

Facility: Indian Point 3 Task No: 004*042*04*01
Task Title: Emergency Borate (alternate path)
K/A Reference: 004A2.14 (3.8/3.9) Job Performance Measure No: Sim-A
Examinee: _____ NRC Examiner: _____
Facility Evaluator: _____ Date: _____

Method of testing:

| | | | |
|-----------------------|-------|--------------------|----------|
| Simulated Performance | _____ | Actual Performance | <u>X</u> |
| Classroom | _____ | Simulator | <u>X</u> |
| | | 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: Five minutes ago, the reactor was manually tripped from 250 MWe per POP-3.1. Required actions of E-0 steps 1-4 are complete with a transition to ES-0.1 Reactor Trip Response. The CRS has directed you to perform ES-0.1 step 4, Check if Emergency Boration is Required.

Task Standard: Required actions of ES-0.1 step 4 complete.

Required Materials:
ES-0.1 Step 4
ONOP-CVCS-3, Emergency Boration

General References: Reactivity summary sheet for IC

Initiating Cue: Perform ES-0.1 Step 4, Check if Emergency Boration is Required

Time Critical Task: No

Validation Time: 10 minutes

Performance Information

(Denote critical steps with a check mark)

1. Performance Step: Check RCS temperature.

Standard: Observes RCS temperature indication and observes that Tave is 547°F and stable.

Comment:

√ 2. Performance Step: Check all control rods inserted less than 20 steps.

Standard: Observes IRPI indications for all control rods and notes that three control rod IRPI's (D4, G5, E9) indicate greater than 20 steps.

Comment:

3. Performance Step: Check charging pump running.

Standard: Observes one charging pump is running.

NOTE:

Comment:

4. Performance Step: Check MCC-36A and 36B both available.

Standard: Observes both energized by breaker closed indication lamps illuminated on Panel SBF-2

Comment:

Performance Information

(Denote critical steps with a check mark)

5. Performance Step: Open emergency boration valve CH-MOV-333

Standard: Places control switch on panel SFF to open. Observes that valve does not open.

Comment:

6. Performance Step: (Alternate Path) Emergency borates using Attachment 1, Emergency Boration Using Normal Boration.

CUE: If asked, CRS prefers using the Attachment 1 method using normal boration.

Standard: Proceeds to section for Attachment 1 Emergency Boration Using Normal Boration

Comment:

√ 7. Performance Step: Place both boric acid transfer pump speed switches to FAST

Standard: Boric Acid Trans Pump No. 31 Speed in FAST on panel FCF
Boric Acid Trans Pump No. 32 Speed in FAST on panel FCF

Comment:

√ 8. Performance Step: Restart boric acid transfer pumps

Standard: Observes both boric acid transfer pumps running (red lamp illuminated)

Comment:

Performance Information

(Denote critical steps with a check mark)

√ **9. Performance Step:** **Place FCV-110A, Boric Acid Flow Control Blender controller in MANUAL and adjust full open.**

Standard: FCV-110 controller on panel FBF output meter at 0 (full left – open)

Comment:

√ **10. Performance Step:** **Place FCV-111A, Makeup H₂O to Boric Acid Blender in MANUAL and adjust full closed.**

Standard: FCV-111 controller on panel FBF output meter at 0 (full left – closed)

Comment:

√ **11. Performance Step:** **Place Makeup Mode Selector switch on panel FCF to MANUAL**

Standard: Makeup Mode Selector switch on panel FCF to MANUAL

Comment:

√ **12. Performance Step:** **Turn Makeup Control switch on panel FCF to start and return to Norm**

Standard: FI-110 on panel FBF indicates boric acid flow ≥ 10 gpm and FI-111 on panel FBF indicates demin water flow = 0 gpm.

Comment:

Performance Information

(Denote critical steps with a check mark)

13. Performance Step: Check FI 110A Flow indicated

Standard: FI 110 Flow checked

Comment:

√ 14. Performance Step: **Close Boric Acid Storage Tank Recirculation valves CH-HCV-104 and 105**

Standard: On panel SFF, adjusts HCV-104 and HCV-105 controllers to zero.

Comment:

√ 15. Performance Step: **Transfer operating charging pump to manual and increase speed to maximum**

Standard: On panel FBF places AUTO-BAL-MAN switch to MAN. Adjusts speed control knob (small knob, not bias dial) until output meter indicates 100.

Comment:

16. Performance Step: Check PRZR Pressure < 2335.

Standard: Pressurizer pressure indication verified less than 2335.

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 17. Performance Step: **Determine Required Emergency Boration Time**

- Check reactor critical (no)
- Check RCS temp > 500 (yes, 547°F)
- Check all rods fully inserted (no, 3 rods \geq 20 steps)
 - Borate 29 minutes per stuck rod (greater than 1 rod)

Standard: Determines 58 minutes (minimum) boration time required (NOTE: If the candidate determines 87 minutes required, that is still greater than 58 and less than 2300 ppm, therefore it is also acceptable.)

Terminating Cue: Emergency Boration aligned and in progress awaiting completion of expected boration time or required boron concentration achieved.

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-A, Emergency Borate (alternate path)

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Reset simulator to IC-99

Initial Conditions:

- Five minutes ago, the reactor was manually tripped from 250 MWe per POP-3.1.
- Required actions of E-0 steps 1-4 are complete with a transition to ES-0.1 Reactor Trip Response.
- The CRS has directed you to perform ES-0.1 step 4, Check if Emergency Boration is Required.

Initiating Cue:

- Perform ES-0.1 Step 4, Check if Emergency Boration is Required

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 000*013*05*01Task Title: Reset Safety Injection (Alternate Path)K/A Reference: 013A4.02 (4.3/4.4)Job Performance Measure No: Sim-B

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance _____ Actual Performance XClassroom _____ 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 and safety injection occurred 18 minutes ago. The CRS has just transitioned to E-1. You are the BOP reactor operator performing RO-1, BOP Operator Actions During Use of EOPs.

Task Standard: SI has been reset per RO-1 step 14

Required Materials: RO-1, BOP Operator Actions During Use of EOPs, place kept through step 13.

General References: RO-1, BOP Operator Actions During Use of EOPs

Initiating Cue: Reset Safety Injection per RO-1 step 14

Time Critical Task: No

Validation Time: 5 minutes

Performance Information

(Denote critical steps with a check mark)

-
1. Performance Step: Press both SI reset buttons Train 1 SI Reset and Train 2 SI Reset.

Standard: Both pushbuttons on panel SBF-2 have been pushed.

Comment:

-
- √ 2. Performance Step: Check SI Reset

Standard: Observes SI Actuated light on panel SBF-2 is NOT extinguished.
Observes AUTO SI Block Train A lamp NOT lit.
Observes AUTO SI Block Train B lamp NOT lit.

