

**a. JPM**

**TITLE:** Ramp Down To 540 Mw At 4 MW/Min And Perform Corrective Actions In Response To A Malfunction Of The Rod Control System For A Continuous Rod Withdrawal

**TASK STANDARD:** Commence a ramp down in power, recognize a continuous rod withdrawal, and trip the Reactor by opening CRDM MG set breakers, and manually trip the Main Turbine.

**PROGRAM APPLICABLE:** SOT \_\_\_ SOCT \_\_\_ OLT X LOCT

**ACCEPTABLE EVALUATION METHOD:** X PERFORM X SIMULATE \_\_\_ DISCUSS

**EVALUATION LOCATION:** X SIMULATOR \_\_\_ CONTROL ROOM \_\_\_ PLANT

**PROJECTED TIME:** 10 MIN **SIMULATOR IC NUMBER:** IC-123

**ALTERNATE PATH** X **TIME CRITICAL** \_\_\_ **PRA**

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to RAMP DOWN TO 540 MW AT 4 MW/MIN. The conditions under which this task is to be performed are:

- a. The Plant is at 74% power.
- b. There has been a report of an abnormal noise coming from the 1B SGFP turbine.
- c. The Unit Operator is enroute to the Control room from the Service Water Intake Structure, but has not arrived yet.
- d. The Shift Supervisor has directed you to ramp down to remove 1B SGFP from service for maintenance per the following:
  - ramp down per UOP-3.1, step 8.3
  - ramp to 540 MW at 4 MW/min
- e. A pre-job brief is not required.

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>_____ START TIME</b>		
*1. Commences ramp to 540 MW at 4 MW/Min per the instructions on the DEH computer Screen. UOP-3.1, Step 8.3	Inputs 540 MW target, 4 MW/Min ramp rate, depresses select, and depresses GO pushbutton (GO pushbutton lights up).	S / U
2. Takes CONTROL ROD MOTION switch to RODS IN position as needed to maintain Tavg within $\pm 1.5^{\circ}\text{F}$ of Tref . UOP-3.1, Step 2.3.	WHEN inward rod movement is demanded, recognizes rod movement is outward and continuous.	S / U
3. Verifies NO load change in progress. AOP-19.0 Step 1	Depresses Main Turbine HOLD pushbutton. Observes Turbine HOLD pushbutton lights up.	S / U
4. Places rods in Auto and observes rods continue to step outward. AOP-19.0 Step 2.1	Places rods in Auto observes rods continue to step outward.	S / U
5. Attempts to trip the reactor using both Reactor Trip handswitches. AOP-19.0 Step 2.2	Attempts to trip the reactor using both MCB Reactor Trip handswitches. Observes reactor does not trip.	S / U

- |  |   |              |
|--|---|--------------|
| <p>*6. Trips the reactor using both CRDM MG set breaker handswitches.<br/>EEP-0.0 Step 1.1.3 RNO</p> | <p>Trips the reactor using both MCB CRDM MG set breaker handswitches. Observes all DRPI rod bottom lights lit.</p>                    | <p>S / U</p> |
| <p>*7. Trips the Main Turbine using MAIN TURB EMERG TRIP handswitch.<br/>EEP-0.0 Step 1.1.3 RNO</p>  | <p>Trips the Main Turbine using MCB MAIN TURB EMERG TRIP handswitch. Observes all Throttle valves closed by TSLB2 14-1,2,3,4 LIT.</p> | <p>S / U</p> |
| <p>8. Checks power to all 4160V ESF busses.<br/>EEP-0.0 Step 3</p>                                   | <p>Checks EPB AC power available lights lit for 4160V busses F, K, G, L. Observes they are all lit.</p>                               | <p>S / U</p> |

**NOTE: IN THE FOLLOWING ELEMENT, AN SI MAY OCCUR IF THE APPLICANT DOES NOT MANUALLY TRIP THE MAIN TURBINE EXPEDITIOUSLY AFTER THE CONTROL RODS ARE INSERTED.**

- |   |  |              |
|---|--|--------------|
| <p>9. Checks SI status and Either:</p> <ul style="list-style-type: none"> <li>• Observes no SI Setpoint is exceeded AND transitions to ESP-0.1</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Observes SI has occurred and continues on in EEP-0.0 to Step 5.</li> </ul> <p>EEP-0.0 Step 4</p> | <p>Checks SI status and Either:</p> <ul style="list-style-type: none"> <li>• Observes no SI Setpoint is exceeded AND transitions to ESP-0.1</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Observes SI has occurred and continues on in EEP-0.0 to Step 5.</li> </ul> | <p>S / U</p> |
|---|--|--------------|

**\_\_\_\_ STOP TIME**

Terminate when immediate actions of EEP-0 have been performed (steps 1-4).

**CRITICAL ELEMENTS:** Critical Elements are denoted with an asterisk (\*) preceding the element number.

**GENERAL REFERENCES**

1. FNP-1-UOP-3.1, Version 96
2. FNP-1-AOP-19.0, Version 23.0
2. K/As: 001 AA2.05 RO-4.4 SRO-4.6

**GENERAL TOOLS AND EQUIPMENT**

None

**COMMENTS**

**CONDITIONS**

When I tell you to begin, you are to RAMP DOWN TO 540 MW AT 4 MW/MIN. The conditions under which this task is to be performed are:

- a. The Plant is at 74% power.
- b. There has been a report of an abnormal noise coming from the 1B SGFP turbine.
- c. The Unit Operator is enroute to the Control room from the Service Water Intake Structure, but has not arrived yet.
- d. The Shift Supervisor has directed you to ramp down to remove 1B SGFP from service for maintenance per the following:
  - ramp down per UOP-3.1, step 8.3
  - ramp to 540 MW at 4 MW/min
- e. A pre-job brief is not required.

**b. JPM**

**TITLE:** Evaluate The RHR System sample results and EITHER borate the RHR system or place the RHR System in Standby for RCS Cooldown.

**TASK STANDARD:** Evaluate the boron concentration of the RHR system, and determine that it needs to be borated to increase RHR System boron concentration above the CSD boron concentration, then borate the 'A' Train RHR system.

**PROGRAM APPLICABLE:** SOT \_\_\_ SOCT \_\_\_ OLT X LOCT

**ACCEPTABLE EVALUATION METHOD:** X PERFORM X SIMULATE \_\_\_ DISCUSS

**EVALUATION LOCATION:** X SIMULATOR \_\_\_ CONTROL ROOM \_\_\_ PLANT

**PROJECTED TIME:** 25 MIN **SIMULATOR IC NUMBER:** IC-135

**ALTERNATE PATH** X **TIME CRITICAL** \_\_\_ **PRA**

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to EVALUATE THE RHR SYSTEM SAMPLE RESULTS AND EITHER BORATE THE RHR SYSTEM OR PLACE THE RHR SYSTEM IN STANDBY FOR RCS COOLDOWN. The conditions under which this task is to be performed are:

- a. The Plant is in Mode 3.
- b. The CCW system is in operation and aligned per SOP-23.0.
- c. The RCS has been borated to 2000 ppm in preparation for a refueling outage.
- d. FNP-1-SOP-7.0, Residual Heat Removal System, section 4.1 up to step 4.1.10 is complete.
- e. 1A RHR pump has been secured after step 4.1.10 while awaiting the sample results.
- f. 'A' Train RHR system boron sample results have just been reported to the Control Room: 805 ppm.
- g. Fuel Burnup is 16,000 MWD/MTU.
- h. You are directed to continue in SOP-7.0, at step 4.1.11 OR 4.1.12 as applicable.

**EXAMINER NOTE: PREJOB BRIEF IS EXPECTED FOR THIS TASK. STARTING THIS TASK IN A ROOM OUTSIDE OF THE SIMULATOR WITH PROCEDURES AVAILABLE (SOP-2.1, SOP-7.0, AND CORE PHYSICS CURVES 61 AND 61A) SHOULD PROVIDE EFFICIENT USE OF THE SIMULATOR WHICH IS NOT NEEDED UNTIL E.E.MENT 2.**

