/A/5500/45 (Plant Fire).

SIM JPM G

Facility:	McGuire	Task No.:	
Task Title:	Increase Pressure in Cold Leg Accumulator 1A	JPM No.:	2011 Systems - Control Room JPM G
K/A Reference:	006 A1.07, 3.3/3.6		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of Testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:
- The plant is at 100% power.
- MCB Annunciator 1AD-9, E-1, A COLD LEG ACCUMULATOR ABNORMAL PRESS, has just alarmed.
- 1A Cold Leg Accumulator pressure is approximately 590 psig and holding.

Task Standard: The operator aligns N_2 to CLA 1A and raises pressure to greater than 620 psig and less than 639 psig.

Required Materials: None

General References: OP/1/A/6200/009 (Accumulator Operation), Rev 98.

Handouts: Enclosure 4.3 (Adjusting Accumulator Pressures) of OP/1/A/6200/009 (Accumulator Operation) marked up for place-keeping through Step 3.1.

Initiating Cue:	• The CRS has directed you to increase the 1A Cold Leg Accumulator pressure to 625±5 psig per OP/1/A/6200/009 (Accumulator Operation) Enclosure 4.3 (Adjusting Accumulators Pressure). • N_2 Heaters are not required for makeup. • NEO (John) is standing by to assist.
Time Critical Task:	No
Validation Time:	8 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset the Simulator to IC-39 100% Power, MOL
2. Open 1NI-50 and throttle open the manual loader for 1NI-83 to bring CLA A down to the low pressure alarm setpoint (approximately 590 psig)
3. Close 1NI-50 and 1NI-83
4. Insert PLP-060 = 0 (1NI-047A Isolation) on Trigger 1
5. Freeze the Simulator

OR

1. Reset Simulator to Temporary Snap IC-256 (March, 2011)
2. Momentarily place Simulator in Run to acknowledge alarms.
3. Leave Simulator in FREEZE until operator is ready to begin.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.3 of OP/1/A/6200/009 marked up for place-keeping through Step 3.1.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Step 3.1) Evaluate all outstanding R&R's that may impact the performance of this procedure.	The operator recognizes from the initial conditions that this action is complete.		
2	(Step 3.2) Perform the following sections as applicable: Section 3.3, Increasing Accumulator Pressure Section 3.4, Decreasing Accumulator Pressure Section 3.5, Adjusting Accumulator Pressure via Equalization	The operator proceeds to Section 3.3.		
3	(NOTE prior to Step 3.3) IF CLAs have been completely depressurized, CLA Nitrogen Heater is required.	The operator reads the NOTE, recognizes that it does NOT apply, and proceeds.		
4	(Step 3.3) Increasing accumulator pressure (Step 3.3.1) Ensure that 1NI-83 (CL Accum N2 Hdr Atmos Vent Isol) closed.	The operator observes the 1NI-83 controller output at 0%.		
5	(Step 3.3.2) IF required, start the Cold Leg Accumulator Nitrogen Heater...	The operator recognizes that the heaters are NOT required, and proceeds.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*6	(Step 3.3.3) Open 1NI-47A (Rx Bldg N_2 Supply Isol)	The operator presses the 1NI-47A OPEN pushbutton and observes the Red status light LIT, Green status light OFF.		
7	(NOTEs prior to Step 3.3.4) To maintain Tech Spec operability, only one CLA at a time can have associated liquid fill valve, gas fill valve, or sample valve open. If LTOP in service, only A or B CLA can have associated liquid fill valve, gas fill valve, or sample valve open at a time.	The operator reads the NOTEs and proceeds.		
*8	(Step 3.3.4) If increasing pressure in A CLA, perform the following: (Step 3.3.4.1) Adjust 650 psig Nitrogen regulator at Bulk Nitrogen House to a Pressure adequate for makeup to A CLA: 1GN-38 (650 psig Nitrogen Hdr Press Reg) OR 1GN-41 (650 psig Nitrogen Hdr Press Backup Reg)	The operator contacts the NEO, and directs that Nitrogen pressure be adjusted to 650 psig. **Cue:** **The NEO reports that 1GN-38 has been adjusted so that Nitrogen pressure is 650 psig.**		
*9	(Step 3.3.4.2) Open 1NI-50 (A CL Accum N2 Supply Isol).	The operator presses the 1NI-50 OPEN pushbutton and observes the Red status light LIT, Green status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
10	(Step 3.3.4.3) After CLA at desired pressure, back out 650 psig Nitrogen Regulator at Bulk Nitrogen House. 1GN-38 (650 psig Nitrogen Hdr Press Reg) OR 1GN-41 (650 psig Nitrogen Hdr Press Backup Reg)	The operator observes that CLA pressure is in the desired band (625±5 PSIG), contacts the NEO, and directs that 1GN-38 be backed out. **Cue:** **The NEO reports that 1GN-38 has been backed out.**		
NOTE: **Simulator Driver Operate Trigger #1.** **Report back as the NEO that 1GN-38 has been backed out.**				
*11	(Step 3.3.4.4) Close 1NI-50 (A CL Accum N2 Supply Isol).	The operator presses the 1NI-50 CLOSE pushbutton and observes the Green status light LIT, Red status light OFF.		
12	(Step 3.3.5) If increasing pressure in B CLA,…..	The operator recognizes that the B CLA pressure is NOT being raised, and proceeds.		
13	(Step 3.3.6) If increasing pressure in C CLA,…..	The operator recognizes that the C CLA pressure is NOT being raised, and proceeds.		
14	(Step 3.3.7) If increasing pressure in D CLA,…..	The operator recognizes that the D CLA pressure is NOT being raised, and proceeds.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
15	(Step 3.3.8) Close 1NI-47A (Rx Bldg N_2 Supply Isol)	The operator presses the 1NI-47A CLOSE pushbutton and observes the Green status light LIT, Red status light OFF.		
16	(Step 3.3.9) If required, turn off Unit 1 & 2 NI Accum N2 HTR.....	The operator reads the NOTE, recognizes that it does NOT apply, and proceeds.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM G

