FINAL AS-ADMINISTERED WALKTHROUGH JPMS

FOR THE BRAIDWOOD INITIAL EXAMINATION - JULY 2002

JOB PERFORMANCE MEASURE

TASK TITLE: **Align Train A of RHR for Cold Leg Injection**

JPM No.: **N-30a** REV: 0

TPO No.: IV.4C.RH-6 K&A No.: (006A4.04)

TASK No.: RH-008 K&A IMP: 3.7/3.6

TRAINEE:_____

EVALUATOR:_____ DATE:_____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 2,4,5** JPM TIME:_____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME **13** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. BwOP RH-11 Securing the RH System from Shutdown Cooling

MATERIALS:

Copy of BwOP RH-11

TASK STANDARDS:

1. Perform the actions of BwOP RH-11 to realign RH to Cold Leg Injection
2. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

1. You are an extra NSO.
2. A unit startup/heatup is in progress per 1BwGP 100-1
3. RHR is being removed from shutdown cooling
4. BwOP RH-11 has been performed through step 10
5. Both PORVs are Operable for ARM Low Temp conditions.

INITIATING CUES:

1. The US has directed you to continue performing BwOP RH-11 at step 11 to realign Train A of RHR to Cold Leg Injection. 1A RH pump has been shutdown, temperatures have stabilized, all Prerequisites, Precautions, Limitations and Actions have been met. No CCW pumps will be stopped at this time.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
RECORD START TIME _____				
1. Refer to BwOP RH-11 **(CUE: Hand candidate copy of BwOP RH-11. Place kept through step 10.)**	Continue performing BwOP RH-11 at step 11	☐	☐	☐
*2. Align Train A of RH to Cold Leg Injection	At 1PM06J: • PLACE 1RH01PA, 1A RH Pump to PTL • CLOSE 1RH8701A&B • PLACE 1RH618 in MANUAL at 0% demand • OPEN 1RH606 by placing the controller at 100% demand o VERIFY/CLOSE 1SI8840 • OPEN 1SI8809A • OPEN 1SI8716A o VERIFY/CLOSE 1CV8804A	☐	☐	☐
3. Maintain affected RH Pump in PTL until temps are below 260°F	Verify RH System is below 260°F by: o Closure of 1RH8701A or 1RH8702A prior to RCS Th reaching 260°F o Closure of 1RH8701A or 1RH8702A 15 hours prior to realigning to the RWST o Verify RH suction piping is below 260°F	☐	☐	☐
*4. Complete valve alignment for Cold Leg Recirc **(CUE: 1RH8734A is locked closed)**	Complete Cold Leg Injection Valve alignment: • OPEN 1SI8812A • CLOSE and LOCK CLOSED 1RH8734A • CLOSE 1CC9412A	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*5. Complete RH System alignment	Complete RH System alignment: o STOP a CC Pump if desired o Verify 1RH8735 locked closed • Place 1RH01PA control switch to NORMAL/AFTER TRIP o VERIFY power available to 1SI8811A	☐	☐	☐

(Cue: Stopping a CC pump is not desired at this time. 1RH8735 is locked closed)

(CUE: Another operator will be assigned to vent CC,RH and SI and realign the CC System)

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

PM NO: New

REQUIRED SIMULATOR MODE(S):Plant startup/heatup in progress

MALFUNCTION #'S: none

COMMENTS:

1) Start simulator from IC ___
2) Stabilize RCS temperatures with steam dumps
3) Perform BwOP RH-11 through step 10 with placekeeping
4) Place RH parameters on trend:
   - TO630 RH Pump Discharge Temperature
   - TO404,TO409 RCS Th
   - FO601 RH Pump miniflow
   - FO626 RH Hx Discharge Flow

TASK CONDITIONS:

1. You are an extra NSO.
2. A unit startup/heatup is in progress per 1BwGP 100-1
3. Train A of RHR is being removed from shutdown cooling
4. BwOP RH-11 has been performed through step 10
6. Both PORVs are Operable for ARM Low Temp conditions.

INITIATING CUES:

1. The US has directed you to continue performing BwOP RH-11 at step 11 to realign Train A of RHR to Cold Leg Injection. 1A RH pump has been shutdown, temperatures have stabilized, all Prerequisites, Precautions, Limitations and Actions have been met. No CCW Pumps will be stopped at this time.