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>_____ START TIME</b>		
1. Evaluates Boron Sample results with CSD boron concentration per curve 60 & 61A and determines that the 'A' Train RHR system must be borated. SOP-7.0 Step 4.1.12	Evaluates Boron Sample results with CSD boron concentration per curve 60 & 61A and determines that the 'A' Train RHR system must be borated.	S / U
*2. Starts 1A RHR PUMP. SOP-7.0 Step 4.1.12	Starts 1A RHR PUMP. Observes amps increase, discharge pressure increase, red light lit, and green light NOT lit.	S / U
3. Verify closed 'B' train RHR to CVCS letdown isolation RHR-V-8720B (V013B). SOP-7.0 Step 4.1.12.1	Call the S. O. to verify the position of V013B. (CUE: The S. O. reports that V013B is closed.)	S / U
4. Open 'A' train RHR to CVCS letdown isolation RHR-V-8720A (V013A). SOP-7.0 Step 4.1.12.2	Ask the S. O. to open V013A. (CUE: The S. O. reports that V013A is open.)	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<p><b>CUE: THE SHIFT SUPERVISOR DOES NOT DESIRE EXCESS LETDOWN IN SERVICE. SOP-7.0 Step 4.1.12.3</b></p>		
<p>5. Compare LETDOWN PRESSURE and 'A' RHR pump discharge pressure. SOP-7.0 Step 4.1.12.4</p>	<p>Check letdown PI-145 and RHR pump discharge PI-600A. Observes PI-145 &gt; PI-600A.</p>	<p>S / U</p>
<p>6. Directs Chemistry to secure the Zinc Addition System. SOP-2.1 Step 4.3.1</p>	<p>Directs Chemistry to secure the Zinc Addition System. (CUE: The Zinc Addition System is secured.)</p>	<p>S / U</p>
<p>7. Place LP LTDN PRESS PK 145 in Manual and demand at approximately 50%. SOP-2.1 Step 4.3.2 &amp; 3</p>	<p>PK 145 Manual Pushbutton is depressed and is backlit at ≈ 50% demand.</p>	<p>S / U</p>
<p>*8. Close the LTDN ORIF Isolation valves Q1E21HV8149A, B, &amp; C. SOP-2.1 Step 4.3.4</p>	<p>The handswitches for HV-8149A, B, &amp; C taken to close. Observes: HV-8149A, B, &amp; C green lights are lit, red lights are NOT lit.</p>	<p>S / U</p>
<p>9. If desired, close both LTDN LINE Isolation Valves Q1E21V459 &amp; 460. SOP-2.1 Step 4.3.5</p>	<p>V459 &amp; V460 may be closed or left open. Observes red light lit for open valves and green light lit for closed valves.</p>	<p>S / U</p>
<p>10. Place CHG FLOW FK 122 in MANUAL and adjust demand to 0% (closed). SOP-2.1 Step 4.3.6 &amp; 7</p>	<p>FK 122 Manual pushbutton is depressed and is backlit. Demand is lowered to 0%.</p>	<p>S / U</p>
<p>11. Adjust Seal Injection Flow as needed. SOP-2.1 Step 4.3.8</p>	<p>HIK 186 is adjusted as needed to maintain ≈ 8 gpm flow to each RCP.</p>	<p>S / U</p>
<p>*12. Diverts letdown to VCT. SOP-7.0 Step 4.14.12.5</p>	<p>Places handswitch for LTDN HI TEMP DIVERT VLV TCV-143 to the VCT position. Observes the The VCT light is lit, the Demin light is NOT lit.</p>	<p>S / U</p>

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
*13. Diverts letdown to the RHT's. SOP-7.0 Step 4.14.12.6	VCT HI LEVEL DIVERT VLV LCV-115A placed to the RHT position. Observes the VCT light is NOT lit, the RHT light is lit.	S / U
*14. Slowly open RHR TO LTDN HX HIK-142. SOP-7.0 Step 4.14.12.7	HIK-142 turned clockwise to open.	S / U
*15. Adjust LP LTDN PRESS PK-145 as necessary to provide maximum letdown flow. SOP-7.0 Step 4.14.12.8	LP LTDN PRESS PK-145 adjusted not to exceed 135-gpm flow on FI- 150.	S / U
*16. Closes RHR to LTDN Hx HIK-142. SOP-7.0 Step 4.14.12.9	HIK-142 turned counterclockwise to close.	S / U
17. Requests chemistry sample 'A' train RHR. SOP-7.0 Step 4.14.12.9	Chemistry called to sample 'A' train RHR. (CUE: Chemistry acknowledges the request for a sample of 'A' train RHR.)	S / U

**CUE: ANOTHER OPERATOR WILL CONTINUE WITH THIS PROCEDURE AFTER THE SAMPLE RESULTS ARE OBTAINED.**

\_\_\_\_\_ **STOP TIME**

Terminate JPM when Boron sample has been requested.

**CRITICAL ELEMENTS:** Critical Elements are denoted with an asterisk (\*) before the element number.

**GENERAL REFERENCES**

1. FNP-1-SOP-7.0, Version 78.0
2. FNP-1-SOP-2.1, Version 96.0
3. Curve 61 & 61A, Unit 1 Cycle 22 (Rev. 22)
3. K/As: 004 A2.10 RO-3.9 SRO-4.2  
005K5.09 RO-3.2 SRO-3.4

**GENERAL TOOLS AND EQUIPMENT**

Provide: Entire "Unit 1 Physics Curves" book

**COMMENTS**

**CONDITIONS**

When I tell you to begin, you are to EVALUATE THE RHR SYSTEM SAMPLE RESULTS AND EITHER BORATE THE RHR SYSTEM OR PLACE THE RHR SYSTEM IN STANDBY FOR RCS COOLDOWN. The conditions under which this task is to be performed are:

- a. The Plant is in Mode 3.
- b. The CCW system is in operation and aligned per SOP-23.0.
- c. The RCS has been borated to 2000 ppm in preparation for a refueling outage.
- d. FNP-1-SOP-7.0, Residual Heat Removal System, section 4.1 up to step 4.1.10 is complete.
- e. 1A RHR pump has been secured after step 4.1.10 while awaiting the sample results.
- f. 'A' Train RHR system boron sample results have just been reported to the Control Room: 805 ppm.
- g. Fuel Burnup is 16,000 MWD/MTU.
- h. You are directed to continue in SOP-7.0, at step 4.1.11 OR 4.1.12 as applicable.

## UNIT 1 CYCLE 22 CURVE 61

Minimum Boron Concentration to Assure 1.00% and 1.77%  $\Delta K/K$   
 Shutdown Margin at Various Moderator Temperatures and Core Burnups  
 (Assumes All Rods In with the Most Reactive Rod Stuck Out and Xenon-Free Conditions)

REV. 34

APPROVED: \_\_\_\_\_

Kassandra Moore  
ENGINEERING SUPPORT MANAGER10/12/07  
DATE

## Vessel Average Moderator Temperature (°F)

Burnup (MWD/MTU)	(1.00% SDM)		(1.77% SDM)				
	68	200	200	300	400	500	547
0	1301	1285	1360	1340	1304	1226	1130
150	1296	1280	1355	1338	1306	1230	1136
1000	1300	1285	1359	1343	1310	1235	1141
2000	1339	1320	1396	1372	1335	1260	1168
3000	1373	1354	1429	1406	1360	1274	1179
4000	1390	1372	1447	1423	1375	1278	1177
6000	1387	1366	1440	1413	1359	1251	1135
8000	1344	1319	1392	1361	1299	1179	1056
10000	1274	1245	1316	1279	1210	1074	946
12000	1184	1150	1219	1176	1098	950	810
14000	1069	1031	1098	1051	965	802	658
16000	940	897	962	909	814	639	487
18000	798	750	813	754	653	466	307
20250	626	571	632	569	458	257	100

**Note:** All cases were run with ARI and the most reactive rod withdrawn, no Xenon. BOL has peak Sm, then Sm depleted through end of life. All concentrations are in ppm (100 ppm allowance included). Additional boron may be required to satisfy boron dilution concerns at hot and cold shutdown (See Curve 61A). Information includes B<sup>10</sup> depletion considerations.

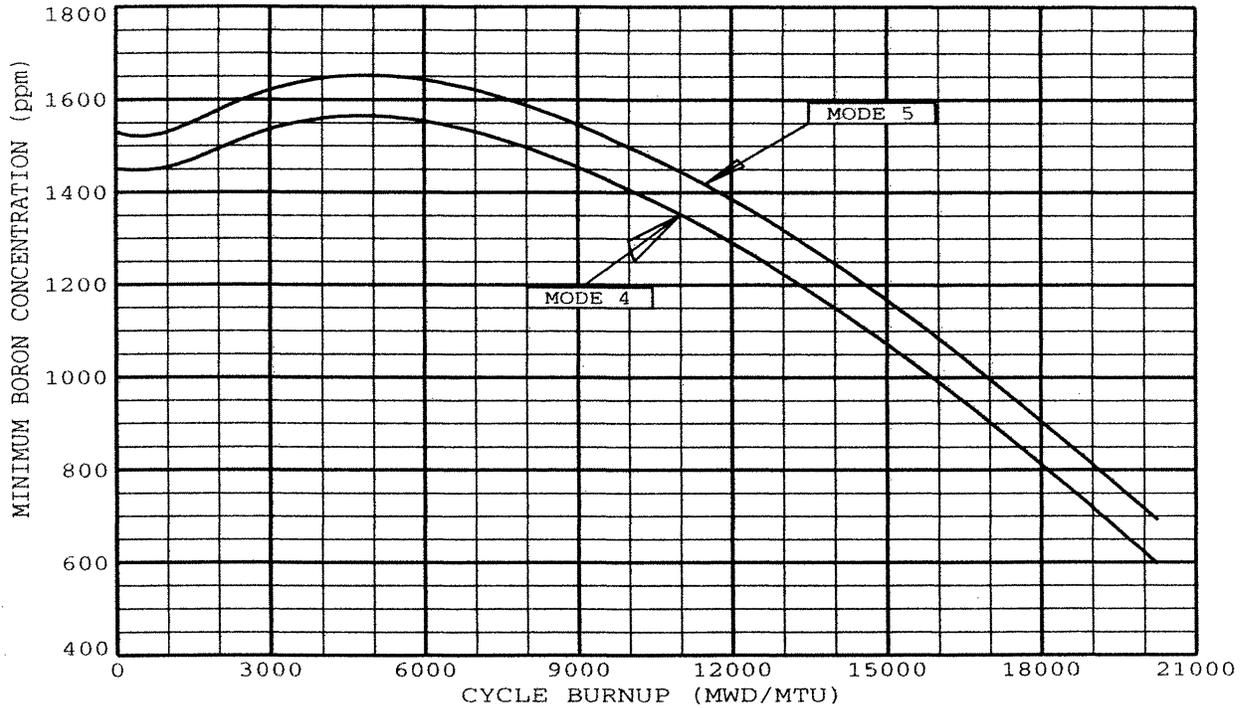
**ARO Critical Boron Concentration = 1659 ppm (BOL, HZP, Xenon-free conditions for Cycle 22)**