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- The plant is at 100% power.
- MCB Annunciator 1AD-9, E-1, A COLD LEG ACCUMULATOR ABNORMAL PRESS, has just alarmed.
- 1A Cold Leg Accumulator pressure is approximately 590 psig and holding.

INITIATING CUE:

- The CRS has directed you to increase the 1A Cold Leg Accumulator pressure to 625±5 psig per OP/1/A/6200/009 (Accumulator Operation) Enclosure 4.3 (Adjusting Accumulators Pressure).
- N_2 Heaters are not required for makeup.
- NEO (John) is standing by to assist.

SIM JPM H

Facility: McGuire Task No.:

Task Title: Restore Power to 6900V Buses JPM No.: 2011 Systems - Control Room JPM H

K/A Reference: 062 A2.05 (2.9/3.3)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X

Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

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

Initial Conditions:
- A total loss of Offsite Power has occurred at both Units.
- Unit 1 tripped from 100% power.
- Unit 2 is in Mode 5.
- Unit 1 has implemented AP/1/A/5500/07 (Loss of Electrical Power), Case I (Loss of Normal Power to 1ETA and 1ETB).
- Power has been restored to the Unit 1 Switchyard.
- The crew is preparing to restore power to the 6900VAC Buses, and is complete through Step 43.m.

Task Standard: The operator re-energizes all four 6900V Buses per AP/1/A/5500/07 Steps 43.n-q.

Required Materials: None

General References: AP/1/A/5500/07 (Loss of Electrical Power), Rev 29
EP/1/A/5000/E-0 (Reactor Trip or Safety Injection), Rev 30
EP/1/A/5000/ES-0.1 (Reactor Trip Response), Rev 31

Handouts: AP/1/A/5500/07 (Loss of Electrical Power)

Initiating Cue:	The CRS has directed you to restore power to the 6900V buses by performing Steps 43.n-q of AP/1/A/5500/07 (Loss of Electrical Power), Case I (Loss of Normal Power to 1ETA and 1ETB) using the Normal Supply breakers. Toddville has indicated that all Unit 1 Switchyard PCBs are available, and has given permission to close them as needed.
Time Critical Task:	No
Validation Time:	8 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC-39 (100% Steady-state)
2. Insert the following malfunctions:

   MALF-EP001 Station Blackout
3. Place Simulator in Run and acknowledge Annunciator Alarms.
4. Implement EP/1/A/5000/E-0, EP/1/A/5000/ES-0.1 and AP/1/A/5500/07, Case I through Step 43.m.
5. Stabilize plant.
6. Remove MALF-EP001
7. Acknowledge alarms and Freeze the Simulator.