Comment:

-
- √ 3. Performance Step: Place SI block key switches to defeat on panel SBF-2:
- Manual Defeat SI Train A
 - Manual Defeat SI Train B

Standard: Obtains keys from key locker and places both switches to the Defeat position.

NOTE:

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 4. **Performance Step:** Press pin resets on the following SI relays:
SI-1, SI Train A Relay in Logic Cabinet G-3
SI-11, SI Train A Relay in Logic Cabinet G-3
SI-2, SI Train B Relay in Logic Cabinet G-5
SI-12, SI Train B Relay in Logic Cabinet G-5

Standard: Pin resets have been depressed and relays reset.

Comment:

Terminating Cue: RO-1 Step 14 completed, Reset SI.

VERIFICATION OF COMPLETION

Job Performance Measure No.: Sim-B, Reset Safety Injection (Alternate Path)

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

Reset simulator to IC-98

Initial Conditions

Initial Conditions:

- A reactor trip and safety injection occurred 18 minutes ago.
- The CRS has just transitioned to E-1.
- You are the BOP reactor operator performing RO-1, BOP Operator Actions During Use of EOPs.

Initiating Cue:

- Reset Safety Injection per RO-1 step 14

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 013*016*05*01Task Title: Realign High Head Recirculation

006A4.06 (4.4/4.4)

K/A Reference: 006A4.07 (4.4/4.4)Job Performance Measure No: Sim-C

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 small break LOCA occurred several hours ago. The team has transitioned from ES-1.2, Post LOCA Cooldown and Depressurization, to ES-1.3, Transfer to Cold Leg Recirculation. Safety Injection and Containment Spray have been reset.

Task Standard: The ECCS system has been aligned for Cold Leg Recirculation up to and including Recirculation Switch 8.

Required Materials: ES-1.3, Transfer to Cold Leg Recirculation,

General References:

Initiating Cue: The CRS has directed you to align the ECCS system for Cold Leg Recirculation in accordance with ES-1.3.

Time Critical Task: No

Validation Time: 25 minutes

Performance Information

(Denote critical steps with a check mark)

1. Performance Step: **Determine if Transfer to Cold Leg Recirc is required**

CUE: When LR-1253/1254 are checked – cue that level is slowly rising.

Standard: Verify both RWST Low-Low Level alarms LIT and VC sump trending up

Comment:

2. Performance Step: **Reset SI**

CUE: Steps 2-12 of RO-1 have been completed.

Standard: Pushes both SI reset pushbuttons.

Comment:

3. Performance Step: **Check SI RESET**

Standard: Verify SI Actuated light extinguished

Comment:

4. Performance Step: **RESET Containment Spray**

Standard: Verify VC Spray reset

Comment:

✓ **5. Performance Step: Align SI Recirc Switches #1 and #3.**

Standard: Place Recirc Sw #1 and #3 to ON.

Comment:

Performance Information

(Denote critical steps with a check mark)

-
- ✓ **6. Performance Step:** Energize the following valves on MCC-36A and MCC-36B AC-MOV-743, 744 and SI-MOV-894A, AC-MOV-1870, SI-MOV-882 and SI-MOV-894B, 894D.

CUE: Acknowledge as NPO.

Standard: Direct NPO to energize valves on MCC-36A and 36B.

Booth Operator: Energize requested valves.

Comment:

-
7. Performance Step: Establish communications with PAB 73 ft and prepare for operation of SWN-35-1 and 35-2

CUE: Acknowledge as NPO.

Standard: Dispatch NPO to PAB 73ft

Comment:

-
8. Performance Step: Check status of Recirc Switch #1

Standard: Verify Recirc Switch #1 function complete light LIT

Comment:

-
9. Performance Step: Check status of Recirc Switch #3

Standard: Verify Recirc Switch #3 function complete light LIT

Comment:

-
10. Performance Step: Check RCS pressure less than intact SG pressure

Standard: Observes RCS pressure greater than intact SG pressure.

Comment:

Performance Information

(Denote critical steps with a check mark)

11. Performance Step: Start turbine drive AFW Pump and stop Motor Driven Auxiliary Feed pumps

Standard: 32 ABFP started, 31 and 33 ABFPs stopped and CS in Pullout

Comment:

12. Performance Step: Initiate performance of Attachment 1

CUE: CRS has directed an additional RO to perform Attachment 1.

Standard: Direct performance of attachment 1.

Booth Operator: Role play extra RO. Verify 459, 460, 200 A,B,C are closed, stop running Charging pump(s), close TCV-130, and place ALL Pressurizer heaters in OFF. Notify operator that Attachment 1 is complete

Comment:

13. Performance Step: Check status of FCV-1111 and 1112

CUE: FCV-1111 and 1112 are CLOSED

Standard: Direct NPO to verify SWN-FCV-1111 and 1112 CLOSED

Comment:

✓ 14. Performance Step: **Align Safety Injection Recirc Switch #2**

Standard: Place SI Recirc Sw #2 to ON

Comment:

15. Performance Step: Check status of Safety Injection Recirc Switch #2

Standard: Verify switch #2 function complete light LIT

Comment:

Performance Information

(Denote critical steps with a check mark)

16. Performance Step: Establish communications with PAB 73 ft

CUE: Acknowledge as NPO

Standard: Dispatch NPO to PAB 73 ft

Comment:

17. Performance Step: Check RHR Hx CCW Shutoff valves OPEN

Standard: Verify 822A and 822B OPEN

Comment:

√ 18. Performance Step: **Manually start 32 Recirc Pump**

Standard: 32 Recirc running

Comment:

√ 19. Performance Step: **Align Safety Injection Recirc Switch #4**

Standard: Place Recirc Sw #4 to ON

Comment:

20. Performance Step: Check status of Safety Injection Recirc Switch #4

Standard: Verify switch #4 function complete light LIT

Comment:

Performance Information

(Denote critical steps with a check mark)

-
21. Performance Step: Verify Recirculation Trains not affected by sump blockage
- Low Head Injection Line Low Flow alarm
 - SI Pump Suction Low Pressure alarm
 - Indications of erratic / reduced flow
 - Abnormal sump level indication

CUE for RO Candidate ONLY The CRS has determined that sump blockage does not exist. (No cue for SRO candidates)

Standard: Verify indications of sump blockage do NOT exist

Comment: If a transition is made to ECA-1.3, allow 5 minutes for SRO candidate to recover before terminating the JPM.