UNIT 1 CYCLE 22 CURVE 61A  
 Minimum Boron Concentration for Hot and Cold Shutdown  
 To Satisfy Inadvertent Boron Dilution Accident Requirements (RHR Flowrate ≥ 1000 gpm)

REV. 22

APPROVED: Kenneth Moore  
 ENGINEERING SUPPORT MANAGER

10/17/07  
 DATE



Burnup (MWD/MTU)	Mode 4	Mode 5
0	1451	1530
150	1449	1525
1000	1454	1530
2000	1494	1578
3000	1536	1621
4000	1560	1646
6000	1554	1643
8000	1497	1588
10000	1406	1498
12000	1292	1386
14000	1150	1246
16000	990	1084
18000	812	905
20250	597	692

Notes:

- 1) This curve is applicable only when RHR is in service.
- 2) Interpolation between 1000 gpm curve and 2300 gpm curve should not be performed for intermediate flow rates.
- 3) This data bounds all RHR flow rates ≥ 1000 gpm and < 2300 gpm.
- 4) Dilution rate is assumed to be 150 gpm.
- 5) Information includes B-10 depletion considerations.

**c. JPM**

**TITLE:** Perform The Required Actions For Cold Leg Recirculation

**TASK STANDARD:** Perform The Required Actions For Cold Leg Recirculation, for the 'B' train only.

**PROGRAM APPLICABLE:** SOT \_\_\_ SOCT \_\_\_ OLT X LOCT X

**ACCEPTABLE EVALUATION METHOD:** X PERFORM X SIMULATE \_\_\_ DISCUSS

**EVALUATION LOCATION:** X SIMULATOR \_\_\_ CONTROL ROOM \_\_\_ PLANT

**PROJECTED TIME:** 15 MIN **SIMULATOR IC NUMBER:** \*IC-151

**ALTERNATE PATH** X **TIME CRITICAL** \_\_\_ **PRA** \_\_\_

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to **PERFORM THE REQUIRED ACTIONS FOR COLD LEG RECIRCULATION**. The conditions under which this task is to be performed are:

- a. A LBLOCA has occurred.
- b. ESP-1.3, Transfer to Cold Leg Recirc, has been entered and all steps through Step 6 have been completed.
- c. 1B Charging pump is aligned to 'A' Train.
- d. Containment pressure is 7 psig.
- e. Recirc. Disconnects are Closed.
- f. You are directed by the Shift Supervisor to transfer to cold leg recirculation performing Step 7 ONLY of ESP-1.3.
- g. A pre-job brief is not required.

**NOTE: THIS JPM MAY BE SIMULATED ON EITHER UNIT**

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>____ START TIME</b>		
1. Checks containment sump level greater than 3.0 ft. Step 7.1	LI-3594A or LR-3594B checked. Observes sump level greater than 3.0 ft.	S / U
2. Verifies recirculation valve disconnects <b>CLOSED</b> . Step 7.2	Attachment 1 referenced to verify recirculation valve disconnects closed. Observes all white lights lit.	S / U
*3. Stops both RHR pumps. Step 7.3	1A and 1B RHR pump handswitches taken to stop. Observes 1A & 1B RHR pump Amps indicate '0', Both pumps green lights lit and red lights NOT lit.	S / U
<p><b>NOTE: THE FOLLOWING ELEMENT IS THE START OF THE ALTERNATE PATH IN THE RNO COLUMN.</b></p>		
4. Aligns 'A' Train RHR for cold leg recirculation. Step 7.4	MOV-8809A handswitch taken to closed. Observes both valve position indicators red AND green lights are NOT lit.	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<p>*5. Stops the running 'A' train CHG PUMP (AND proceed to step 7.9). Step 7.4 RNO</p>	<p>Stop the running 'A' train CHG PUMP. Observes 1A CHG pump Amps indicate '0', pump green light lit and red light NOT lit.</p>	<p>S / U</p>
<p>*6. Aligns 'B' Train RHR for cold leg recirculation. Step 7.9</p>	<p>Handswitches for RWST TO 1B1 RHR PMP MOV-8809B taken to closed. Observes valve position indicator, green light lit, red light NOT lit.</p>	<p>S / U</p>
<p>*7. Closes CTMT SUMP TO 1B RHR PMP MOV-8811B and MOV-8812B. Step 7.10</p>	<p>Handswitches for CTMT SUMP TO 1B RHR PMP MOV-8811B and MOV-8812B, taken to open. Observes valve position indicators, red lights lit, green lights NOT lit.</p>	<p>S / U</p>
<p>*8. Closes RHR TO RCS HOT LEGS XCON MOV-8887B. Step 7.11</p>	<p>Handswitch for RHR TO RCS HOT LEGS XCON MOV-8887B taken to closed. Observes valve position indicator, green light lit, red light NOT lit.</p>	<p>S / U</p>
<p>*9. Starts 1B RHR pump. Step 7.12</p>	<p>Handswitch for 1B RHR PMP taken to start. Observes pump Amp meter indicates amps, pump breaker red light lit, green light NOT lit.</p>	<p>S / U</p>
<p>10. Verifies 'B' train LHSI flow is stable. Step 7.13</p>	<p>FI-605B checked. Observes FI-605B stable.</p>	<p>S / U</p>
<p>11. Verifies charging pump miniflow valves CLOSED. Step 7.14</p>	<p>Indications for MOVs 8109A/B/C and 8106 checked. Observes charging pump miniflow valves green lights are lit and red lights are NOT lit.</p>	<p>S / U</p>
<p>12. Verifies seal return flow valves CLOSED. Step 7.15</p>	<p>Indications for seal return flow valves MOV 8100 and 8112 checked. Observes MOV 8100 and 8112 indications green lights lit, red lights NOT lit.</p>	<p>S / U</p>

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
13. Verifies the 'A' train CHG PUMP stopped based on 1A RHR PUMP NOT started (and proceed to step 7.20). Step 7.16 RNO	Verifies the 'A' train CHG PUMPs stopped. Observes breaker position indicators green lights lit, red lights NOT lit.	S / U
14. Checks MOV-8130A and B 'B' Charging Pump Suction Hdr Iso valves from 'A' Train OPEN. Step 7.20	Checks position indication for CHG PMP SUCT HDR ISO VLV MOV-8130A and B. Observes valve position indicators red lights lit, green lights NOT lit.	S / U
*15. Closes MOV-8131A and B 'B' Charging Pump Suction Hdr Iso valves from 'B' Train. Step 7.20	Handswitch for CHG PMP SUCT HDR ISO VLV MOV-8131A and B taken to close. Observes valve position indicators green lights lit, red lights NOT lit.	S / U
*16. Opens MOV-8706B 1B RHR Supply to 'B' Train Charging Pump Suction. Step 7.21	Handswitch for RHR HX B TO CHG PMP SUCT MOV-8706B taken to open. Observes valve position indicator red light lit, green light NOT lit.	S / U
17. Verifies VCT level is > 5%. Step 7.22	LI-112 and LI-115 are checked. Observes LI-115/112 indicates > 5% level.	S / U
*18. Closes LCV-115D 'B' Train RWST to charging header valves. Step 7.23	Handswitch for RWST TO CHG PMP HDR LCV-115D taken to close. Observes valve position indicator, green light lit.	S / U
19. Checks 1C charging pump ONLY running. Step 7.24 RNO	Checks 1C Charging pump indications. Observes 1C pump Amps > 0, red light is lit, green light NOT lit.	S / U
*20. Opens MOV-8885 charging pump recirc to RCS cold legs. 7.24.1 RNO	Handswitch for CHG PMP RECIRC TO COLD LEG MOV-8885 handswitch taken to open. Observes valve position indicator red light lit, green light NOT lit, FI-940 HAS flow and FI-943 does NOT have flow.	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
*21. Closes MOV-8803A & B HHSI TO RCS CL ISO valves (and proceeds to step 26). 7.24.2 RNO	Handswitches for HHSI TO RCS CL ISO valves, MOV-8803A and MOV-8803B taken to close. Observes valve position indicator green lights lit, red lights NOT lit.	S / U
22. Checks open 1B charging pump to 'A' train discharge valves. Step 7.26	Checks open CHG PMP DISCH HDR MOV-8132A and B. Observes valve position indicators red lights lit, green lights NOT lit.	S / U
23. Checks closed 1B Charging Pump Discharge Hdr to 'B' Train valves. Step 7.26	Checks closed CHG PMP DISCH HDR MOV-8133A and B. Observes valve position indicators green lights lit, red light NOT lit.	S / U
24. Verifies SI flow is stable. Step 7.27	Flow is checked. Observes flow indicated on FI-940, 'B' TRAIN RECIRC FLOW and FI-605B 'B' train RHR HDR flow. NO flow indicated on FI-943, A TRAIN RECIRC FLOW and FI- 605A, 'A' train RHR HDR flow.	S / U

**STOP TIME**

Terminate when STEP 7 is complete: SI flow is determined to be stable.