OR

1. Reset Simulator to Temporary Snap IC-257 (March, 2011)
2. Momentarily place Simulator in Run to acknowledge alarms.
3. Leave Simulator in FREEZE until operator is ready to begin.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout AP/1/A/5500/07.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
Simulator Instructor NOTE: Leave Simulator in FREEZE until operator is ready to begin.				
1	(43.n) Check the following MODs – CLOSED: • MOD-8R • MOD-8Y • MOD-9R • MOD-9Y • MOD-11R • MOD-11Y • MOD-12R • MOD-12Y	The operator observes the MOD-8R Red status light LIT, Green status light OFF. The operator observes the MOD-8Y Red status light LIT, Green status light OFF. The operator observes the MOD-9R Red status light LIT, Green status light OFF. The operator observes the MOD-9Y Red status light LIT, Green status light OFF. The operator observes the MOD-11R Red status light LIT, Green status light OFF. The operator observes the MOD-11Y Red status light LIT, Green status light OFF. The operator observes the MOD-12R Red status light LIT, Green status light OFF. The operator observes the MOD-12Y Red status light LIT, Green status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
2	(Step 43.o) Check switch indications for the following 6900V switchgear breakers –LIT:			
	• "1TA NORMAL BREAKER"	The operator observes the 1TA normal bkr Green status light LIT, Red status light OFF.		
	• "1TA STDBY BREAKER"	The operator observes the 1TA standby bkr Green status light LIT, Red status light OFF.		
	• "1TB NORMAL BREAKER"	The operator observes the 1TB normal bkr Green status light LIT, Red status light OFF.		
	• "1TB STDBY BREAKER"	The operator observes the 1TB standby bkr Green status light LIT, Red status light OFF.		
	• "1TC NORMAL BREAKER"	The operator observes the 1TC normal bkr Green status light LIT, Red status light OFF.		
	• "1TC STDBY BREAKER"	The operator observes the 1TC standby bkr Green status light LIT, Red status light OFF.		
	• "1TD NORMAL BREAKER"	The operator observes the 1TD normal bkr Green status light LIT, Red status light OFF.		
	• "1TD STDBY BREAKER".	The operator observes the 1TD standby bkr Green status light LIT, Red status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
3	(Step 43.p) Close available PCBs as directed by Toddville TCC.			
*	• PCB8	The operator presses the CLOSE pushbutton for PCB8 and observes the Red status light LIT and Green status light OFF (The 1A Transformer voltage will rise to 24KV).		
	• PCB9	The operator presses the CLOSE pushbutton for PCB9 and observes the Red status light LIT and Green status light OFF.		
		NOTE: **Closing either PCB8 or 9 satisfies the Critical nature of this step.**		
*	• PCB11	The operator presses the CLOSE pushbutton for PCB11 and observes the Red status light LIT and Green status light OFF (The 1B Transformer voltage will rise to 24KV).		
	• PCB12	The operator presses the CLOSE pushbutton for PCB12 and observes the Red status light LIT and Green status light OFF.		
		NOTE: **Closing either PCB11 or 12 satisfies the Critical nature of this step.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
4	(Step 43.q.1) WHEN busline energized, THEN energize 6900V busses as follows: Check electrical grid –HAS REMAINED ENERGIZED DURING THIS EVENT.	The operator observes that both Transformer 1A and 1B voltage is 24KV (MCB or OAC) and determines that 6900V can be energized. **Cue:** **Toddville reports that the Grid has remained energized throughout this event.**		
*5	(Step 43.q.2) Close the normal or standby breaker on de-energized busses: • 1TA • 1TB • 1TC • 1TD.	The operator presses the CLOSE pushbutton for 1TA normal breaker and observes the Red status light LIT, Green status light OFF. The operator presses the CLOSE pushbutton for 1TB normal breaker and observes the Red status light LIT, Green status light OFF. The operator presses the CLOSE pushbutton for 1TC normal breaker and observes the Red status light LIT, Green status light OFF. The operator presses the CLOSE pushbutton for 1TD normal breaker and observes the Red status light LIT, Green status light OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*6	(Step 43.q.3) Place the mode select switches for the following 6900V busses in auto: • 1TA • 1TB • 1TC • 1TD.	The operator places the 1TA Mode Select Switch to AUTO. The operator places the 1TB Mode Select Switch to AUTO. The operator places the 1TC Mode Select Switch to AUTO. The operator places the 1TD Mode Select Switch to AUTO.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems - Control Room JPM H

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- A total loss of Offsite Power has occurred at both Units.
- Unit 1 tripped from 100% power.
- Unit 2 is in Mode 5.
- Unit 1 has implemented AP/1/A/5500/07 (Loss of Electrical Power), Case I (Loss of Normal Power to 1ETA and 1ETB).
- Power has been restored to the Unit 1 Switchyard.
- The crew is preparing to restore power to the 6900VAC Buses, and is complete through Step 43.m.

INITIATING CUE:

The CRS has directed you to restore power to the 6900V buses by performing Steps 43.n-q of AP/1/A/5500/07 (Loss of Electrical Power), Case I (Loss of Normal Power to 1ETA and 1ETB) using the Normal Supply breakers.

Toddville has indicated that all Unit 1 Switchyard PCBs are available, and has given permission to close them as needed.