SECURING THE RH SYSTEM FROM SHUTDOWN COOLING

A. STATEMENT OF APPLICABILITY

This procedure provides the steps necessary to shutdown an operating RH Loop, when swapping loops, or securing from Shutdown Cooling.

B. REFERENCES

1. Station Procedures:
   a. BwOP CC-9, Realigning CC System from Shutdown Cooling MODE.
   b. BwOP RH-6, Placing the RH System in Shutdown Cooling.
   c. BwAP 330-11A1, Shift Manager's Locked Safety Related Valve Log.
2. Station Drawings:
   a. M-61 (M-136), Diagram of Safety Injection System
   b. M-62 (M-137), Diagram of Residual Heat Removal System
3. Tech Specs:

a.	3.4.6	e.	3.5.3
b.	3.4.7	f.	3.9.5
c.	3.4.8	g.	3.9.6
d.	3.5.2	h.	3.4.12

4. Station Commitments:
   a. 020-251-84-131, Step C.3.
   b. 457-200-90-00602, Step E.9 and E.10.
5. Westinghouse Technical Bulletin ESBU-TB-96-03-R0.

C. PREREQUISITES

1. The RH Train is in Shutdown Cooling per BwOP RH-6.

2. The opposite RH Train is IN OPERATION if required by Tech Specs 3.4.6, 3.4.7, 3.4.8, 3.9.5, or 3.9.6.

* 3. A steam bubble exists in the Pressurizer prior to securing the Shutdown Cooling completely.

4. Notify the Radiation Protection Department that this procedure is being performed and the purpose of the performance.

D. PRECAUTIONS

1. Closure of _RH606/607, RH HX _A/B Outlet Flow Control Valve, will render its' respective RH Train inoperable. VERIFY that this will meet applicable Tech Specs for the plant condition, before the respective RH Train is disabled.

2. Operate _RH606/607, RH HX _A/B Outlet Flow Control Vlv, SLOWLY, to prevent RCS pressure transients.

3. When only the "D" RCP is running with an idle RH Pump aligned to the RCS (_RH8701A/B, _RH8702A/B, SI8809A/B are open as applicable), the potential exists for forward flow to pass through the idle RH Pump and possibly cause the pump to rotate. It is advisable to periodically monitor the idle RH Pump when in this configuration. If the RH Pump rotates in the forward direction, it is acceptable to start the rotating RH Pump. If the RH Pump rotates in the reverse direction, actions shall be taken to prevent the rotating RH Pump from being started.

4. IF RH Pump discharge temperature is ≥ 260°F when the system is being removed from shutdown cooling, THEN the system must be cooled down at a rate not to exceed 100°F/HR to reduce the potential for pump seizure. IF during the cooldown of the system, RH pump discharge temperature decreases by more than 25°F in a 15 minute period, then RH pump discharge temperature must be held stable for at least 10 minutes. This cooldown limitation only applies when RH pump discharge temperature is ≥ 260°F.

5. It is expected that when the RH Pump miniflow valve is opened, the cooldown rate will exceed 25°F in 15 minute period. If this happens, RH pump discharge temperature must be allowed to stabilize and the system allowed to soak for at least 10 minutes. This limitation only applies when RH pump discharge temperature is ≥ 260°F.

E. LIMITATIONS AND ACTIONS

1. In MODE 5, with the Reactor Coolant Loops filled, at least 1 RH Loop SHALL be OPERABLE and IN OPERATION, and either:

   a. One additional RH Loop SHALL be OPERABLE, or

   b. The Secondary Side Narrow range level of at least 2 Steam Generators SHALL be greater than 18%.

2. In MODE 5, with the Reactor Coolant Loops not filled, 2 RH Loops SHALL be OPERABLE and at least 1 RH Loop SHALL be IN OPERATION.

3. In MODE 6, when the water level above the top of the Reactor Vessel Flange is ≥ 23 feet, at least 1 RH Loop SHALL be OPERABLE and IN OPERATION.

4. In MODE 6, when the water level above the top of the Reactor Vessel Flange is less than 23 feet, 2 RH Loops SHALL be OPERABLE and at least 1 RH Loop SHALL be IN OPERATION.

5. RH to CV Letdown must be established and maintained from at least one RH Train, whenever the RCS is in Water Solid condition.