\* **CRITICAL ELEMENTS:** Critical Elements are denoted with an Asterisk (\*) preceding the element number.

**GENERAL REFERENCES:**

1. FNP-1-ESP-1.3, Rev. 19
2. K/As: 011EA1.11 RO-4.2 SRO-4.2

**GENERAL TOOLS AND EQUIPMENT:**

None

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to **PERFORM THE REQUIRED ACTIONS FOR COLD LEG RECIRCULATION**. The conditions under which this task is to be performed are:

- a. A LBLOCA has occurred.
- b. ESP-1.3, Transfer to Cold Leg Recirc, has been entered and all steps through Step 6 have been completed.
- c. 1B Charging pump is aligned to 'A' Train.
- d. Containment pressure is 7 psig.
- e. Recirc. Disconnects are Closed.
- f. You are directed by the Shift Supervisor to transfer to cold leg recirculation performing Step 7 ONLY of ESP-1.3.
- g. A pre-job brief is not required.

**d. JPM**

**TITLE:** Place 1A SGFP On Service to establish flow to all Steam Generators (SGs).

**TASK STANDARD:** Place 1A SGFP On Service IAW Steps 7.12 through 7.21 of FRP-H.1 to establish flow to all Steam Generators (SGs).

**PROGRAM APPLICABLE:** SOT \_\_\_ SOCT \_\_\_ OLT X LOCT X

**ACCEPTABLE EVALUATION METHOD:** X PERFORM \_\_\_ SIMULATE \_\_\_ DISCUSS

**EVALUATION LOCATION:** X SIMULATOR \_\_\_ CONTROL ROOM \_\_\_ PLANT

**PROJECTED TIME:** 16 MIN **SIMULATOR IC NUMBER:** IC-175

**ALTERNATE PATH** \_\_\_ **TIME CRITICAL** \_\_\_ **PRA**

<b>Examinee:</b>
<b>Overall JPM Performance:</b> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/>
<b>Evaluator Comments (attach additional sheets if necessary)</b>

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to **PLACE 1A SGFP ON SERVICE TO ESTABLISH FLOW TO ALL STEAM GENERATORS (SGs)**. The conditions under which this task is to be performed are:

- a. FRP-H.1, Response To Loss Of Secondary Heat Sink, is in effect due to a loss of heat sink event.
- b. FRP-H.1 Feed and Bleed criteria are being monitored by other team members.
- c. You are directed by the Shift Supervisor to perform Steps 7.12 through 8.1 of FRP-H.1 for 1A SGFP.
- d. A pre-job brief is not required.

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>_____ START TIME</b>		
*1. Verifies SGFP speed control in manual AND adjusted to 0% demand. Step 7.12	SGFP MASTER CONT SK-509A manual pushbutton depressed AND demand verified at 0%.	S / U
2. Verifies 1A SGFP speed control manually adjusted to 0% demand. Step 7.12	1A SGFP SPEED CONT SK-509B manual pushbutton depressed AND demand verified at 0%.	S / U
3. Verifies 1B SGFP speed control manually adjusted to 0% demand. Step 7.12	1B SGFP SPEED CONT SK-509C manual pushbutton depressed AND demand verified at 0%.	S / U
*4. Latches 1A SGFP turbine. Step 7.13	1A SGFP TURBINE LATCH pushbutton depressed. Observes TURBINE TRIPPED light off, TURBINE LATCH pushbutton lit.	S / U
*5. Opens 1A SGFP LOW PRESS STOP VALVE. Step 7.14	1A SGFP LOW PRESS STOP VALVE OPEN pushbutton depressed. Observes Pushbutton lit.	S / U
*6. Opens 1A SGFP HIGH PRESS STOP VALVE. Step 7.15	1A SGFP HIGH PRESS STOP VALVE OPEN pushbutton depressed. Observes Pushbutton lit.	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<p>*7. Raises 1A SGFP to minimum speed. Step 7.16</p>	<p>1A SGFP INCREASE SPEED PUSHBUTTON depressed. Observes 1A SGFP RPM indicator increase to 3200 rpm, BOILER CONTROL light lit, and INCREASE SPEED pushbutton lit.</p>	<p>S / U</p>
<p>*8. Opens 1A SGFP discharge valve N1N21V503A. Step 7.17</p>	<p>1A SGFP DISCH N1N21V503A handswitch placed to open. Observes valve position indicator red light lit, green light is NOT lit.</p>	<p>S / U</p>
<p>*9. Opens all intact steam generators main feedwater to SGs stop valves.  Q1N21MOV3232A Q1N21MOV3232B Q1N21MOV3232C Step 7.18</p>	<p>Main FW TO 1A, 1B and 1C S/Gs STOP VLVs Q1N21MOV3232A, B and C Handswitches taken to open. Observes for each valve operated valve position indicator red light lit, green light is NOT lit.</p>	<p>S / U</p>
<p>*10. Places 1A SGFP speed controller in AUTO. Step 7.19</p>	<p>1A SGFP SPEED CONT, SK- 509B AUTO pushbutton depressed. Observes AUTO pushbutton lit.</p>	<p>S / U</p>
<p>*11. Adjusts master SGFP speed controller to raise feedwater discharge header pressure to 50 psig greater than steam header pressure. Step 7.20</p>	<p>SK-509A increase button depressed until feedwater header pressure 50 psig greater than steam header pressure. Observes FW HDR PRESS (PI-508) increases to 50 psig &gt; PI-464, STM HDR PRESS.</p>	<p>S / U</p>

**EVALUATION CHECKLIST**

**RESULTS:  
(CIRCLE)**

**ELEMENTS:**

**STANDARDS:**

12. Controls feedwater regulating BYPASS valves to supply main feedwater to intact SGs, by adjusting FK-479, FK-489, and FK-499 open.

Step 7.21

1A, 1B and 1C SG FW BYP FLOW FK-479, 489, 499 adjusted slightly open (~10%).

For each controller adjusted, observes demand increase and associated valve position indicator green and red light lit.

Observes Main Feed Flow to each steam generator by obtaining an increase of at least 0.3 MPPH total for each of the MCB recorders for Feed Flow OR Plant Computer shows feed flow of at least a total of 395 gpm for all 3 SGs.

S / U

13. WHEN P-12 light is lit, THEN

- Blocks low steam line pressure SI by positioning STM LINE PRESS SI BLOCK – RESET A TRN and B TRN handswitches to BLOCK

AND

- verifies BYP & PERMISSIVE STM LINE ISOL. SAFETY INJ. TRAIN A & B BLOCKED lights are lit.

Step 7.22

WHEN P-12 light is lit, THEN

- Blocks low steam line pressure SI by positioning STM LINE PRESS SI BLOCK – RESET A TRN and B TRN handswitches to BLOCK

AND

- verifies BYP & PERMISSIVE STM LINE ISOL. SAFETY INJ. TRAIN A & B BLOCKED lights are lit.

S / U

S / U

\*14. Controls feedwater regulating BYPASS valves until feed flow to at least one SG Wide Range level is rising OR CORE EXIT T/C temperature is falling.

Step 8.1

Controls feedwater regulating BYPASS valves until feed flow to at least one SG Wide Range level is rising OR CORE EXIT T/C temperature is falling.

S / U

**\_\_\_\_ STOP TIME**

Terminate when at least one SG Wide Range level is rising OR CORE EXIT T/C temperature is falling.

**CRITICAL ELEMENTS:** Critical Elements are denoted with an Asterisk (\*) before the element number.

**GENERAL REFERENCES:**

1. FNP-1-FRP-H.1 Revision 26.0
2. K/As: W/E05EA1.1 RO-4.1 SRO-4.0

**GENERAL TOOLS AND EQUIPMENT:**

None

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to **PLACE 1A SGFP ON SERVICE TO ESTABLISH FLOW TO ALL STEAM GENERATORS (SGs)**. The conditions under which this task is to be performed are:

- a. FRP-H.1, Response To Loss Of Secondary Heat Sink, is in effect due to a loss of heat sink event.
- b. FRP-H.1 Feed and Bleed criteria are being monitored by other team members.
- c. You are directed by the Shift Supervisor to perform Steps 7.12 through 8.1 of FRP-H.1 for 1A SGFP.
- d. A pre-job brief is not required.

**e. JPM**

TITLE: Two Train Verification Of ECCS Equipment

TASK STANDARD: While verifying two trains of ECCS equipment aligned per EEP-0, Attachment 4, must determine that the 1B DG is running without sufficient cooling, and secure the DG with the emergency shutdown procedure.