-
22. Performance Step: Check minimum recirculation flow established

Standard: Determine 360 gpm Recirc flow cannot be maintained and implement Attach 4. (Candidate may attempt to adjust 638/640 but should determine that the valves cannot be opened further.)

Comment:

-
- ✓ 23. Performance Step: Turn ON control power to HHSIP Miniflow valves

Standard: 842 and 843 control switches in ON

Comment:

-
24. Performance Step: Check RHR pump status

Standard: Verify NO RHR pumps running

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 25. Performance Step: Align Recirc Switch #5

Standard: Place Recirc Sw #5 to ON

Comment:

26. Performance Step: Check status of Recirc Switch #5

Standard: Verify Recirc Sw #5 function complete light LIT

Comment:

27. Performance Step: UNBLOCK SI Pump Suction Low Pressure alarm

Standard: Place SI Pump Suction Low Pressure alarm block switch to
UNBLOCK

Comment:

28. Performance Step: Check SI Pump Suction Low Press alarm CLEAR

Standard: Verify alarm clear on panel SBF-1

Comment:

29. Performance Step: Energize RWST Outlet Isolation valve

CUE: Acknowledge as NPO

Standard: Direct NPO to energize MOV-1810 at MCC-36A

BOOTH OPERATOR: Energize MOV-1810

Comment:

Performance Information

(Denote critical steps with a check mark)

30. Performance Step: Control CCW Heat Exchanger Outlet Temperature

CUE: Acknowledge as NPO

Standard: Direct NPO to maintain CCW temperature 70°F to 110°F using SWN-35-1 and 35-2

BOOTH OPERATOR: Control SWN-35-1 (< 27.5°) and SWN-35-2 (< 27°) to maintain temperature 70°F to 110°F

Comment:

31. Performance Step: Check High Head Recirculation Status

Standard: Verify 850A/C AND 1852A OR B AND 1835A OR B OPEN

Comment:

32. Performance Step: Check SI Pump Status

Standard: Verify 31 / 33 SIPs running. 32 secured

Comment:

33. Performance Step: Place control switch for non-running SI Pump in PULLOUT

Standard: Place 32 SIP in PULLOUT

Comment:

34. Performance Step: Check high-head loop injection flows established

Standard: Verify flow in Non-BIT OR BIT header

Comment:

Performance Information

(Denote critical steps with a check mark)

35. Performance Step: Check status of all 480V buses

Standard: Verify all 480V buses energized

Comment:

√ 36. Performance Step: **Align Recirc Switch #7**

Standard: Place Recirc Sw #7 to ON

Comment:

37. Performance Step: Check status of Recirc Switch #7

Standard: Verify Recirc Sw #7 function complete light LIT

Comment:

√ 38. Performance Step: **Align Recirc Switch #8**

Standard: Place Recirc Sw #8 to ON

Comment:

39. Performance Step: Check status of Recirc Switch #8

Standard: Verify Recirc Sw #8 function complete light LIT

Comment:

Terminating Cue: The ECCS system is aligned for cold leg recirculation up to and including switch 8

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-C, Realign High Head Recirculation

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

SIM-C

Reset simulator to IC-97

Perform NPO field actions as requested per the standard NPO actions list.

Initial Conditions

Initial Conditions:

- A small break LOCA occurred several hours ago.
- The team has transitioned from ES-1.2, Post LOCA Cooldown and Depressurization, to ES-1.3, Transfer to Cold Leg Recirculation.
- Safety Injection and Containment Spray have been reset.

Initiating Cue:

- The CRS has directed you to align the ECCS system for Cold Leg Recirculation in accordance with ES-1.3.

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 003*010*04*01Task Title: RCP #2 Seal Failure ActionsK/A Reference: 003A2.01 (3.5/3.9)Job Performance Measure No: Sim-D

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: Plant is at indicated power level. An RCP malfunction is in progress. The CRS has directed you to perform the actions of AOP-RCP-1, Reactor Coolant Pump Malfunction.

Task Standard: AOP-RCP-1 actions completed.

Required Materials: 3-AOP-RCP-1

General References:

Initiating Cue: Perform the actions of AOP-RCP-1, Reactor Coolant Malfunction for the indicated malfunction.

Time Critical Task: No

Validation Time: 15 minutes

Performance Information

(Denote critical steps with a check mark)

1. Performance Step: Determine if reactor trip is required:

- Checks motor winding temp > 250°F with Tave > 540°F
- Checks upper or lower motor bearing temp > 200°F
- Checks shaft vibration > 20 mils
- Checks shaft vibration > 15 mils and increasing
- Checks Frame vibration > 5 mils
- Checks Frame vibration > 3 mils and increasing
- Checks seal delta-p < 200 psid
- Checks seal inlet temp > 225°F
- Checks seal outlet temp > 235°F

Standard: Determines reactor trip not required

Comment:

√ 2. Performance Step: Diagnose seal malfunction on 34 RCP is indicated

Standard: Proceeds to seal malfunction section of procedure

Comment:

√ 3. Performance Step: Check 34 RCP #1 Seal return flow < 1 gpm

Standard: Notes indicated #1 seal return flow is less than 1 gpm.

Comment:

4. Performance Step: Checks # 1 seal return > 6 gpm

Standard: Notes seal return is not > 6 gpm

Comment:

√ 5. Performance Step: When #1 seal return flow is < 0.84 gpm, proceeds to step 4.18

Standard: Observes flow lowering until less than 0.84 gpm and then proceeds. The candidate may go step 4.37, but returns to step 4.17 when #1 seal return flow < 0.84 gpm.

Comment:

Performance Information

(Denote critical steps with a check mark)

Booth Instructor: Activate Trigger 1 to cause further degradation of the seal.

6. Performance Step: Checks seal temperatures increasing.

Standard: Observes seal temperatures are increasing, 34 RCP is running, and #1 seal return flow is < 0.84 gpm

Comment:

√ 7. Performance Step: Trip the reactor

CUE: CRS directs the rest of the crew to perform E-0 immediate actions. You are to continue with the subsequent actions of AOP-RCP-1.

Standard: Reactor manually tripped

Comment:

√ 8. Performance Step: Stop 34 Reactor Coolant Pump

Standard: Places 34 RCP Control Switch to stop.

Comment:

9. Performance Step: Initiate E-0, Reactor Trip or Safety Injection

CUE: CRS directs the rest of the crew to perform E-0 immediate actions. You are to continue with the subsequent actions of AOP-RCP-1.

Standard: E-0 initiated

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 10. **Performance Step: Monitors Loop 34 flow. When 34 RCP has stopped rotating, closes 261D, 34 RCP Seal Return isolation valve.**

Standard: 261D closed by placing control switch on panel SAF to close.