6. In modes 1-3, _RH8701A, and _RH8702A or _RH8701B and _RH8702B must be removed from service to prevent overpressurizing the RH system due to spurious opening of the RH loop suction valves due to a hot short on the control cables.

7. In MODE 4, while RH is being utilized for decay heat removal, at least one of the _RH8716 valves must be closed, but be capable of being opened from the MCB.

8. In MODE 4, while RH is not being utilized for decay heat removal, the _RH8716A and B may be closed, provided they are capable of being opened from the MCB.

* 9. In MODE 4, the _RH8735, RH Supply to SI Pump Suct Hdr, (Recirc to RWST) may be open provided ALL of the following conditions are met:

   a. _RH8701A&B/_RH8702A&B for the train that is NOT in shutdown cooling MODE is CLOSED.

   b. Personnel are stationed near _RH8735 with communications established with the Control Room.

   c. The Shift Manager or designee has been informed PRIOR to opening the _RH8735.

   d. ~~When locking or unlocking~~ _RH8735, complete ~~BwAP 330-11A1.~~

*E. 10. In MODE 5 or 6, the _RH8735, RH Supply to SI Pump Suct Hdr (Recirc to RWST), may be open provided ALL of the following conditions are met:

a. _RH8716A/B valve is administratively Tagged Out CLOSED on the train in/being placed in shutdown cooling.

b. Personnel are stationed near _RH8735 with communications established with the Control Room.

c. The Shift Manager or designee has been informed PRIOR to opening the _RH8735.

d. When locking or unlocking _RH8735, complete BwAP 330-11A1, Shift Manager's Locked Safety Related Valve Log.

11. If RCS Hot Leg Temperature is > 260°F, steam binding of the RH pump suction may occur when switching to the RWST suction due to lower RWST pressure. Switchover should not be performed when RCS hot leg temperature is > 260°F or RH pump may be rendered inoperable. (Consult _BwGP 100-1 and _BwGP 100-5.)

F. MAIN BODY

NA 1. If swapping RH trains, PERFORM the following:

a. VERIFY/PLACE in OPERATION the opposite RH Train per BwOP RH-6.

b. PLACE RH letdown in service on the RH train that is to remain in shutdown cooling per BwOP CV-17.

2. PERFORM one of the following:

IF RH pump discharge temperature is ≥ 260°F, GO TO Step F.3.

IF RH pump discharge temperature is < 260°F, GO TO Step F.7.

NA 3. VERIFY/PLACE the following parameters on trend so that RH system cooldown can be monitored:

- RH pump discharge temperature
  - T0630 (Train A)
  - T0631 (Train B)
- RCS Hot Leg Temperature
  - T0404, T0409 (Train A)
  - T0444, T0449 (Train B)
- RH pump miniflow
  - F0601 (Train A)
  - F0602 (Train B)
- RH Hx discharge flow to the RCS
  - F0626 (Train A)
  - F0627 (Train B)

NOTE

It is expected the RH pump discharge temperature will decrease when the RH Pump miniflow valve is opened.

F. ~~4.~~ 3. NA PERFORM the following to DEENERGIZE the RH Pump Minflow Vlv in the OPEN position for the RH train to be removed from shutdown cooling:

a. PLACE the control switch for the RH Pump Miniflow Vlv on the affected train to the OPEN position and HOLD:

- ❍ _RH610
- ❍ _RH611

b. DEENERGIZE the RH Pump Miniflow Valve in the OPEN position for the affected train:

- ❍ 1RH610, MCC 131X1, Compt F2
- ❍ 1RH611, MCC 232X1, Compt C4
- ❍ 2RH610, MCC 231X1, Compt F2
- ❍ 2RH611, MCC 232X1, Compt C4

c. RELEASE the control switch for the RH Pump Miniflow Vlv.

NOTE

The following step is only required if RH pump discharge temperature decreased by more than 25°F when the Miniflow valve was opened.

F. 5. DETERMINE if RH system soak is required:

DB NA

a. CHECK RH Pump discharge temperature change.

b. IF RH pump discharge temperature has DECREASED by ≥ 25°F in a 15 minute period, PERFORM the following:

1) ALLOW RH pump discharge temperature to STABILIZE.

2) MAINTAIN RH pump discharge temperature STABLE for at least 10 minutes.

CAUTION

IF RH pump discharge temperature decreases by more than 25°F in a 15 minute period, THEN the cooldown of the system must be stopped and temperature held stable for at least 10 minutes.