In-Plant JPM I

Facility:	McGuire	Task No.:	
Task Title:	Start and Stop # 1 Turbine Driven CA Pump	JPM No.:	2011 Systems – In-Plant JPM I
K/A Reference:	061 A2.04 (3.4/3.8)		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: X Actual Performance: ____

Classroom ____ Simulator ____ Plant X

READ TO THE EXAMINEE

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

Initial Conditions:
- Unit 1 is at 98% power when the OAC alarm M1A1276 (U1 CA Temp at Chk Vlv 1CA-37) is received.
- The RO reports that the temperature in the TD CA Pump discharge to 1D S/G is 223°F.
- The CRS has determined the #1 Turbine Driven CA Pump should be started to cool the piping to 1D S/G.

Task Standard: #1 TD CA Pump is started and valves aligned to provide cooling.

Required Materials: PPE (Hardhat, Safety Glasses, Hearing Protection, Safety Shoes etc.)

General References: OP/1/A/6250/002 (Auxiliary Feedwater System), Rev 114

Handouts: Enclosure 4.4 (Manual Operation of #1 TD CA Pump) of OP/1/A/6250/002 (Auxiliary Feedwater System), marked up so that steps 3.1 and 3.2 are complete.

Initiating Cue:	• The CRS directs you to locally start Unit 1 Turbine Driven CA Pump per OP/1/A/6250/002, Enclosure 4.4 using a "Normal" start. • The Initial Conditions have been met and all R&Rs have been evaluated. • A Pre-job Brief discussing reactivity management concerns has been performed.
Time Critical Task:	NO
Validation Time:	10 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.4 of OP/1/A/6250/002, marked up so that steps 3.1 and 3.2 are complete.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Step 3.3) IF #1 TD CA Pump to be operated locally, obtain key #172.	The operator should go to the Work Control Center to obtain a key, or will describe where to obtain the key. **Cue:** **Key 172 has been obtained.** **NOTE:** **Key 172 will not be needed to complete this JPM due the clear plexiglass cover on the Control Panel.**		
2	(Step 3.4) Perform the following sections as applicable: • Section 3.5, Starting #1 TD CA Pump. • Section 3.6, Stopping #1 TD CA Pump.	The operator proceeds to Section 3.5.		
3	(Step 3.5) Starting #1 TD CA Pump (Step 3.5.1) Notify RP of #1 TD CA Pump start.	The operator notifies RP. **Cue:** **RP Mike Mullen has been contacted.** The operator documents the name, current date & time.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
4	(Step 3.5.2) IF in Modes 1-3, declare #1 TD CA Pump inoperable.	The operator calls the CR or WCC to inform the CRS of TD CA Pump inoperability. **Cue:** **The CRS reports that the TD pump has been declared inoperable.** **Initials <u>BP</u>**		

5
 	
*
 	
*
	(Step 3.5.3) IF operating #1 TD CA Pump locally, perform the following at "Turbine Driven CA Pump Control Panel":
	• (Step 3.5.3.1) Place "#1 TD CA Pump" in "LOCAL".
	
	• (Step 3.5.3.2) Place the following in "M-Local":
	  • 1CA-64AB (TD CA Pump to S/G A)
	  • 1CA-52AB (TD CA Pump to S/G B)
	  • 1CA-48AB (TD CA Pump to S/G C
	  • 1CA-36AB (TD CA Pump to S/G D)
		The operator rotates the C/R LOCAL Switch for the "#1 TD CA Pump" clockwise.
		
		Cue:
		The Switch is in the LOCAL position and the White LOCAL light is LIT.
		
		The operator moves the "M-Local" switch for each valve downward.
		