PROGRAM APPLICABLE: SOT \_\_\_ SOCT \_\_\_ OLT X LOCT X

ACCEPTABLE EVALUATION METHOD: X PERFORM X SIMULATE \_\_\_ DISCUSS

EVALUATION LOCATION: X SIMULATOR \_\_\_ CONTROL ROOM \_\_\_ PLANT

PROJECTED TIME: 5 MIN SIMULATOR IC NUMBER: IC-186\*

ALTERNATE PATH X TIME CRITICAL \_\_\_ PRA

**\* RED TAG UNIT 2 SERVICE WATER TO 1B DIESEL GENERATOR (MOV's Q1P16V522/530)**

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to perform **TWO TRAIN VERIFICATION OF ECCS EQUIPMENT**. The conditions under which this task is to be performed are:

- a. A safety injection has occurred due to a LBLOCA in containment.
- b. Unit 2 service water to the 1B diesel generator is tagged closed.
- c. You are the extra operator and the shift supervisor has directed you to verify two trains of ECCS equipment aligned per EEP-0, Attachment 4.
- d. A pre-job brief is not required.

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>_____ START TIME</b>		
1. Checks breaker DF01 closed.	Checks DF01 closed. Observes DF01 red light lit. White power available lights lit for 'F' 4160V bus.	S / U
2. Verifies breaker DF02 closed.	Verifies DF02 closed. Observes DF02 red light lit. White power available lights lit for 'K' 4160V bus.	S / U
3. Checks breaker DG15 closed.	Checks DG15 closed. Observes DG15 red light lit. White power available lights lit for 'G' 4160V bus.	S / U
4. Attempts to verify breaker DG02 closed, and goes to Attachment 1 per Att. 4 step 1.2 RNO.	Observes DG02 NOT closed: red light NOT lit, green and amber lights lit. White power available lights not lit for 'L' 4160V bus. (Examinee may take breaker DG02 to reset then to close, but it still won't close). Observes the following EPB annunciators are in alarm: VE1, VE4, and VF1.	S / U

**NOTE:**

- **EITHER EEP-0.0 ATTACHMENT 1 OR THE POSTED OPERATOR AID ON THE EPB MAY BE USED FOR THE FOLLOWING ELEMENTS.**
- **IF EXAMINEE REQUESTS SHIFT SUPERVISOR PERMISSION TO RESET SI PROVIDE THE FOLLOWING CUE.**
  - **CUE: THE SHIFT SUPERVISOR GIVES PERMISSION TO RESET SI.**

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
*5. Verifies SI is RESET.	Depresses Train A and B SI reset pushbutton. Observes MLB-1 1-1 and MLB1 11-1 are NOT lit.	S / U
*6. Places the 1B diesel generator MODE SELECTOR SWITCH to MODE 2.	Places 1B diesel generator MODE SELECTOR SWITCH in MODE 2 position. Observes the MSS is in MODE 2.	S / U
*7. Depresses the 1B diesel generator DIESEL EMERG START RESET pushbutton.	Depresses 1B diesel generator EMERG START RESET pushbutton. Observes the DG EMERG START light goes out.	S / U
*8. Depresses the 1B diesel generator STOP pushbutton.	Depresses 1B diesel generator STOP pushbutton. Observes DIESEL STOP light lit.	S / U
*9. Places the 1B diesel generator MODE SELECTOR SWITCH to MODE 3.	Places 1B diesel generator MODE SELECTOR SWITCH to MODE 3. Observes the MSS is in MODE 3. EPB annunciator VB1 alarms.	S / U
10. Depresses the 1B diesel generator DIESEL EMERG START RESET pushbutton.	Depresses 1B diesel generator DIESEL EMERG START RESET button. Observes DG EMERG START light remains off.	S / U

**\_\_\_\_ STOP TIME**

Terminate when DIESEL EMERG START RESET pushbutton has been depressed.  
**CUE: ANOTHER OPERATOR WILL COMPLETE ATTACHMENT 4.**

**CRITICAL ELEMENTS:** Critical Elements are denoted by an asterisk (\*) before the element number.

**GENERAL REFERENCES:**

1. FNP-1-EEP-0, Version 36.0
2. K/As: 064A4.06 RO-3.9 SRO-3.9

**GENERAL TOOLS AND EQUIPMENT:**

None

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to perform **TWO TRAIN VERIFICATION OF ECCS EQUIPMENT**.  
The conditions under which this task is to be performed are:

- a. A safety injection has occurred due to a LBLOCA in containment.
- b. Unit 2 service water to the 1B diesel generator is tagged closed.
- c. You are the extra operator and the shift supervisor has directed you to verify two trains of ECCS equipment aligned per EEP-0, Attachment 4.
- d. A pre-job brief is not required.

**f. JPM**

TITLE: Restore Instrument Air To Containment

TASK STANDARD: While performing procedure to restore instrument air using ESP-1.2, Attachment 1 starting at Step 1.11 to align 1C air compressor for service, observes that 1C will not start, and performs EPB breaker alignment and starts 1A air compressor per step 1.11 RNO.

PROGRAM APPLICABLE: SOT \_\_\_ SOCT \_\_\_ OLT X LOCT X

ACCEPTABLE EVALUATION METHOD: X PERFORM X SIMULATE \_\_\_ DISCUSS

EVALUATION LOCATION: X SIMULATOR X CONTROL ROOM \_\_\_ PLANT

PROJECTED TIME: 10 MIN SIMULATOR IC NUMBER: JPM IC-146

ALTERNATE PATH X TIME CRITICAL \_\_\_ PRA

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to RESTORE INSTRUMENT AIR TO CONTAINMENT. The conditions under which this task is to be performed are:

- a. A loss of site power and a small break LOCA have occurred on Unit 1.
- b. Both turbine building buses are de-energized.
- c. You are directed by the Unit 1 Shift Supervisor to restore instrument air using ESP-1.2, Attachment 1 starting at Step 1.11 to align 1C air compressor for service.
- d. A pre-job brief is not required.

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
1. Verifies the 1C air compressor handswitch in AUTO after START/RUN.	Observes 1C air compressor indication. Observes Green indicating light is lit. Places 1C air compressor handswitch in RUN/START then Back to Auto. Observes 1C air compressor handswitch in AUTO after being placed in RUN/START.	S / U
2. Verifies 1C air compressor started.	Verifies 1C air compressor started. Observes 1C air compressor indication did <u>NOT</u> change: Green light still lit.	S / U

**NOTE: IF EXAMINEE DIRECTS THE SO TO CHECK 1C AIR COMPRESSOR THEN CUE: S.O. REPORTS 1C AIR COMPRESSOR MOTOR VERY WARM TO THE TOUCH.**

3. Verifies 1C air compressor handswitch in OFF.	Verifies 1C air compressor handswitch placed in OFF position. Observes 1C air compressor handswitch in OFF.	S / U
4. Verifies SI is reset.	Checks MLB1 1-1 and 11-1. Observes MLB1 1-1 and 11-1 are not lit.	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
5. Directs resetting B1F sequencer.	Directs the SO to reset the sequencer. Observes SEQ B1F or B2F SIAS annunciator WE5 goes from a solid condition to a flashing condition. (CUE: SO reports that the B1F sequencer has been reset).	S / U
*6. Places Breaker DF13 Sync Switch in manual.	Places DF13 SYNC SWITCH in the MANUAL POSITION. Observes Red lights under each 'A' train synchroscope is lit.	S / U
*7. Closes Breaker DF13.	Closes Breaker DF13 handswitch. Observes breaker position indicator red light lit, green light NOT lit. 1H 4160 bus AC potential lights lit.	S / U
*8. Closes breaker DH01.	Closes Breaker DH01 handswitch. Observes Breaker position indicator red light is lit, green light is NOT lit.	S / U
9. Verifies breaker EG02-1 closed.	Verifies Breaker EG02-1 position. Observes Breaker position indicator red light is lit, green light is NOT lit.	S / U
10. Verifies start of 1A air compressor.	Verifies 1A air compressor running (auto starts). Observes Breaker position indicator red light is lit, green light is NOT lit.	S / U
11. Checks IA pressure > 85 psig.	Checks INST AIR PI-4004B indication. Observes PI-4004B indicates ~90-100 psig.	S / U
12. Checks instrument air to containment.	Checks MLB-3 1-2 <u>NOT</u> lit and Annunciator KD1 clear. Observes MLB-3 1-2 IS lit and Annunciator KD1 is in alarm.	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
*13. Opens IA to PENE RM valve HV-3825.	Opens HV-3825. Observes HV-3825 is red light is lit, green light is NOT lit.	S / U
*14 Opens IA to PENE RM valve HV-3885.	Opens HV-3885. Observes HV-3885 is red light is lit, green light is NOT lit.	S / U
*15 Opens instrument air supply to CTMT HV-3611.	Opens HV-3611. Observes HV-3611 red light is lit, green light is NOT lit.	S / U
16. Informs Shift Supervisor that instrument air is aligned to containment	Shift supervisor informed air is aligned to containment. (CUE: Shift supervisor acknowledges.)	S / U

**STOP TIME**

Terminate when SS informed.