CAUTION

When throttling on the RH flow control valves, the cooldown of the RH system must be closely monitored due to the delay time in valve response.

6. DB NA PERFORM the following to initiate a cooldown of the RH train to be removed from shutdown cooling:

a. PLACE the RH HX Bypass Flow Cont Vlv in MANUAL for the affected train:

- ❍ _RH618
- ❍ _RH619

F. 6 NA b. THROTTLE CLOSED the RH HX Bypass Flow Cont Vlv in small increments (~5%) to initiate a cooldown of the RH system at rate not to exceed 100°F/HR:

- ❍ _RH618
- ❍ _RH619

c. WHEN the RH HX Bypass Flow Cont Vlv is fully CLOSED, THROTTLE CLOSED the RH HX Outlet Flow Cont Vlv to continue the cooldown of the RH system at rate not to exceed 100°F/HR:

- ❍ _RH606
- ❍ _RH607

d. WHEN RH Pump discharge temperature is <260°F, PERFORM the following:

1) ALLOW RH Pump discharge temperature to STABILIZE.

2) MAINTAIN RH Pump discharge temperature stable for at least 10 minutes.

3) THROTTLE CLOSED RH HX Outlet Flow Cont Vlv:

- ❍ _RH606
- ❍ _RH607

4) ENERGIZE the RH Pump Miniflow Valve for the affected train:

- ❍ 1RH610, MCC 131X1, Compt F2
- ❍ 1RH611, MCC 232X1, Compt C4
- ❍ 2RH610, MCC 231X1, Compt F2
- ❍ 2RH611, MCC 232X1, Compt C4

F. 6 NA d. 5) VERIFY the RH Pump Miniflow Vlv is OPEN:

- ❍ _RH610
- ❍ _RH611

6) GO TO Step F.8.

7 PERFORM the following to remove the RH train from shutdown cooling:

a THROTTLE CLOSED RH HX Outlet Flow Cont Vlv:

- ❍ _RH606
- ❍ _RH607

b. PLACE the RH HX Bypass Flow Cont Vlv in MANUAL for the affected train:

- ❍ _RH618
- ❍ _RH619

c. THROTTLE CLOSED the RH HX Bypass Flow Cont Vlv:

- ❍ _RH618
- ❍ _RH619

d. VERIFY the RH Pump Miniflow Vlv OPENS:

- ❍ _RH610
- ❍ _RH611

F. 8. ALLOW the affected RH train to run in recirculation until either of the following conditions are observed:

- ❍ RH pump discharge temperature indicates < 180°F:
  - ❍ _TR-612
  - ❍ _TR-613
- ❍ IF RH pump discharge temperature stabilizes at ≥ 180°F, then all of the following conditions must be met:
  - CC to RH HX flow is indicating in the green band:
    - ❍ _FI-688
    - ❍ _FI-689
  - RH pump suction is ≥ 50°F subcooled as indicated by the following:
    - ❍ _TR-612 and computer point P0601
    - ❍ _TR-613 and computer point P0602
  - The Unit Supervisor/Shift Manager concurs and grants permission to continue with this procedure.

9. STOP the RH pump being removed from shutdown cooling:

- ❍ _RH01PA
- ❍ _RH01PB

10. VERIFY/RETURN TO SERVICE the following valve(s) as required:

- ❍ _RH8701A, Loop _A to RH Pp _A Suction Isol Vlv (No C/O card on Main Control Board C/S - MCB placard acceptable).
- ❍ _RH8702A, Loop _C to RH Pp _B Suction Isol Vlv (No C/O card on Main Control Board C/S - MCB placard acceptable).

NOTE

Steps F.11 through F.22 are only required if aligning the RH Train for Cold Leg Injection. If it is desirable to secure CC to the RH Hx perform steps F.15, F.16, and F.21.

F. 11. ALIGN the RH train for Cold Leg Injection:

NOTE

Depending on plant status, appropriate LCOARS may need to be entered prior to placing RH pump in pull-to-lock.

- Train A:

  1) VERIFY/PLACE _RH01PA, _A RH Pump, to PTL at _PM06J.

NOTE

Closure of _RH8701A or _RH8701B will make the associated RH Train unavailable for Cold Overpressure Protection. Refer to LCO 3.4.12.