		Cue:
		The Switch for each valves controller is in the M-LOCAL position.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
* 6	(Step 3.5.4) Close the following: • 1CA-64AB (TD CA Pump to S/G A) • 1CA-52AB (TD CA Pump to S/G B) • 1CA-48AB (TD CA Pump to S/G C • 1CA-36AB (TD CA Pump to S/G D)	The operator rotates the control knob for each valve counter-clockwise. **Cue:** **Knob rotation counter-clockwise and the black needle indicates 0%, and that the Green "Closed" light is LIT for each valve.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
7	(Step 3.5.5) Drain moisture from #1 CA Pump Turbine stop valve as follows: (Step 3.5.5.1) Slowly open the following: • 1SA-39 (Unit 1 TD CA Pump Turb Stop Valve Above Seat Drn) • 1SA-40 (Unit 1 TD CA Pump Turb Stop Valve Below Seat Drn)	The operator rotates the handwheel counterclockwise for each valve. **Cue:** **The hand wheel has been rotated fully counter-clockwise.**		
	(Step 3.5.5.2) AFTER 30 seconds elapsed, close the following: • 1SA-39 (Unit 1 TD CA Pump Turb Stop Valve Above Seat Drn) • 1SA-40 (Unit 1 TD CA Pump Turb Stop Valve Below Seat Drn)	After 30 seconds, the operator rotates the handwheel clockwise for each valve. **Cue:** **The hand wheel has been rotated fully clockwise for each valve.**		
	(Step 3.5.5.3) IF water hammer occurred while draining moisture from #1 CA Pump Turbine Stop Valve…...	**Cue:** **If asked, indicate that no unusual noises, popping, or vibration occurred during draining.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
8	(Step 3.5.6) Check the following open: • 1CA-2 (Unit 1 CA Pumps Suct From CA Storage Tank Isol) • 1CA-7A (Unit 1 TD CA Pump Suction Isol)	The operator observes the 1CA-2 status light. **Cue:** **The RED "Open" light is LIT.** The operator observes the 1CA-7A status light. **Cue:** **The RED "Open" light is LIT.**		
9	(Caution prior to Step 3.5.7) Starting the TD CA Pump will increase Rx Power due to increased steam flow. Reducing turbine generator load may be required to maintain power level.	The operator reads the Caution and proceeds.		
10	(Notes prior to Step 3.5.7) • It is preferred to perform a normal start of the TD CA Pump • IF a slow start of the TD CA Pump is to be performed, Engineering should be available to provide guidance.	The operator reads the Notes and proceeds.		
11	(Step 3.5.7) Start #1 TD CA Pump per Step 3.5.7.1 or 3.5.7.2 (N/A step NOT performed)	Operator recognizes (from initial conditions) that a Normal start is desired and proceeds to step 3.5.7.1		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
12 *	(Step 3.5.7.1) IF normal start desired, perform the following:	The operator rotates the "#1 TD CA Pump" clockwise.		
	• (Step 3.5.7.1.A) Place "#1 TD CA Pump" in "START".	**Cue:** **The Switch is in the "START" position.**		
	• (Step 3.5.7.1.B) Check the following open:	The operator observes the 1SA-48ABC status light.		
	• 1SA-48ABC (1C S/G SM Supply to U1 TD CA Pump Turb Isol)	**Cue:** **The RED "Open" light is LIT.**		
	• 1SA-49AB (1B S/G SM Supply to U1 TD CA Pump Turb Isol)	The operator observes the 1SA-49AB status light.		
		Cue: **The RED "Open" light is LIT.**		
	• (Step 3.5.7.1.C) Check recirc valve opens by "FLOW" lit.	The operator observes the recirc valve status light.		
		Cue: **The RED "Flow" status light is LIT.**		
	• (Step 3.5.7.1.D) IF operating CA Pump to cool piping, allow pump to run for at least 10 minutes	**Cue:** **Another Operator will complete this procedure.**		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems – In-Plant JPM I

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Unit 1 is at 98% power when the OAC alarm M1A1276 (U1 CA Temp at Chk Vlv 1CA-37) is received.
- The RO reports that the temperature in the TD CA Pump discharge to 1D S/G is 223°F.
- The CRS has determined the #1 Turbine Driven CA Pump should be started to cool the piping to 1D S/G.

INITIATING CUE:

- The CRS directs you to locally start Unit 1 Turbine Driven CA Pump per OP/1/A/6250/002, Enclosure 4.4 using a "Normal" start.
- The Initial Conditions have been met and all R&Rs have been evaluated.
- A Pre-job Brief discussing reactivity management concerns has been performed.

NOTE: No plant equipment should be operated during the performance of this JPM. All actions must be SIMULATED.

In-Plant JPM J

Facility:	McGuire	Task No.:	
Task Title:	Manually Initiate Diesel Generator Halon	JPM No.:	2011 Systems – In-Plant JPM J
K/A Reference:	086 A4.06 (3.2/3.2)		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: X Actual Performance: ____

Classroom ____ Simulator ____ Plant X

READ TO THE EXAMINEE

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

Initial Conditions:
- Control Power for the 1A D/G Halon Fire Protection System has been tagged out for Electrical Maintenance.
- The Halon Bank transfer switch is selected to the "MAIN" position.
- You have been assigned as Fire Watch.
- A Fuel Oil fire starts in the 1A D/G room.

Task Standard: The operator will manually align Halon to the 1A D/G Room and manually-pneumatically discharge the system into the room.

Required Materials: PPE (Hardhat, Safety Glasses, Hearing Protection, Safety Shoes etc.)