**CRITICAL ELEMENTS:** Critical elements are denoted by an asterisk (\*) in front of the element number.

**GENERAL REFERENCES:**

1. FNP-1-ESP-1.2, Version 23.0
2. K/A: 065AA1.03 RO-2.9 SRO-3.1

**GENERAL TOOLS AND EQUIPMENT:**

None

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to RESTORE INSTRUMENT AIR TO CONTAINMENT. The conditions under which this task is to be performed are:

- a. A loss of site power and a small break LOCA have occurred on Unit 1.
- b. Both turbine building buses are de-energized.
- c. You are directed by the Unit 1 Shift Supervisor to restore instrument air using ESP-1.2, Attachment 1 starting at Step 1.11 to align 1C air compressor for service.
- d. A pre-job brief is not required.

**g. JPM**

**TITLE:** Respond to a FH5, SFP AREA RE25A OR B HI RAD, alarm.

**TASK STANDARD:** Responds to FH5, SFP AREA RE25A OR B HI RAD, alarm per FNP-1-ARP-1.6, Main Control Board Annunciator Panel F, to verify automatic actions occur. Secures SFP AHU SUPP FAN and 1A SFP EXH FAN. Starts 1A PRF EXH FAN, 1A PRF RECIRC FAN, 1B PRF EXH FAN, and 1B PRF RECIRC FAN.

**PROGRAM APPLICABLE:** SOT \_\_\_ SOCT \_\_\_ OLT X LOCT

**ACCEPTABLE EVALUATION METHOD:** X PERFORM \_\_\_ SIMULATE \_\_\_ DISCUSS

**EVALUATION LOCATION:** X SIMULATOR \_\_\_ CONTROL ROOM \_\_\_ PLANT

**PROJECTED TIME:** 20 MIN **SIMULATOR IC NUMBER:** IC-73

**ALTERNATE PATH** \_\_\_ **TIME CRITICAL** \_\_\_ **PRA**

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**


**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to RESPOND TO A FH5, SFP AREA RE25A OR B HI RAD, ALARM. The conditions under which this task is to be performed are:

- a. Unit 1 is at 100% power.
- b. FH5, SFP AREA RE25A OR B HI RAD, has just come into alarm.
- c. The Unit Two Unit Operator reports that both RE25A and B meters are up-scaled and both red alarm lights are lit.
- d. The IPC is not available due to troubleshooting in progress.
- e. The Shift Supervisor directs you to respond to the FH5, SFP AREA RE25A OR B HI RAD, alarm.
- f. A pre-job brief is not required.

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<u>    </u> START TIME		

**NOTE: ELEMENTS 1-6 ARE PERFORMED AT THE BALANCE OF THE PLANT PANEL (BOP) BEHIND THE MCB.**

*1. Secures SFP AHU SUPP FAN.	Secures SFP AHU SUPP FAN. Observes green light lit, red light NOT lit.	S / U
2. Verifies damper SFP AHU DAMPER, SFP-HV-3416, closed.	Verifies damper SFP AHU DAMPER, SFP-HV-3416, closed. Observes green light lit, red light NOT lit.	S / U
*3. Secures 1A SFP EXH FAN.	Secures 1A SFP EXH FAN. Observes green light lit, red light NOT lit.	S / U
4. Verifies damper SFP EXH FAN DMPR, N1V48HV3417A, closed.	Verifies damper SFP EXH FAN DMPR, N1V48HV3417A, closed. Observes green light lit, red light NOT lit.	S / U
5. Verifies A train SFP Vent dampers closed:	Verifies A train dampers closed. Observes green light lit, red light NOT lit:	
<ul style="list-style-type: none"> <li>• SFP EXH FAN SUCT DMPER Q1V48HV3990A</li> <li>• SFP AHU DISCH TO SFP Q1V48HV3991A</li> </ul>	<ul style="list-style-type: none"> <li>• SFP EXH FAN SUCT DMPER Q1V48HV3990A</li> <li>• SFP AHU DISCH TO SFP Q1V48HV3991A</li> </ul>	<p>S / U</p> <p>S / U</p>

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
6. Verifies B train SFP Vent dampers closed:	Verifies B train dampers closed.	
• SFP EXH FAN SUCT DMPER Q1V48HV3990B	Observes green light lit, red light NOT lit:	
• SFP AHU DISCH TO SFP Q1V48HV3991B	• SFP EXH FAN SUCT DMPER Q1V48HV3990B	S / U
	• SFP AHU DISCH TO SFP Q1V48HV3991B	S / U

**NOTE:**

- **ELEMENTS 7-10 ARE PERFORMED AT THE MCB.**
- **ONLY ONE TRAIN OF PRF MUST BE STARTED TO MEET CRITICAL STEP (EITHER ELEMENTS 8 & 9 OR ELEMENTS 10 & 11 MUST BE PERFORMED TO MEET CRITICAL STEPS).**
- **ELEMET 7 IS NOT CRITICAL DUE TO STARTING EQUIPMENT THAT SHOULD HAVE AUTO STARTED IS ALL THAT IS REQUIRED. IF SOP-58 IS USED FOR GUIDANCE, ELEMENT 7 WILL BE PERFORMED.**

7. Closes HV-3538A, SFP TO 1A PRF SUPPLY DAMPER, <b><u>OR</u></b> Closes HV-3538B, SFP TO 1B PRF SUPPLY DAMPER <b>BUT NOT BOTH.</b>	Closes HV-3538A, SFP TO 1A PRF SUPPLY DAMPER, <b><u>OR</u></b> Closes HV-3538B, SFP TO 1B PRF SUPPLY DAMPER <b>BUT NOT BOTH.</b>	S / U
Per SOP-58.0		
*8. IF HV-3538A is open, THEN starts 1A PRF EXH FAN.	Starts 1A PRF EXH FAN. Observes red light lit, green light NOT lit.	S / U
*9. IF HV-3538A is open, THEN starts 1A PRF RECIRC FAN.	Starts 1A PRF RECIRC FAN. Observes red light lit, green light NOT lit.	S / U
*10. IF HV-3538B is open, THEN starts 1B PRF EXH FAN.	Starts 1B PRF EXH FAN. Observes red light lit, green light NOT lit.	S / U
*11. IF HV-3538B is open, THEN starts 1B PRF RECIRC FAN.	Starts 1B PRF RECIRC FAN. Observes red light lit, green light NOT lit.	S / U

**\_\_\_\_ STOP TIME**

**Terminate when all Automatic actions which should have occurred have been verified (elements 1-10).**  
**CUE: ANOTHER OPERATOR WILL PERFORM ANY ADDITIONAL ACTIONS.**

**CRITICAL ELEMENTS:** Critical elements are denoted by an asterisk (\*) in front of the element number.

**GENERAL REFERENCES:**

1. FNP-1-ARP-1.6 Version 58
2. FNP-1-SOP-58 Version 64
3. K/As: 060AA1.02 RO-2.9 RO-3.1

**GENERAL TOOLS AND EQUIPMENT:**

None.

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to RESPOND TO A FH5, SFP AREA RE25A OR B HI RAD, ALARM. The conditions under which this task is to be performed are:

- a. Unit 1 is at 100% power.
- b. FH5, SFP AREA RE25A OR B HI RAD, has just come into alarm.
- c. The Unit Two Unit Operator reports that both RE25A and B meters are up-scaled and both red alarm lights are lit.
- d. The IPC is not available due to troubleshooting in progress.
- e. The Shift Supervisor directs you to respond to the FH5, SFP AREA RE25A OR B HI RAD, alarm.
- f. A pre-job brief is not required.

**h. JPM**

**TITLE:** Align R-11 And R-12 To Normal As Required In Response To A Spurious Safety Injection.

**TASK STANDARD:** Align R-11 And R-12 To Normal As Required In Response To A Spurious Safety Injection per Step 32.1 of ESP-1.1, and FNP-1-SOP-12.2, Containment Purge And Pre-Access Filtration System, Section 4.2.

**PROGRAM APPLICABLE:** SOT \_\_\_ SOCT \_\_\_ OLT X LOCT X

**ACCEPTABLE EVALUATION METHOD:** X PERFORM X SIMULATE \_\_\_ DISCUSS

**EVALUATION LOCATION:** X SIMULATOR X CONTROL ROOM \_\_\_ PLANT

**PROJECTED TIME:** 10 MIN **SIMULATOR IC NUMBER:** IC-168

**ALTERNATE PATH** \_\_\_ **TIME CRITICAL** \_\_\_ **PRA**

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to **ALIGN R-11 AND R-12 TO NORMAL AS REQUIRED IN RESPONSE TO A SPURIOUS SAFETY INJECTION**. The conditions under which this task is to be performed are:

- a. The plant has experienced a spurious safety injection.
- b. ESP-1.1 is in progress and has been completed through Step 31.
- c. Health Physics has verified the local valve lineup.
- d. You are directed to perform Step 32.1 of ESP-1.1.
- e. A pre-job brief is not required.