Comment:

√ 11. **Performance Step: Closes PC-455G**

Standard: Places controller PC-455G to manual and reduces output to 0 (closed).

Comment:

12. **Performance Step: Check EOPs in use.**

CUE: CRS and balance of team are performing E-0, Reactor Trip or Safety Injection.

Standard: Observes EOPs are in use and goes to step 4.28.

Comments:

13. **Performance Step: Return to procedure and step in effect.**

CUE: Shift Manager directs you to exit AOP-RCP-1

Standard: Actions of AOP-RCP-1 are complete and procedure is exited.

Comments:

Terminating Cue: Actions of AOP-RCP-1 are complete and procedure is exited.

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-D, RCP #2 Seal Failure Actions

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

Reset simulator to IC-96. When directed, execute trigger 1 to reduce seal return flow < 0.84 and raise seal outlet temperature.

Initial Conditions

Initial Conditions:

- Plant is at indicated power level.
- An RCP malfunction is in progress.
- The CRS has directed you to perform the actions of AOP-RCP-1, Reactor Coolant Pump Malfunction.

Initiating Cue:

- Perform the actions of AOP-RCP-1, Reactor Coolant Malfunction for the indicated malfunction.

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 061*005*01*01Task Title: Transfer from AFW Feed to Low Flow Bypass FeedK/A Reference: 061A1.01 (3.9/4.2)Job Performance Measure No: Sim-E

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance _____ Actual Performance XClassroom _____ 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 unit is at 3% with a normal startup in progress. 31 MBFP is running. Feed flow to the SGs is being supplied by the AFW system. All chemistry parameters are in specification. The CRS is in POP-1.3 at step 4.24 and has directed you to Transfer from AFW Feed to Low Flow Bypass Feed using 3-SOP-FW-001 Section 4.5.

Task Standard: Feed flow is being supplied by the low flow bypass valves and AFW system has been shutdown and restored to auto-standby operation.

Required Materials: 3-SOP-FW-001, Main Feedwater System Operation
3-SOP-FW-004, Auxiliary Feedwater System Operation

General References: 3-POP-1.3 step 4.24

Initiating Cue: Transfer from AFW Feed to Low Flow Bypass Feed using 3-SOP-FW-001. When AFW FRVs are fully closed, then shutdown the ABFPs and return to standby operation per 3-SOP-FW-004. If you desire, the booth instructor may operate the AFW FRVs as you direct him.

Time Critical Task: No

Validation Time: 15 minutes

Performance Information

(Denote critical steps with a check mark)

√ 1. Performance Step: Check MBFP Turbine Trip reset flags are matched with the associated lamps.

Standard: Places control switch for 32 MBFP to trip and then neutral to reset the flag from red to green.

Comment:

2. Performance Step: Check Steam Flow and Feedwater Flow recorder inputs selected to narrow range transmitters.

Standard: On panel FBF, selects Narrow position on all eight recorder input selector switches.

Comment:

√ 3. Performance Step: Slowly throttle open bypass FRVs while closing associated AFW FRVs.

Standard: Makes small controlled adjustments such that control of SG level is maintained. Panel SBF-2 alarms for SG High Level and alarms for SG Low Level Channel Trip remain clear. AFW FRVs 406A-D are closed.

Comment: The booth instructor may operate the AFW FRVs as directed by the candidate.

Performance Information

(Denote critical steps with a check mark)

4. Performance Step: When AFW FRVs are fully closed, implements 3-SOP-FW-004 to shutdown the ABFPs.

Standard: Correct procedure referenced uses section 4.4 step 4.4.1 to shutdown the motor drive AFW Pumps.

CUE: CRS directs you to shutdown the ABFPs and return to standby operation.

Comment:

✓ 5. Performance Step: Stops motor driven ABFPs and returns control switches to "normal from stop."

Standard: In any order, stops 31 and 33 motor driven ABFPs and returns switch to the neutral position.

Comment:

6. Performance Step: Ensure recirc valve control switches are in auto

Standard: Verifies BFD-FCV-1121 and BFD-FCV-1123 both in AUTO

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 7. Performance Step: Align AFW regulating valves as required for current plant conditions

CUE for RO Candidate: If asked, CRS directs FCV-406A though 406D setpoints at zero.

CUE for CRS Candidate: If the candidate asks the CRS how he wants the valves positioned, the evaluator should ask the candidate where he thinks it should be positioned.

Standard: Adjusts AFW regulating valve controllers fully clockwise to 0 output (OPEN).

Comment:

Terminating Cue: SOP-FW-001 step 4.5 complete with AFW system returned to standby.

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-E

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

Reset simulator to IC-95

BOOTH INSTRUCTOR: Role play 2nd RO as necessary. If the candidate desires assistance in operation of the AFW FCVs, adjust the position of the 406A-D only as directed by the candidate.

Initial Conditions

Initial Conditions:

- The unit is at 3% with a normal startup in progress.
- 31 MBFP is running.
- Feed flow to the SGs is being supplied by the AFW system.
- All chemistry parameters are in specification.
- The CRS is in POP-1.3 at step 4.24 and has directed you to Transfer from AFW Feed to Low Flow Bypass Feed using 3-SOP-FW-001

Initiating Cue:

- Transfer from AFW Feed to Low Flow Bypass Feed using 3-SOP-FW-001 Section 4.5.
- When AFW FRVs are fully closed, then shutdown the ABFPs and return to standby operation per 3-SOP-FW-004.
- If you desire, the booth instructor may operate the AFW FRVs as you direct him.

RETURN THIS TO THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

Brian Haagensen

Subject: Telcon Steve Davis IP3
Location: JPM "E" Critical task

Start: Tue 11/14/2006 10:30 AM
End: Tue 11/14/2006 11:00 AM

Recurrence: (none)

Categories: NRC

JPM Critical Task: After consideration, the critical task to match the flags on the non-operating MBFP is not critical. This is true because the simulator setup prevented the auto-start of the MDAFW pumps if the flag was not matched. AS a result of the artificiality of the setup, the applicant did not have feedback to respond to the challenge. Had the AFW pumps auto-started, there would have been no challenge to any safety function and it would not have required a 10CFR50.72 report because it would have been an invalid actuation.

Facility: Indian Point 3Task No: 000*050*05*01Task Title: Align CS System during Loss of Emergency Coolant RecirculationK/A Reference: 026A2.08 (3.2/3.7)Job Performance Measure No: Sim-F

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance _____ Actual Performance XClassroom _____ 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 LOCA occurred. All required actions of E-0 have been completed. A transition to ECA-1.1 from E-1 Attachment 1, Step 4 when cold leg recirculation capability could not be verified.

Task Standard: Minimum Containment Spray requirements established.