General References: OP/0/A/6400/002B (Halon Fire Protection System), Rev 17

Handouts: Enclosure 4.3 (Local Manual Actuation of D/G Halon) of OP/0/A/6400/002B (Halon Fire Protection System.

Initiating Cue: Initiate a MANUAL PNEUMATIC actuation of the Halon Fire Suppression System to the 1A D/G Room, per OP/0/A/6400/002B (Halon Fire Protection System) Enclosure 4.3 (Local Manual Actuation of D/G Halon).

Time Critical Task: No

Validation Time: 5 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.3 of OP/0/A/6400/002B.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(Step 3.3) Manual Pneumatic Operation (Step 3.3.1) Pull locking pin on pilot valve for desired D/G room (Located under the Fire Protection Control Panel): • 1MRFCV5040 (D/G Room A Halon Supply Control) • 1MRFCV5050 (D/G B Halon Supply Control) • 2MRFCV5040 (D/G Room A Halon Supply Control) • 2MRFCV5050 (D/G Room B Halon Supply Control)	The operator locates the pilot valve locking pin for the 1A D/G Halon system (1MRFCV5040) and pulls it. **Cue:** **The pin is removed.**		
*2	(Step 3.3.2) Open pilot valve. (This allows selector valve for the D/G room to open).	The operator rotates the handwheel counterclockwise. **Cue:** **Indicate that the handwheel rotates and then stops.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(Step 3.3.3) Remove seal and pull pin from selected Halon cylinder group.	The operator removes the seal wire and pull pin for the MAIN Halon Cylinder Group. **Cue:** **The Seal Wire and Pull Pin are removed.** **Examiner Note:** **If operator discharges RESERVE Halon Cylinder Group, rather than the Main Bank, this is an acceptable success path.**		
*4	(Step 3.3.4) Pull down manual lever at selected cylinder to actuate release of Halon.	The operator pulls the lever for the MAIN Halon Cylinder Group. **Cue:** **The lever is pulled down on the selected cylinder and Halon is being discharged into the 1A D/G room. The fire is out.**		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems – In-Plant JPM J

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Control Power for the 1A D/G Halon Fire Protection System has been tagged out for Electrical Maintenance.
- The Halon Bank transfer switch is selected to the "MAIN" position.
- You have been assigned as Fire Watch.
- A Fuel Oil fire starts in the 1A D/G room.

INITIATING CUE:

Initiate a MANUAL PNEUMATIC actuation of the Halon Fire Suppression System to the 1A D/G Room, per OP/0/A/6400/002B (Halon Fire Protection System) Enclosure 4.3 (Local Manual Actuation of D/G Halon).

NOTE: No plant equipment should be operated during the performance of this JPM. All actions must be SIMULATED.

In-Plant JPM J

Facility:	McGuire	Task No.:	
Task Title:	Manually Initiate Diesel Generator Halon	JPM No.:	2011 Systems – In-Plant JPM J
K/A Reference:	086 A4.06 (3.2/3.2)		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: X Actual Performance: ____

Classroom ____ Simulator ____ Plant X

READ TO THE EXAMINEE

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

Initial Conditions:
- Control Power for the 1A D/G Halon Fire Protection System has been tagged out for Electrical Maintenance.
- The Halon Bank transfer switch is selected to the "MAIN" position.
- You have been assigned as Fire Watch.
- A Fuel Oil fire starts in the 1A D/G room.

Task Standard: The operator will manually align Halon to the 1A D/G Room and manually-pneumatically discharge the system into the room.

Required Materials: PPE (Hardhat, Safety Glasses, Hearing Protection, Safety Shoes etc.)

General References: OP/0/A/6400/002B (Halon Fire Protection System), Rev 17

Handouts: Enclosure 4.3 (Local Manual Actuation of D/G Halon) of OP/0/A/6400/002B (Halon Fire Protection System.

Initiating Cue: Initiate a MANUAL PNEUMATIC actuation of the Halon Fire Suppression System to the 1A D/G Room, per OP/0/A/6400/002B (Halon Fire Protection System) Enclosure 4.3 (Local Manual Actuation of D/G Halon).