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>____ START TIME</b>		
*1. Open CTMT ATMOS TO R-11/R-12 Q1E14MOV3660. SOP-12.2 Step 4.2.1.2	Handswitch for MOV-3660 taken to open. Observes MOV-3660 red light is lit, green light is NOT lit.	S / U
*2. Open CTMT ATMOS TO R-11/12 Q1E14HV3658. SOP-12.2 Step 4.2.1.3	Handswitch for HV3658 taken to open. Observes HV3658 red light is lit, green light is NOT lit.	S / U
*3. Open R-11/12 DISCH TO CTMT Q1E14HV3657. SOP-12.2 Step 4.2.1.4	Handswitch for HV3657 taken to open. Observes HV-3657 red light is lit, green light is NOT lit.	S / U
*4. Start R-11 pump and verify flow (low flow cleared). SOP-12.2 Step 4.2.1.5	Handswitch taken to start. Observes Pump On light lit, Low Flow light NOT lit.	S / U

**\_\_\_\_ STOP TIME**

**Terminate when R-11 pump is on.  
CUE: ANOTHER OPERATOR WILL PERFORM SOP-12.2 STEP 4.2.1.6 TO VERIFY THE RE-11 AND 12 DRAWERS ALIGNED PER SOP-45.0.**

**CRITICAL ELEMENTS:** Critical Elements are denoted with an asterisk (\*) before the element number.

**GENERAL REFERENCES:**

1. FNP-1-ESP-1.1, Version 24.0  
FNP-1-SOP-12.2, Version 44.0
2. K/As: 073A4.02 RO-3.7 SRO-3.7

**GENERAL TOOLS AND EQUIPMENT:**

None

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to **ALIGN R-11 AND R-12 TO NORMAL AS REQUIRED IN RESPONSE TO A SPURIOUS SAFETY INJECTION**. The conditions under which this task is to be performed are:

- a. The plant has experienced a spurious safety injection.
- b. ESP-1.1 is in progress and has been completed through Step 31.
- c. Health Physics has verified the local valve lineup.
- d. You are directed to perform Step 32.1 of ESP-1.1.
- e. A pre-job brief is not required.

**i. JPM**

**TITLE:** Make Up To SFP From the RWST

**TASK STANDARD:** Perform actions for makeup to the SFP From the RWST Per SOP-54.0 Section 4.9.1.

**PROGRAM APPLICABLE:** SOT  X  SOCT   OLT  X  LOCT

**ACCEPTABLE EVALUATION METHOD:**  X  PERFORM  X  SIMULATE   DISCUSS

**EVALUATION LOCATION:**   SIMULATOR   CONTROL ROOM  X  PLANT

**PROJECTED TIME:**  30 MIN  **SIMULATOR IC NUMBER:**  N/A

**ALTERNATE PATH**   **TIME CRITICAL**   **PRA**

**Examinee:**

**Overall JPM Performance:**      **Satisfactory**            **Unsatisfactory**     

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to MAKE UP TO SFP FROM THE RWST. The conditions under which this task is to be performed are:

- a. The SFP low level alarm has come in on the MCB. The shift chemist has directed the Control Room to make up to the SFP from the RWST.
- b. The BARS system is NOT in operation.
- c. RWST Purification is NOT in service.
- d. SFP Purification IS in service.
- e. SFP level is 154'4".
- f. You are to makeup to the SFP to clear the MCB alarm per SOP-54.0, starting with step 4.9.1.5.

**NOTE: THIS JPM MAY BE PERFORMED ON EITHER UNIT. THE UNIT TWO NUMBERS ARE [BRACKETED].**

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b><u>START TIME</u></b>		
*1. Close the 1A and 1B SFP cooling loop to SFP purification inlet isolation valves: <ul style="list-style-type: none"> <li>• 1[2]-SFP-V-8767A (Q1[2]G31V004A)</li> <li>• 1[2]-SFP-V-8767B (Q1[2]G31V004B)</li> </ul> <u>139' Rad side, SFP pump room</u>	Close 1[2]A and 1[2]B SFP cooling loop to SFP purification inlet isolation valves by turning the handwheel clockwise: <ul style="list-style-type: none"> <li>• 1[2]-SFP-V-8767A (Q1[2]G31V004A)</li> <li>• 1[2]-SFP-V-8767B (Q1[2]G31V004B)</li> </ul> (Cue: 8767A and 8767B are fully clockwise)	S / U  S / U
*2. Close the SFP purification outlet to SFP 1[2]-SFP-V-8765 (Q1[2]G31V005). <u>155' Rad side, 1A SFP HX ROOM</u>	Close Q1[2]G31V005 by turning the handwheel clockwise. (CUE: V005 is fully clockwise).	S / U
*3. Open the RWP pump disch iso1[2]-SFP-V-8792 (N1[2]G31V008). <u>155' Rad side, SFP HX AREA</u>	Open N1[2]G31V008 by turning the handwheel counterclockwise. (CUE: V008 is fully counterclockwise.)	S / U
*4. Open the RWP pump suction from the RWST iso Q1[2]G31V010. <u>130' Rad side near SGBD area</u>	Open Q1[2]G31V010 by turning the handwheel counterclockwise. (CUE: V010 is fully counterclockwise.)	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
*5. Open (one turn) the SFP purification outlet to SFP 1[2]-SFP-V-8765 (Q1[2]G31V005). <u>155' Rad side, 1A SFP HX ROOM</u>	Open Q1[2]G31V005 by turning the handwheel counterclockwise one turn. (CUE: V005 is counterclockwise 1 turn)	S / U
*6. Start the RWP purification pump. <u>130' Rad side near SGBD area</u>	RWP purification pump switch taken to START. (CUE: RWP purification pump red light is lit, green light is OFF.)	S / U
*7. Throttle the SFP purification outlet to SFP 1[2]-SFP-V-8765 (Q1[2]G31V005) to establish 100 gpm on the SFP demin FI-654. <u>155' Rad side, SFP HX AREA</u>	V005 is throttled. (CUE: FI-654 reads 100 gpm.)  (CUE IF FILTER D/P CHECKED: SFP filter d/p is 8 psid.)	S / U
8. For Unit 1 ONLY [the Unit 2 Procedure does NOT contain this step]: Inform the Control Room to have the shift chemist periodically sample the SFP.	For Unit 1 ONLY [the Unit 2 Procedure does NOT contain this step]: Inform the CRO to have the shift chemist periodically sample the SFP. (CUE: The Control Room acknowledges.)	S / U
9. Monitor the SFP water level. <u>155' Rad side, SFP room</u>	SFP level should be monitored to prevent over-filling the pool. (CUE: The Control Room contacts you and tells you the SFP level alarm is clear.) (CUE WHEN SFP LEVEL IS CHECKED: Level is 153'7".)	S / U

**\_\_\_ STOP TIME**

**Terminate when SFP level is being monitored and all elements of the task have been completed (SOP-54.0, steps 4.9.1.5 – 4.9.1.13[4.9.1.3-4.9.1.5.G]).**

**CUE: ANOTHER SYSTEM OPERATOR WILL SECURE THE LINEUP.**

**CRITICAL ELEMENTS:** Critical Elements are denoted with an asterisk (\*) preceding the element number.

**GENERAL REFERENCES:**

1. FNP-1-SOP-54.0, Version 49.0
2. FNP-2-SOP-54.0, Version 45.0
3. K/As: 033A1.01      RO-2.7      SRO-3.3

**GENERAL TOOLS AND EQUIPMENT:**

Locked Valve Key

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to MAKE UP TO SFP FROM THE RWST. The conditions under which this task is to be performed are:

- a. The SFP low level alarm has come in on the MCB. The shift chemist has directed the Control Room to make up to the SFP from the RWST.
- b. The BARS system is NOT in operation.
- c. RWST Purification is NOT in service.
- d. SFP Purification IS in service.
- e. SFP level is 154'4".
- f. You are to makeup to the SFP to clear the MCB alarm per SOP-54.0, starting with step 4.9.1.5.

**j. JPM**

**TITLE:** Shift Auxiliary Feed Pump Suction Emergency Supply

**TASK STANDARD:** Align Turbine Driven Auxiliary Feed pump (TDAFWP) suction to B train Service Water (SW), and isolate it from A train SW per SOP-22.0 Section 4.7.4.1.

**PROGRAM APPLICABLE:** SOT  X  SOCT  X  OLT  X  LOCT  X

**ACCEPTABLE EVALUATION METHOD:**  X  PERFORM  X  SIMULATE   DISCUSS

**EVALUATION LOCATION:**   SIMULATOR   CONTROL ROOM  X  PLANT

**PROJECTED TIME:**  20 MIN  **SIMULATOR IC NUMBER:**  N/A

**ALTERNATE PATH**   **TIME CRITICAL**   **PRA**

**Examinee:**

**Overall JPM Performance:** Satisfactory  Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to **SHIFT AUXILIARY FEED PUMP SUCTION EMERGENCY SUPPLY**. The conditions under which this task is to be performed are:

- a. AFW pump suction has been shifted to service water because of a CST lo-lo level alarm.
- b. A loss of 'A' TRAIN SW has occurred.
- c. You are directed by the Control Room Operator to align 'B' TRAIN SW to the TDAFW Pump Suction per SOP-22.0, step 4.7.4.1.
- d. A pre-job brief is not required.