Required Materials: ECA-1.1, Loss of Emergency Coolant Recirculation, step 8

General References: N/A

Initiating Cue: The CRS has directed you to determine and establish containment spray requirements in accordance with ECA-1.1, Loss of Emergency Coolant Recirculation, Step 8.

Time Critical Task: No

Validation Time: 6 minutes

Performance Information

(Denote critical steps with a check mark)

1. Performance Step: Check spray pumps running

Standard: Observes 31 and 32 containment spray pumps are both running

Comment:

2. Performance Step: Check containment pressure greater than 16 psig

Standard: Observes containment pressure is ~28 psig.

Comment:

√ 3. Performance Step: Determine number of spray pumps required

Standard: Checks RWST level – Greater than 11.5 feet
Checks Containment pressure – Between 22 and 47 psig
Checks FCUs running – 5
Determines 0 spray pumps are required

Comment:

√ 4. Performance Step: Verify spray pumps running equals number required

Standard: Checks number of spray pumps running equals two.
Stops both spray pumps and place both CS in TRIP-PULL-OUT.

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 5. Performance Step: Check Spray Pumps running

- Standard: Observes no spray pumps are running
- Press both CS reset buttons on panel SBF-1
 - Place containment spray pumps control switches to auto
 - Close Spray Pump Disch valves 866A and 866B
 - Press Sodium Hyd Cancel pushbutton on panel SBF-1
 - Verify spray addition tank discharge valves are closed 876A and 876B

Comment:

Terminating Cue: Step 8 complete with no spray pumps running and spray system reset and returned to standby operation.

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-F, Align CS System during Loss of Emergency
Coolant Recirculation

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

Reset simulator to IC-94

All FCU and both CS running
Both Recirc pump flow paths valves deenergized
Both RHR pumps tripped

Initial Conditions

Initial Conditions:

- A LOCA occurred.
- All required actions of E-0 have been completed.
- A transition to ECA-1.1 from E-1 Attachment 1, Step 4 when cold leg recirculation capability could not be verified.

Initiating Cue:

- The CRS has directed you to determine and establish containment spray requirements in accordance with ECA-1.1, Loss of Emergency Coolant Recirculation, step 8.

RETURN THIS TO THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK

| | | |
|------------|--------------------------------------|-------------|
| Appendix C | Job Performance Measure Worksheet | Form ES-C-1 |
|------------|--------------------------------------|-------------|

Facility: Indian Point 3 Task No: 039*012*04*01

Task Title: Restore Steam Flow Channel to Service

K/A Reference: 012A4.04 (3.3/3.3) Job Performance Measure No: Sim-G

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 is at 100% power and steady state conditions exist. FT-419B, 31 SG Steam Flow transmitter failed earlier and has subsequently been repaired by maintenance.

Task Standard: Bistables untripped and B channel controlling Steam Flow and Feed Flow on 31 SG.

Required Materials: 3-AOP-INST-1, Instrument/Controller Failures place kept through step 4.77

General References: 3-AOP-INST-1, Instrument/Controller Failures

Initiating Cue: The CRS has directed you to return FT-419B to service using 3-AOP-INST-1 starting at step 4.78.

Time Critical Task: No

Validation Time: 5 minutes

Performance Information

(Denote critical steps with a check mark)

1. Performance Step: Check Bistables associated with failed instrument in the tripped position.

Standard: Checks Loop 1B SF>FWF and Loop 1B High SF SI Bistables tripped in rack A-9.

Comment:

Note: Bistable trip switches in steps 2 and 3 can be untripped in any order.

√ 2. Performance Step: Places bistable trip switch Loop 1B, SF>FWF in the untripped position.

Standard: Loop 1B, SF>FWF bistable trip switch in the down position. White bistable status lamp turns off. SG 31 High Steam Flow Mismatch Trip alarm on panel SBF-2 clears.

Comment:

√ 3. Performance Step: Places bistable trip switch Loop 1B High SF SI in the untripped position.

Standard: Loop 1B, High SF SI bistable trip switch in the down position. White bistable status lamp turns off. High Steam Flow SI Channel Trip alarm on panel SBF-2 clears.

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 4. Performance Step: Select SG transfer switches to desired channel

CUE: CRS directs you to place the "B" FF and SF channels in control.

Standard: In any order, Places STM GEN No. 31 STM FL CONT. TRANSFER switch to B position and places STM GEN No. 31 FW FL CONT. TRANSFER switch to B. (The Sequence in which the switches are repositioned is not critical.)

Comment:

5. Performance Step: Return to procedure and step in effect.

Standard: Notifies CRS that task is complete – FT-419B is returned to service.

Comment:

Terminating Cue: Bistables untripped and B channels controlling. Procedure exited.

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-G, Restore Steam Flow Channel to Service

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

Reset simulator to IC-93:

1. Place 31 SG SF and FF Channels to the A channel in control.
2. Trip Bistables for FI-419B in rack A-9: Loop 1B SF>FWF and Loop 1B High SF SI.
3. Acknowledge alarms

Initial Conditions

Initial Conditions:

- Unit is at 100% power and steady state conditions exist.
- FT-419B, 31 SG Steam Flow transmitter failed earlier and has subsequently been repaired by maintenance.

Initiating Cue:

- The CRS has directed you to return FT-419B to service using 3-AOP-INST-1 starting at step 4.78.

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

| | | |
|------------|--------------------------------------|-------------|
| Appendix C | Job Performance Measure Worksheet | Form ES-C-1 |
|------------|--------------------------------------|-------------|

Facility: Indian Point 3 Task No: 073*015*01*01

Task Title: Adjust R-20 Process Radiation Monitor Setpoint

K/A Reference: 071A4.15 (3.2/3.2) Job Performance Measure No: Sim-H

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: Plant startup is in progress. Post maintenance testing is complete on R-20. A new alert setpoint has been provided by chemistry. All requirements for setpoint control and log keeping have been met and are being performed by the CRS

Task Standard: New alert setpoint entered into Bantam 11 for rad monitor R-20

Required Materials: 3-SOP-RM-008, Radiation Monitoring Control Cabinet (BANTAM-11/RM-23A Cabinet)

General References: N/A

Initiating Cue: The CRS has directed you to adjust the Bantam-11 alert setpoint to 1.05e2 uci/cc per 3-SOP-RM-008, Radiation Monitoring Control Cabinet step 4.3.5.

Time Critical Task: No

Validation Time: 10 minutes

Performance Information

(Denote critical steps with a check mark)

1. **Performance Step:** Refer to 3-SOP-RM-010 Radiation Monitor Setpoint Control

Standard: 3-SOP-RM-010 requirements verified to be met

CUE: All requirements for setpoint control and log keeping have been met and are being performed by the CRS.