Time Critical Task: No

Validation Time: 5 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.3 of OP/0/A/6400/002B.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(Step 3.3) Manual Pneumatic Operation (Step 3.3.1) Pull locking pin on pilot valve for desired D/G room (Located under the Fire Protection Control Panel): • 1MRFCV5040 (D/G Room A Halon Supply Control) • 1MRFCV5050 (D/G B Halon Supply Control) • 2MRFCV5040 (D/G Room A Halon Supply Control) • 2MRFCV5050 (D/G Room B Halon Supply Control)	The operator locates the pilot valve locking pin for the 1A D/G Halon system (1MRFCV5040) and pulls it. **Cue:** **The pin is removed.**		
*2	(Step 3.3.2) Open pilot valve. (This allows selector valve for the D/G room to open).	The operator rotates the handwheel counterclockwise. **Cue:** **Indicate that the handwheel rotates and then stops.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(Step 3.3.3) Remove seal and pull pin from selected Halon cylinder group.	The operator removes the seal wire and pull pin for the MAIN Halon Cylinder Group. **Cue:** **The Seal Wire and Pull Pin are removed.** **Examiner Note:** **If operator discharges RESERVE Halon Cylinder Group, rather than the Main Bank, this is an acceptable success path.**		
*4	(Step 3.3.4) Pull down manual lever at selected cylinder to actuate release of Halon.	The operator pulls the lever for the MAIN Halon Cylinder Group. **Cue:** **The lever is pulled down on the selected cylinder and Halon is being discharged into the 1A D/G room. The fire is out.**		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems – In-Plant JPM J

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

- Control Power for the 1A D/G Halon Fire Protection System has been tagged out for Electrical Maintenance.
- The Halon Bank transfer switch is selected to the "MAIN" position.
- You have been assigned as Fire Watch.
- A Fuel Oil fire starts in the 1A D/G room.

INITIATING CUE:

Initiate a MANUAL PNEUMATIC actuation of the Halon Fire Suppression System to the 1A D/G Room, per OP/0/A/6400/002B (Halon Fire Protection System) Enclosure 4.3 (Local Manual Actuation of D/G Halon).

NOTE: No plant equipment should be operated during the performance of this JPM. All actions must be SIMULATED.

In-Plant JPM K

Facility:	McGuire	Task No.:	
Task Title:	Establish NC Pump Seal Injection from the SSF	JPM No.:	2011 Systems – In-Plant JPM K
K/A Reference:	EPE 055 EK3.02 4.3/4.6		

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: X Actual Performance: ____

Classroom ____ Simulator ____ Plant X

READ TO THE EXAMINEE

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

Initial Conditions:
- A Loss of All AC has occurred on Unit 1.
- EP/1/A/5000/ECA-0.0 (Loss of All AC Power) has been implemented.
- The CRS has dispatched one (1) operator to 1ETA to swap 1EMXA4.

Task Standard: SSF Diesel in operation and supplying power to 1SLXG. 1SLXG is supplying power to SMXG and SMXG-1. Standby makeup pump is supplying NCP seal injection within 8 minutes.

Required Materials: PPE (Hardhat, Safety Glasses, Hearing Protection, Safety Shoes etc.)

General References: EP/1/A/5000/ECA-0.0 (Loss of All AC Power), Rev 28

Handouts: Enclosure 1 (Unit 1 SSF-ECA-0.0 Actions) of EP/1/A/5000/ECA-0.0 (Loss of All AC Power)

Initiating Cue: The CRS directs you to obtain the Brown Folder at SSF and complete Enclosure 1 (Unit 1 SSF-ECA-0.0 Actions).