  2) VERIFY/CLOSE the following valves:

     - _RH8701A, RC Loop _A to RH Pp _A Suct Isol Vlv
     - _RH8701B, RC Loop _A to RH Pp _A Suct Isol Vlv

  3) PLACE _RH618, RH HX _A Bypass Flow Cont Vlv, in MANUAL at 0% demand.

  4) OPEN _RH606, RH HX _A Outlet Flow Cont Vlv, by placing the controller at 100% demand.

  5) VERIFY/CLOSE _SI8840, RH to Hot Leg A & C Isol Vlv.

F. 11. O Train A

6) VERIFY/OPEN the following:

- _SI8809A, RH to Cold Legs A & D Isol Vlv.
- _RH8716A, RH HX _A Discharge Crosstie Vlv.

NOTE
_SI8812A is interlocked with _CV8804A so that _SI8812A will not open unless the _CV8804A is closed.

7) VERIFY/CLOSE _CV8804A, _A RH HX to CV Pump Suct Isol Vlv.

F. 11. O Train B:

1) VERIFY/PLACE _RH01PB, _B RH Pump, to PTL at _PM06J.

NOTE
Closure of _RH8702A or _RH8702B will make the associated RH Train unavailable for Cold Overpressure Protection. Refer to LCO 3.4.12.

2) VERIFY/CLOSE the following valves:

- _RH8702A, RC Loop _B to RH Pp _B Suct Isol Vlv
- _RH8702B, RC Loop _A to RH Pp _B Suct Isol Vlv

3) PLACE _RH619, RH HX _B Bypass Flow Cont Vlv, in MANUAL at 0% demand.

4) OPEN _RH607, RH HX _B Outlet Flow Cont Vlv, by placing the controller at 100% demand.

5) VERIFY/CLOSE _SI8840, RH to Hot Leg A & C Isol Vlv.

6) VERIFY/OPEN the following:

- _SI8809B, RH to Cold Legs B & C Isol Vlv.
- _RH8716B, RH HX _B Discharge Crosstie Vlv.

NOTE
_SI8812B is interlocked with _SI8804B so that _SI8812B will not open unless the _SI8804B is closed.

7) VERIFY/CLOSE _SI8804B, _B RH HX to CV Pump Suct Isol Vlv.

CAUTION

If RCS Hot Leg Temperature is greater than 260°F, steam binding of the RH pump suction may occur when switching to the RWST suction due to lower RWST pressure. Switchover should not be performed when RCS Hot Leg Temperature is greater than 260°F or RH pump may be rendered inoperable. (consult _BwGP 100-1 and _BwGP 100-5).

F. 12. MAINTAIN the affected RH Pump in pull-to-lock until the RH system is below 260°F in accordance with one of the following criteria:

- ❍ Stopping the RH pump and closing at least one of the Hot Leg Suction Valves, _RH8701A/B or _RH8702A/B, prior to the RCS Hot Leg Temperature reaching 260°F on heatup (preferred method).
- ❍ Stopping the RH pump and closing _RH8701A/B OR _RH8702A/B 15 hours prior to re-aligning the RH train to RWST suction. The 15 hour time may be reduced by one hour for each 6°F that the RCS Hot Leg temperature is below 350°F at the time when the RH pump is stopped and isolated from the RCS.
- ❍ Verifying by measurement that the appropriate RH suction piping at the CWA side of Penetration P-68 (A Train) or P-75 (B Train) is below 260°F.

13. OPEN RH Pp Suct From RWST Isol Vlvs:

- ❍ _SI8812A
- ❍ _SI8812B

14. Locally CLOSE and LOCK CLOSED RH Trains to CV Letdown HXs Isol,

- ❍ _RH8734A
- ❍ _RH8734B

15. VERIFY/CLOSE CC to RH HX _A/B Isol Vlv:

- ❍ _CC9412A
- ❍ _CC9412B

F. 16. STOP a Component Coolant Pump, if desired.

17. VERIFY/LOCK CLOSED _RH8735, RH Recirc to RWST Isol Vlv.

18. Place RH pump control switch to normal after trip:

- ❍ _RH01PA
- ❍ _RH01PB

19. VERIFY that the power is available to the following Cnmt Sump Isol Vlvs:

- ● _SI8811A
- ● _SI8811B

CAUTION

While Venting the _SI059A/B, take extra caution for Hot Temperature and High Pressure.