Comment:

√ 2. **Performance Step:** Select Bantam 11 RM-20 channel

Standard: Channel R20 is selected and verified backlit on BANTAM-11 CRT screen.

Comment:

√ 3. **Performance Step:** Select Channel Item Display

Standard: Depress Channel Items pushbutton

Comment:

√ 4. **Performance Step:** Place key switch to Supervisor position

Standard: Normal Supervisor switch in Supervisor position.

CUE:

Comment:

Performance Information

(Denote critical steps with a check mark)

√ **5. Performance Step:** Enter 0, 1, 0

Standard: Keypad sequence 0, 1, 0 entered

Comment:

√ **6. Performance Step:** Depress SEL and verify R20 backlit

Standard: SEL button depressed and R20 backlit

Comment:

√ **7. Performance Step:** Enter new setpoint by entering [1] [0] [5] [+] [0] [2] and then depressing [ENTER]

CUE: If CRS asked for new setpoint, 1.05e2 uci/cc

Standard: Value entered is correct (if not, then candidate corrects entry)

Comment:

√ **8. Performance Step:** Turn Normal Supervisor switch to NORMAL and remove key

Standard: Key switch in NORMAL

Comment:

Performance Information

(Denote critical steps with a check mark)

9. Performance Step: Depress desired channel button to return display to normal

CUE: CRS requests group 26 display on Bantam -11.

Standard: Group 26 display selected [group menu], [2] [6] [enter]

Comment:

Terminating Cue: Setpoint change complete

VERIFICATION OF COMPLETION

Job Performance Measure No. Sim-H, Adjust R-20 Process Radiation Monitor Setpoint

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Simulator Setup

Any IC where Bantam 11 and RM-23A are in service.

Suggest doing this JPM in parallel with SIM-E (or SIM-G)

Startup in progress with power at 4% and shifting feed to the low flow bypass FRVs.

Verify that the R-20 alert setpoint is not $1.05e2$ uci/cc on Bantam-11
(Initial value should be $5.85e+01$)

Remove the Supervisory Key from the Bantam-11 and place in the Key Locker.

Initial Conditions

Initial Conditions:

- Plant startup is in progress.
- Post maintenance testing is complete on R-20.
- A new alert setpoint has been provided by chemistry.
- All requirements for setpoint control and log keeping have been met and are being performed by the CRS.

Initiating Cue:

- The CRS has directed you to adjust the Bantam-11 alert setpoint to 1.05e2 uci/cc per 3-SOP-RM-008, Radiation Monitoring Control Cabinet section 4.3.5

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 0610010404Task Title: Open Steam Supply Valves to 32 ABFPK/A Reference: 061A2.02 (3.2/3.6)Job Performance Measure No: Plant-I

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 steam break inside the ABFP Building caused 32 ABFP Steam Supply Isolation Valves MS-PCV-1310A and MS-PCV-1310B to close. The ABFP Building has been ventilated and is now safe for entry. The steam break has been isolated and was not associated with 32 ABFP steam supply.

Task Standard: MS-PCV-1310A and MS-PCV-1310B OPEN

Required Materials: 3-SOP-ESP-001, Local Equipment Operations and Contingency Actions.

General References: N/A

Initiating Cue: The CRS has directed you to *simulate* locally open MS-PCV-1310A and MS-PCV-1310B in accordance with 3-SOP-ESP-001, sections 4.1.3.3 and 4.1.3.4 and inform the control room when they are open.

Time Critical Task: No

Validation Time: 10 minutes

Performance Information

(Denote critical steps with a check mark)

NOTE: Remind candidate to NOT change any switch or valve positions

1. Performance Step: Review caution prior to step 4.1.3.3

CUE: AUX FEED PUMP ROOM HI TEMP alarm has remained clear

Standard: Check if AUX FEED PUMP ROOM HI TEMP alarm has annunciated

Comment:

2. Performance Step: Check MS-1310A not open

Standard: MS-1310A position checked

Comment:

√ 3. Performance Step: **ISOLATE air supply and BLEED OFF at fitting to MS-PCV-1310A**

Standard: Candidate locates MS-PCV-1310 air supply isolation and simulates closing valve and simulates bleeding off air pressure by disconnecting fitting.

CUE: MS-PCV-1310A is still closed

Comment:

√ 4. Performance Step: **IF MS-PCV-1310A remains closed, unlock and OPEN MS-177 MS-PCV-1310A Bypass to equalize pressure.**

Standard: MS-177 is simulated unlocked and opened.

CUE: MS-PCV-1310A is now open

Comment:

Performance Information

(Denote critical steps with a check mark)

5. Performance Step: Check MS-1310B not open

Standard: MS-1310B position checked

Comment:

√ 6. Performance Step: **ISOLATE air supply and BLEED OFF at fitting to MS-PCV-1310B**

Standard: Candidate locates MS-PCV-1310B air supply isolation and simulates closing valve and simulates bleeding off air pressure by disconnecting fitting.

CUE: MS-PCV-1310B is open

Comment:

7. Performance Step: Inform control room that PCV-1310A and B are open

CUE: Acknowledge as control room

Standard: Control room informed that PCV-1310A and B are open

Comment:

Terminating Cue: Control room informed that MS-PCV-1310A and MS-PCV-1310B are both OPEN

Initial Conditions

VERIFICATION OF COMPLETION

Job Performance Measure No. PLANT-I, Open Steam Supply Valves to 32 ABFP

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

PLANT-I

Initial Conditions

Initial Conditions:

- A steam break inside the ABFP Building caused 32 ABFP Steam Supply Isolation Valves MS-PCV-1310A and MS-PCV-1310B to close.
- The ABFP Building has been ventilated and is now safe for entry.
- The steam break has been isolated and was not associated with 32 ABFP steam supply.

Initiating Cue:

- The CRS has directed you to *simulate* locally open MS-PCV-1310A and MS-PCV-1310B in accordance with 3-SOP-ESP-001, sections 4.1.3.3 and 4.1.3.4 and inform the control room when they are open.

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 0840170401Task Title: Start the Appendix R Diesel During Loss of AC Power (Alternate Path)K/A Reference: 055EA2.03 (3.9/4.7)Job Performance Measure No: Plant-J

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 station blackout has occurred. The control room team is performing ECA-0.0, Loss of All AC Power. All prerequisites and P&Ls for Appendix R Diesel Generator operation are met.

Task Standard: CCR Notified that Appendix R diesel is running and ready for loading

Required Materials: 3-SOP-EL-13, Appendix R Diesel Generator Operation

General References: ECA-0.0 step 6

Initiating Cue: The CRS has directed you to start the Appendix R Diesel per SOP-EL-13 through step 4.3.15 and notify the control room when it is ready for loading.