Time Critical Task:	YES (Re-establishing Seal Water flow of 26 gpm in accordance with Step 5.e of Enclosure must be completed within 8 minutes as indicated by PT/0/A/4600/113, (Operator Time Critical Task Verification), Enclosure 13.11, (Initiate SSF NCP Seal Injection and Swap to the SSF).) This JPM should be timed starting from the OPS Kitchen. Once flow from the standby makeup pump is verified, the "critical time" stops.
Validation Time:	8 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and <u>after the enclosure is located at the SSF</u> Handout EP/1/A/5000/ECA-0.0, Enclosure 1.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Step 1) At SSF D/G Control Panel: (Step 1.a) Check "LINE VOLTS" – APPROXIMATELY 600V.	Operator checks line voltage. **Cue:** **Meter reads "0" Volts.**		
2	(Step 1.a RNO) <u>GO TO</u> Step 1.c.	Operator goes to Step 1.c.		
*3	(Step 1.c) Place "SSF DIESEL TEST/EMERG" switch to "EMER"	Operator rotates "SSF DIESEL TEST/EMERG" switch clockwise to "EMER" **Cue:** **Switch rotated clockwise to EMER position.**		
4	(Step 1.d) Check "SSF DIESEL START CONTROL" switch - "OFF"	Operator checks "SSF DIESEL START CONTROL" switch in OFF. **Cue:** **Switch is in "OFF" position.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*5	(Step 1.e) Place "SSF DIESEL START CONTROL" switch to "ON"	Operator places "SSF DIESEL START CONTROL" switch to ON. **Cue:** **Switch is rotated clockwise to "ON" position.**		
6	(Step 1.f) Check D/G starts within 30 seconds	Operator observes Diesel condition. **Cue:** **Background noise level has increased, various gage indications are up.**		
*7	(Step 1.g) Depress "TRIP" for "NORMAL INCOMING BREAKER CONTROL"	Operator presses "TRIP" for "NORMAL INCOMING BREAKER CONTROL." **Cue:** **Pushbutton depressed, green lamp is illuminated.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*8	(Step 2) At 1SLXG: (Step 2.a) Open all 600 V load center breakers:	Operator proceeds to Load Center 1SLXG and opens any breakers that are closed. **Note**: The BMXA feeder breaker is normally open and is **not** a critical step. • 600V MCC BMXA NORMAL INCOMING FEEDER • 600V MCC SMXG • 600V MCC SMXG-1 • MOTOR CONTROL CENTER 1EMXH-1 ALTERNATE FEEDER • SSF STDBY BATTERY CHARGER SDSS **Cue (As Applicable):** **Switches rotated counterclockwise or trip pushbuttons depressed, green lamps are illuminated.**		
*9	(Step 3) At SMXG1: (Step 3.a) Open the following breakers: SMXG1-FAE (SDSP1 Battery Charger) SMXG1-RAD (SDSP2 Battery Charger)	Operator proceeds to Load Center 1SMXG-1 and opens breakers. **Cue (As Applicable):** **Breaker handle moved down.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
10	(NOTE prior to Step 4) Yellow "TIME CRITICAL" tags are located next to switches used in Steps 4 through 5.d.	The operator reads the Note and proceeds.		
*11	(Step 4) At 1SLXG: (Step 4.a) Depress "CLOSE" on 600 V load center breaker 1SLXG-5B (SSF D/G) (on breaker)	Operator proceeds to Load Center 1SLXG-1 and closes breakers. **Cue (As Applicable):** **Pushbutton depressed and breaker indicates closed.**		

PERFORMANCE INFORMATION

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
12	(Step 4.b) Using pistol grip switches, close the following breakers			
*	(Step 4.b.1) Close "1SLXG-5C CS" (SMXG1 MCC (Normal) Feeder Cntrl Switch).	Operator proceeds to Load Center 1SLXG-5C and closes breaker.		
		Cue: **Pistol grip rotated clockwise, red light is illuminated.**		
	(Step 4.b.2) Wait 10 Seconds	Operator waits 10 seconds.		
*	(Step 4.b.3) Close "1SLXG-4C CS" (SMXG MCC (Normal) Feeder Cntrl Switch).	Operator proceeds to Load Center 1SLXG-4C and closes breaker.		
		Cue: **Pistol grip rotated clockwise, red light is illuminated.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*13	(Step 5) At SSF Control Panel: (Step 5.a) Open the following valves: Open 1NV-842AC (Standby M/U Pump Suction Isol) Open 1NV-849AC (Standby M/U Pump Cont Outside Isol)	Operator opens valves by depressing OPEN pushbutton, observes Red status light LIT. **Cue:** **Pushbutton depressed, red light is illuminated.**		
14	(Step 5.b) Check 1NV-1013C (Standby M/U Pump to NC Pump Seals Isol) – OPEN	Operator observes Red status light LIT. **Cue:** **Red light is illuminated.**		
*15	(Step 5.c) Close 1NV-94AC (NC Pumps Seal Ret Cont Inside Isol)	Operator closes valve by depressing CLOSED pushbutton, observes Green status light LIT. **Cue:** **Pushbutton depressed, Green light is illuminated.**		
*16	(Step 5.d) Start Unit 1 Standby Makeup Pump.	Operator starts pump by depressing START pushbutton, observes Red status light LIT. **Cue:** **Pushbutton depressed, Red light is illuminated.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
17	(Step 5.e) Check Unit 1 Standby Makeup Pump flow (1NVP6420) - GREATER THAN OR EQUAL TO 26 GPM.	Operator observes meter **Cue:** **Meter indicates 28 gpm.** **Stop Time for Time Critical Task:** ----------		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____ **TIME CRITICAL Total Time** ____ minutes

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2011 Systems – In-Plant JPM K

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- A Loss of All AC has occurred on Unit 1.
- EP/1/A/5000/ECA-0.0 (Loss of All AC Power) has been implemented.
- The CRS has dispatched one (1) operator to 1ETA to swap 1EMXA4.

INITIATING CUE:

The CRS directs you to obtain the Brown Folder at SSF and complete Enclosure 1 (Unit 1 SSF-ECA-0.0 Actions)

NOTE: No plant equipment should be operated during the performance of this JPM. All actions must be SIMULATED.

This is a Time Critical JPM.