**NOTE: THIS JPM MAY BE PERFORMED ON EITHER UNIT. THE UNIT TWO NUMBERS ARE [BRACKETED].**

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<u>        </u> <b>START TIME</b>		

**NOTE: A MASTER Z [V] KEY IS ACCEPTABLE TO USE FOR ALL LOCKED VALVES INSTEAD OF A UNIQUE KEY FOR EACH LOCKED VALVE.**

<p>1. Obtain keys for "A" and "B" Train SW supply valves to TDAFWP suction.</p>	<p>Obtain the needed keys. Simulating or discussing key checkout satisfies this standard. (CUE: Keys Z-142, Z-159, Z-158, &amp; Z-149 [V-42G, V-66, V-74, &amp; V-88] have been obtained.)</p>	<p>S / U</p>
<p>*2. Unlock and open "B" TRAIN SW to TDAFWP suction valves</p> <ul style="list-style-type: none"> <li>• Q1[2]N23V015D (in 1[2]B MDAFWP Room)</li> <li>• Q1[2]N23V015C (above MDAFWP [TDAFWP] Rooms).</li> </ul>	<ul style="list-style-type: none"> <li>• Q1[2]N23V015D and</li> <li>• Q1[2]N23V015C</li> </ul> <p>are unlocked and turned counterclockwise until opened. (CUE: V015C and V015D are open.)</p>	<p>S / U S / U</p>
<p>*3. Unlock and close "A" TRAIN SW to TDAFWP suction valves</p> <ul style="list-style-type: none"> <li>• Q1[2]N23V015B (above MDAFWP [TDAFWP] Rooms)</li> <li>• Q1[2]N23V15A (in 1[2]A MDAFWP Room)</li> </ul>	<ul style="list-style-type: none"> <li>• Q1[2]N23V015B and</li> <li>• Q1[2]N23V015A</li> </ul> <p>are unlocked and turned clockwise until closed. (CUE: V015B and V015A are closed.)</p>	<p>S / U S / U</p>
<p>4. Notify the CRO that "B" TRAIN SW is aligned to the TDAFWP Pump suction.</p>	<p>The control room is notified. (CUE: The CRO acknowledges.)</p>	<p>S / U</p>

**EVALUATION CHECKLIST**

**ELEMENTS:**

**STANDARDS:**

**RESULTS:  
(CIRCLE)**

       **STOP TIME**

Terminate when the control room has been notified.
--

**CRITICAL ELEMENTS:** Critical Elements are denoted with an asterisk (\*) preceding the element number.

**GENERAL REFERENCES:**

- 1. FNP-1-SOP-22.0, Version 59.0
- 2. FNP-2-SOP-22.0, Version 55.0
- 3. K/As: 061A1.04      RO-3.9      SRO-3.9

**GENERAL TOOLS AND EQUIPMENT:**

- 1. Keys
- 2. Gloves
- 3. Safety spanner if needed

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to SHIFT AUXILIARY FEED PUMP SUCTION EMERGENCY SUPPLY. The conditions under which this task is to be performed are:

- a. AFW pump suction has been shifted to service water because of CST lo-lo level alarm.
- b. A loss of 'A' TRAIN SW has occurred.
- c. You are directed by the Control Room Operator (CRO) to align 'B' TRAIN SW to the TDAFW Pump Suction per SOP-22.0, step 4.7.4.1.
- d. A pre-job brief is not required.

**k. JPM**

TITLE: Place 'A' BAT O/S & 'B' BAT O/R

TASK STANDARD: Place 'A' BAT on service and 'B' BAT on recirc per SOP-2.6, Section 4.2.

PROGRAM APPLICABLE: SOT  X  SOCT      OLT  X  LOCT    

ACCEPTABLE EVALUATION METHOD:  X  PERFORM  X  SIMULATE      DISCUSS

EVALUATION LOCATION:      SIMULATOR      CONTROL ROOM  X  PLANT

PROJECTED TIME:  15 MIN  SIMULATOR IC NUMBER:  N/A

ALTERNATE PATH      TIME CRITICAL      PRA    

**Examinee:**

**Overall JPM Performance:**      Satisfactory                       Unsatisfactory

**Evaluator Comments (attach additional sheets if necessary)**

**EXAMINER:** \_\_\_\_\_

**CONDITIONS**

When I tell you to begin, you are to PLACE 'A' BAT O/S & 'B' BAT O/R. The conditions under which this task is to be performed are:

- a. The boric acid system is aligned per SOP-2.6.
- b. The 'A' BAT is on recirc and the 'B' BAT is on service.
- c. The control room has instructed you to place 'A' BAT on service and 'B' BAT on recirc for weekly samples per SOP-2.6, Section 4.2.

**NOTE: THIS JPM MAY BE PERFORMED ON EITHER UNIT. UNIT 2 NUMBERS ARE [BRACKETED].**

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
<b>_____ START TIME</b>		
1. Verifies 'A' BAT boric acid concentration between 4.0 & 4.4 w/o (7000-7700 ppm) by latest chemistry analysis. <u>Control Room</u>	'A' BAT boric acid concentration verified between 4.0 & 4.4 w/o (7000-7700 ppm) by requesting latest chemistry analysis from control room. (CUE: Control room informs you that 'A' BAT boric acid concentration is 7300 ppm boron.)	S / U
2. Requests control room take 'A' & 'B' boric acid transfer (BAT) pump handswitches to stop and returned to auto. <u>Control Room</u>	Contacts the CRO to place the BAT pump handswitches to stop and return to auto. (CUE: CRO acknowledges that the BAT pump handswitches have been taken to stop and returned to auto.) (CUE: 1A BAT pump stopped.)	S / U
*3. Shuts batching tank supply to boric acid pumps Q1[2]E21V236. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V236 is turned clockwise. (CUE: V236 is fully clockwise.)	S / U
*4. Shuts 'A' BAT pump suction cross-connect Q1[2]E21V235A. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V235A is turned clockwise. (CUE: V235A is fully clockwise.)	S / U
*5. Opens 'A' BAT pump miniflow isolation Q1[2]E21V231A. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V231A is turned counter-clockwise. (CUE: V231A is fully counter-clockwise.)	S / U

**EVALUATION CHECKLIST**

<b>ELEMENTS:</b>	<b>STANDARDS:</b>	<b>RESULTS: (CIRCLE)</b>
*6. Shuts 'A' BAT pump miniflow orifice bypass Q1[2]E21V229A. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V229A is turned clockwise. (CUE: V229A is fully clockwise.)	S / U
*7. Opens 'A' BAT outlet Q1[2]E21V227A. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V227A is turned counter-clockwise. (CUE: V227A is fully counter-clockwise.)	S / U
*8. Opens 'A' BAT pump discharge Q1[2]E21V219A. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V219A is turned counter-clockwise. (CUE: V219A is fully counter-clockwise.)	S / U
*9. Shuts 'B' BAT pump discharge Q1[2]E21V219B. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V219B is turned clockwise. (CUE: V219B is fully clockwise.)	S / U
*10. Opens 'B' BAT outlet Q1[2]E21V227B. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V227B is turned counter-clockwise. (CUE: V227B is fully counter-clockwise.)	S / U
*11. Opens 'B' BAT pump miniflow orifice bypass Q1[2]E21V229B. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V229B is turned counter-clockwise. (CUE: V229B is fully counter-clockwise.)	S / U
*12. Opens 'B' BAT pump suction cross-connect Q1[2]E21V235B. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V235B is turned counter-clockwise. (CUE: V235B is fully counter-clockwise.)	S / U
*13. Opens 'B' BAT pump miniflow isolation Q1[2]E21V231B. <u>100' Radside Aux Building Boric Acid pump area</u>	Q1[2]E21V231B is turned counter-clockwise. (CUE: V231B is fully counter-clockwise.)	S / U
14. Place 1B Boric Acid transfer pump control switch in START. <u>Control Room</u>	Requests control room Place 1B Boric Acid transfer pump control switch in START. (CUE: 'B' BAT pump running.)	S / U
	Checks discharge pressure gauge. (CUE: 'B' BAT running, PI-105 indicates 80 psig.)	S / U
15. Requests Control Room ensure system checklist SOP-2.6D performed and verified.	System checklist SOP-2.6D is initiated.	S / U

**EVALUATION CHECKLIST**

**ELEMENTS:**

**STANDARDS:**

**RESULTS:  
(CIRCLE)**

       **STOP TIME**

Terminate when system checklist SOP-2.6D is initiated.
--

**CRITICAL ELEMENTS:** Critical Elements are denoted with an asterisk (\*) preceding the element number.

**GENERAL REFERENCES:**

1. FNP-1-SOP-2.6, REV 31.0
2. FNP-2-SOP-2.6, REV 28.0
3. K/As: 004K1.16      RO-3.3      SRO-3.5

**GENERAL TOOLS AND EQUIPMENT:**

None

**COMMENTS:**

**CONDITIONS**

When I tell you to begin, you are to PLACE 'A' BAT O/S & 'B' BAT O/R. The conditions under which this task is to be performed are:

- a. The boric acid system is aligned per SOP-2.6.
- b. The 'A' BAT is on recirc and the 'B' BAT is on service.
- c. The control room has instructed you to place 'A' BAT on service and 'B' BAT on recirc for weekly samples per SOP-2.6, Section 4.2.