Time Critical Task: No

Validation Time: 20 minutes

Performance Information

(Denote critical steps with a check mark)

1. Performance Step: Verify OPEN GT-BT, GT-2F, and GT-CP

CUE: CCR responds that all three breakers are open.

Standard: Verifies position of breakers

Comment:

✓ 2. Performance Step: Check PI-815, Appendix R D/G Start Air Reservoir PI

CUE: When PI-815 located, cue the candidate that the gauge reads 60 psig.

Standard: PI-815 checked. Determines that backup diesel driven air compressor must be started since pressure is < 120psig.

Comment:

✓ 3. Performance Step: Open Starting Air Compressor breaker on MCC-314

CUE: After locating breaker and describing operation, cue that breaker is open.

Standard: Starting Air Compressor breaker simulated open

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 4. Performance Step: Remove Compressor belts from electric motor and install on back up diesel driven air compressor

Standard: Describes actions to swap the compressor belt from the electric motor to the diesel.

CUE: Belts have been moved.

Comment: For safety considerations, do not allow the candidate to climb up to the air compressor. Describing how to swap the belts from below the compressor is sufficient.

√ 5. Performance Step: Open DA-118, Backup Diesel Engine Compressor Speed Pilot Valve DA-119 Isolation

Standard: Locates and simulates opening DA-118

CUE: DA-118 is open

Comment:

√ 6. Performance Step: Position diesel engine Clutch lever to OUT

Standard: Locates clutch lever and simulates positioning in OUT

CUE: Clutch lever is in OUT position

Comment:

Performance Information

(Denote critical steps with a check mark)

7. Performance Step: Position throttle lever to ~1/3

CUE: Throttle at 1/3

Standard: Locates throttle lever and simulates positioning to 1/3

Comment:

√ 8. Performance Step: Start backup engine by turning key switch to on.

CUE: Engine is running

Standard: Simulates turning key switch to on.

Comment:

√ 9. Performance Step: Place diesel engine clutch lever IN

CUE: Clutch is in the "IN" position

Standard: Simulates engaging clutch

Comment:

Performance Information

(Denote critical steps with a check mark)

10. Performance Step: When diesel is running loaded, then adjust throttle lever so diesel is running smoothly.

CUE: Engine is running smoothly

Standard: Simulates adjusting throttle

Comment:

11. Performance Step: Ensure Generator Lockout relay switch is RESET

CUE: Lockout relay is reset

Standard: Locates lockout relay switch

Comment:

12. Performance Step: Ensure Unit-Parallel Switch in UNIT

CUE: If not in unit, cue that switch is in UNIT after simulated repositioning.

Standard: Verified in UNIT position

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 13. Performance Step: CLOSE Output Breaker DC Feed Switch

CUE: After locating and simulating closing switch, Output breaker feed switch is closed

Standard: Locates and simulates closing switch

Comment:

√ 14. Performance Step: When Starting air reservoir pressure increases to 120 psig, then depress engine start pushbutton.

CUE: When air reservoir pressure checked, cue that pressure is 125 psig

CUE: When start button is located and simulated pressed, cue that engine starts.

Standard: Observes air reservoir pressure indication > 120 and simulates depressing engine start button.

Comment:

15. Performance Step: When engine increases to 900 rpm on tachometer, verify generator automatically excites as indicated on Generator Field Ammeter and Generator Field Voltmeter

CUE: When tachometer located and checked, cue that engine speed is 900 rpm

CUE: When Generator Field Ammeter is located and checked, cue that field is 2.5 amps

CUE: When Generator Field Volts is located and checked, cue that field volts are in normal range (~60 volts).

Standard: Verifies generator is excited.

Comment:

Performance Information

(Denote critical steps with a check mark)

16. Performance Step: Turn Voltmeter Switch Generator to one of three phases

Standard: Voltmeter is 1-2, 2-3, or 3-1 position

Comment:

17. Performance Step: turn Ammeter Switch Generator to one of three phases:

Standard: Ammeter switch in 1, 2, or 3 position

Comment:

18. Performance Step: Adjust voltage control switch to obtain 6900 VAC on AC
voltmeter Generator.

CUE: Indicates 6900 VAC

Standard: voltage adjusted as necessary to maintain 6900VAC

Comment:

19. Performance Step: Adjust Governor control switch to obtain 60 Hz on Freq
Meter Generator

CUE: After locating Freq Meter, cue that freq is 59.9 Hz

Standard: Raises Speed to obtains 60 HZ using governor control

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 20. Performance Step: Close 52-EG-4, Generator Output Breaker, using Breaker Control Switch

CUE: After locating breaker control switch and describing operation, cue Generator Output Breaker is closed.

Standard: Simulates closing Generator Output Breaker, using Breaker Control Switch

Comment:

21. Performance Step: Verify auxiliaries operating

CUE: After locating indicator lamps for each auxiliary on MCC-314, cue that the associated red lamp is lit.

Standard: Checks Crankcase exhauster, radiator fan, and engine room fans indicator lamps on MCC-314.

Comment:

√ 22. Performance Step: Notify CCR that Appendix R diesel is running and ready for loading.

CUE: Acknowledge as CCR

Standard: CCR notified

Comment:

Terminating Cue: CCR notified that Appendix R diesel generator is running and ready for loading.

VERIFICATION OF COMPLETION

Job Performance Measure No. Plant-J, Start the Appendix R Diesel During Loss of AC Power (Alternate Path)

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions

Initial Conditions:

- A station blackout has occurred.
- The control room team is performing ECA-0.0, Loss of All AC Power.
- All prerequisites and P&Ls for Appendix R Diesel Generator operation are met.

Initiating Cue:

- The CRS has directed you to start the Appendix R Diesel per SOP-EL-13 through step 4.3.15 and notify the control room when it is ready for loading.

RETURN THIS TO THE EVALUATOR WHEN THE TASK IS COMPLETE

Facility: Indian Point 3Task No: 0040010404Task Title: Align City Water Cooling to Charging Pumps (Alternate Backup)K/A Reference: 026AA1.03 (3.6/3.6)Job Performance Measure No: Plant-K

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 Safety Injection has occurred coincident with a loss of offsite power. This has resulted in a loss of Component Cooling Water. There are currently no Charging Pumps operating.

Task Standard: Alternate Back-up city water cooling aligned to charging pumps.