NOTE

Step F.20 should be performed when the suction piping is less than 212°F. Consult step E.11 or Step F.12 for temperature indication.

20. To VENT downstream of the _SI8811A/B PERFORM the following:

a. REMOVE the pipe cap downstream of Cnmt Recirc Sump to CS/RH Test Conn Isol Vlv:

- ❍ _SI059A
- ❍ _SI059B

b. ATTACH poly bottle or vent hose (directed to floor drain) to, Cnmt Recirc Sump to CS/RH Test Conn Isol Vlv:

- ❍ _SI059A
- ❍ _SI059B

F. 20. c. OPEN _A/B Cnmt Recirc Sump to CS/RH Test Conn Isol Vlv, and VENT any air from the line:

- ❍ _SI059A
- ❍ _SI059B

d. CLOSE Cnmt Recirc Sump to CS/RH Test Conn Isol Vlv.

- ❍ _SI059A
- ❍ _SI059B

e. Remove poly bottle or hose installed in step F.20.b.

f. REPLACE the pipe cap removed in step F.20.a.

g. LOG venting complete in Unit NSO Log.

21. REALIGN the CC System per BwOP CC-9, Realigning CC System From Shutdown Cooling MODE, if desired.

22. IF RH is being secured in preparation for a MODE change to Mode 3, Tag Out the following valves (No C/O card on Main Control Board C/S - MCB placard acceptable):

- _RH8701A, RC loop _A to RH Pp _A Suct Isol Vlv
- _RH8702A, RC loop _C to RH Pp _B Suct Isol Vlv

JOB PERFORMANCE MEASURE

TASK TITLE: **Synchronize a SAT to a Bus Being Fed by an Emergency Diesel Generator**

JPM No.: **N-84** REV: 8

TPO No.: IV.D.AP-03 K&A No.: (064A4.09)

TASK No.: AP-013 K&A IMP: 3.2/3.3

TRAINEE:_____

EVALUATOR:_____ DATE:_____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 3,4** JPM TIME:_____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME: **11** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. BwOP AP-32, Rev. 2, Synchronizing a SAT to a Bus Being Fed by a DG.

MATERIALS:

Copy of BwOP AP-32.

TASK STANDARDS:

1. Correctly synchronize SAT 142-2 to a bus being fed by the 1B DG.
2. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

1. You are an assist NSO.
2. Both Units are at 100% power.
3. The 1B D/G was manually started, and is currently supplying bus 142.
4. Breaker 1424 is closed to prevent equipment sequencing onto bus 142.

INITIATING CUES:

1. The US has directed you to synchronize SAT 142-2 back to the 1B D/G per BwOP AP-32, step F.4.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note: Provide a copy of BwOP AP-32 to the examinee.

1.	Refer to BwOP AP-32. **(CUE: All Prerequisites, Precautions, Limitations and Actions have been met.)**	Open BwOP AP-32.	☐	☐	☐
2.	Verify 1B D/G is operating properly.	VERIFY 1B D/G is operating properly as follows: • 1B D/G frequency is approximately 60 hz. • 1B D/G voltage is approximately 4160 volts.	☐	☐	☐
*3.	Prepare 1B D/G for parallel operation with SAT 142-2.	Prepare 1B D/G for parallel operations as follows: • TURN ACB 1422 Synchroscope Switch ON. • USING the 1B D/G voltage adjust control, adjust the "RUNNING" voltage slightly HIGHER than the "INCOMING" voltage (0-4 volts). o VERIFY the same voltage on 'AB', 'BC', and 'CA' with the 1B D/G Voltmeter selector switch. • USING the 1B D/G governor adjust control, ADJUST generator speed such that the synchroscope is rotating slowly in the SLOW direction.	☐	☐	☐
*4.	Parallel the 1B D/G to SAT 142-2.	Parallel the 1B D/G to SAT 142-2 as follows: • When the synchroscope is slightly before the 12 O'clock position, CLOSE ACB 1422. o VERIFY the synchroscope has LOCKED IN at the 12 O'clock position. o TURN the synchroscope switch for ACB 1422 to OFF.	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
5. Restore breaker positions. **(CUE: When asked, ACB 2424 is in after trip.)**	Restore breaker positions as follows: • OPEN ACB 1424 o PLACE ACB 2424 in AFTER TRIP.	☐	☐	☐
6. Unload 1B D/G per BwOP DG-12. **(CUE: The US will direct another NSO to unload the 1B D/G.)**	Refer to BwOP DG-12 to unload 1B D/G.	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

PM NO: N-84

REQUIRED SIMULATOR MODE(S): Any 'At Power' IC.