Required Materials: 3-SOP-ESP-001, Local Equipment Operation and Contingency Actions

General References: N/A

Initiating Cue: The CRS has directed you to align City Water Back-up supply to Charging Pumps per SOP-ESP-001 section 4.11

Time Critical Task: No

Validation Time: 20 minutes

Performance Information

(Denote critical steps with a check mark)

CUE: Provide the candidate a copy of 3-SOP-ESP-001, Local Equipment Operations and Contingency Actions.

1. Performance Step: Refers to 3-SOP-ESP-001 section 4.11 Charging Pump Cooling Using City Water. Observes Caution regarding requirement for cooling water supply to charging pump oil coolers.

Standard: Correct procedure section referenced. Observes from Initial conditions that no charging pumps are running.

Comment:

√ 2. Performance Step: Close AC-756A, CC Supply Header to Charging Pumps Inlet Isolation.

CUE: After valve is located and candidate simulates closing valve, cue that the valve is closed

Standard: AC-756A verified closed.

Comment:

√ 3. Performance Step: Close AC-756B, CC Return Header from Charging Pumps Outlet Isolation.

CUE: After valve is located and candidate simulates closing valve, cue that the valve is closed

Standard: AC-756B verified closed.

Comment:

Performance Information

(Denote critical steps with a check mark)

4. Performance Step: Open MW-26, City Water Emergency Cooling Supply to Charging Pumps Isolation

CUE: MW-26 can not be opened

Standard: Determines Normal Backup city water supply is not available and proceeds to Alternate Backup city water supply section.

Comment:

NOTE: If the CRS is contacted, direct the candidate to align Alternate Backup city water cooling using 3-SOP-ESP-001.

5. Performance Step: Obtain Fire hose from laundry truck bay "Operations Contingency Hose Cabinet"

CUE: Have candidate locate locker and simulate obtaining required hoses

Standard: Laundry truck bay "Operations Contingency Hose Cabinet" located and simulated obtaining required hoses.

Comment:

6. Performance Step: Proceed to PAB 55' Charging Pump entrance cell with 25' fire hose.

Standard: Charging pump entrance cell located with 25' hose.

Comment:

Performance Information

(Denote critical steps with a check mark)

√ **7. Performance Step:** **Close MW-783, City Water Emergency Cooling Supply to Charging Pumps Backflow Preventer Downstream Isolation Valve.**

CUE: When MW-783 is located and candidate simulates closing valve, provide cue that MW-783 is closed.

Standard: MW-783 simulated closed

Comment:

√ **8. Performance Step:** **Close AC-701A Emergency City Water Cooling Supply to Charging Pumps Inlet Isolation.**

CUE: When AC-701A is located and candidate simulates closing valve, provide cue that AC-701A is closed

Standard: AC-701A simulated closed.

Comment:

√ **9. Performance Step:** **Remove cap at elbow downstream from MW-783**

CUE: When cap is located and simulated removed, cue that cap has been removed

Standard: Cap at elbow downstream of MW-783 removed using an appropriate tool.
Candidate demonstrates or discusses where or how to obtain an appropriate tool.

Comment:

Performance Information

(Denote critical steps with a check mark)

✓ **10. Performance Step:** Attach fire hose to threaded end at elbow and drop fire hose through pipe chase to PAB 41' below

CUE: When candidate simulates attaching hose and dropping through pipe chase, CUE that the hose is connected.

Standard: Fire hose simulated connected to fitting and dropped through pipe chase.

Comment:

11. Performance Step: Proceeds to PAB 41' Lower Pipe Penetration Area with 50' hose lengths.

Standard: PAB 41' Lower Pipe Penetration Area located with simulated hoses.

Comment:

12. Performance Step: Ensure MW-17-1 and MW-17-2 City Water Containment Isolations are closed

CUE: When valves are located and the candidate simulates closing the valves, cue that they are closed.

Standard: Locates and verifies MW-17-1 and MW-17-2 closed

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 13. Performance Step: Attach Fire Hose to MW-17-1 and 17-2 hose connection

CUE: When candidate simulates attaching hose to correct fitting, cue that hose is attached.

Standard: Fire Hose simulated attached to MW-17-1 and 17-2 hose connection

Comment:

√ 14. Performance Step: Run 50' Fire hose lengths to 25' fire hose hanging from pipe chase outside 41' CCW pump room and connect hoses.

CUE: When pipe chase located and candidate simulates connecting hoses, cue that hoses are connected

Standard: Length of hose simulated run from MW-17-1 and 17-2 hose connection and connected to hose connected to elbow downstream of MW-783.

Comment:

√ 15. Performance Step: OPEN MW-17-1 and 17-2

CUE: After candidate demonstrates simulated opening valves, cue that both valves are open

Standard: MW-17-1 and 17-2 simulated open

Comment:

Performance Information

(Denote critical steps with a check mark)

NOTE: AC-756A was previously checked closed in step 2.

16. Performance Step: Ensure that AC-756A CC Supply to Charging Pumps Inlet Isolation is closed

CUE: After AC-756A is located and the candidate simulates closing it, cue that the valve is closed.

Standard: AC-756A simulated closed

Comment:

NOTE: AC-756B was previously checked closed in step 1.

17. Performance Step: Ensure that AC-756B CC Return to Charging Pumps Outlet Isolation is closed

CUE: After AC-756B is located and the candidate simulates closing it, cue that the valve is closed.

Standard: AC-756B simulated closed

Comment:

✓ 18. Performance Step: **Ensure AC-701B, Emergency City Water Cooling Return from Charging Pumps Outlet Drain flange is removed**

CUE: After locating flange and describing how to remove it, cue that the flange is removed.

Standard: Locates AC-701B and verifies the flange is removed

Comment:

Performance Information

(Denote critical steps with a check mark)

√ 19. Performance Step: Open AC-701B Emergency City Water Cooling Return from Charging Pumps Outlet Drain

CUE: After locating and simulating opening the valve, cue that the AC-701B is open

Standard: AC-701B simulated open.

Comment:

√ 20. Performance Step: Open AC-701A Emergency City Water Cooling Supply to Charging Pumps Inlet Isolation

CUE: After locating and simulating opening the valve, cue that the AC-701A is open

Standard: AC-701A simulated open.

Comment:

Terminating Cue: Alternate backup city water has been aligned to the charging pumps

Initial Conditions

VERIFICATION OF COMPLETION

Job Performance Measure No. Plant-K, Align City Water Cooling to Charging Pumps
(Alternate Backup)

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions

Initial Conditions: A Safety Injection has occurred coincident with a loss of offsite power. This has resulted in a loss of Component Cooling Water. There are currently no Charging Pumps operating.

Initiating Cue: The CRS has directed you to align City Water Back-up supply to Charging Pumps per SOP-ESP-001 section 4.11.

RETURN THIS FORM TO THE EXAMINER WHEN THE TASK IS COMPLETE