MALFUNCTION #'S: N/A

COMMENTS:

1) Swap to 1B SX pump to put load on Bus 142.

2) Start 1B D/G and sync to grid. Leave Syncscope Key Switch in 1423 but OFF.

3) Load 1B D/G until SAT feed amps = 0.

4) Close ACB 1424.

5) Open 1422.

6) Ensure the Governor Adjuster and the Voltage Adjuster are not "set" at values that happen to be exactly what the examinee needs (i.e. the intent is to force the examinee to manipulate the controls).

TASK CONDITIONS:

1. You are an assist NSO.
2. Both Units are at 100% power.
3. The 1B D/G was manually started, and is currently supplying bus 142.
4. Breaker 1424 is closed to prevent equipment sequencing onto bus 142.

INITIATING CUES:

1. The US has directed you to synchronize SAT 142-2 back to the 1B D/G per BwOP AP-32, step F.4.

JOB PERFORMANCE MEASURE

TASK TITLE: **Perform an Emergency Boration with a plugged AB filter, for 2 stuck rods following a normal reactor trip.**

PM No.: **N-27c** REV: 0

TPO No.: IV.D.OA-8 K&A No.: (024AA1.17)

TASK No.: OA-099 K&A IMP: 3.9/3.9

TRAINEE: _____

EVALUATOR: _____ DATE: _____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 3,4,7,8** JPM TIME: _____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME **16** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. 1BwOA PRI-2, Emergency Boration.
2. 1BwEP ES-0.1, Reactor Trip Response

MATERIALS:

Copy of 1BwOA PRI-2. and Copy of Step 4 of 1BwEP ES-0.1

TASK STANDARDS:

1. Perform actions necessary to initiate emergency boration flow of 30 gpm of 7000 ppm Boric Acid or equivalent to raise RCS Boron concentration.

TASK CONDITIONS:

1. You are the Unit NSO.
2. Unit 1 is in Mode 3 following a turbine trip / reactor trip.
3. Data A and Data B failures exist on two control rods
4. Current RCS Boron Concentration is 1030 ppm.

INITIATING CUES:

1. Following a turbine trip / reactor trip, the crew is performing steps of 1BwGP 100-5. DRPI for two (2) rods on the trip indicated Data A and Data B failures. After investigation it has been determined that these two rods my be partially withdrawn or stuck. You have been directed to emergency borate for this condition per 1BwGP 100-5 step F.11 CAUTION statement using 1BwOA PRI-2.

RECORD START TIME _____

1.	Refer to 1BwEP ES-0.1 step 4 and open and refer to 1BwOA PRI-2. **(CUE: After the correct procedure is located, provide a copy.)**	Locate and Open 1BwEP ES-0.1 and 1BwOA PRI-2.	☐	☐	☐
2.	Check at least 1 Charging pump is running.	Determine at least 1 Charging pump is running: • RUN light lit, and amps or flow indicated.	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*3. Establish Boration Flow from the BAT. **(Note: Alternate Path begins here when 30gpm cannot be attained)**	Perform the following to establish boration flow from the BAT: • OPEN 1CV8104, or 1CV110A and 1CV110B. • START boric Acid Transfer Pump. o CHECK emergency boration flow > 30 gpm. • Determine < 30 gpm boration flow is occurring. o Dispatch Operator to locally check lineup.	☐	☐	☐
*4. Align alternate boration flow path from the RWST. **(Note: Time and flowrate are necessary to determine when 11,000 gallons have been added (per 1BwGP 100-2A1 step 1.)**	Perform the following to align an alternate boration flow path from the RWST: • STOP the Boric Acid Transfer pump. • OPEN 1CV112D and /or 1CV112E. • CLOSE 1CV112B and /or 1CV112C. • Verify Letdown flow is 120 gpm. • Maximize Charging flow while maintaining 1FI-121A indication on scale. • Mark time and flowrate boration from RWST commenced.	☐	☐	☐
5. Align CV pump discharge flowpath.	Perform the following to align CV pump discharge flowpath: • Check OPEN 1CV8105 and 1CV8106. • Check OPEN 1CV8324A or 1CV8324B. • Check OPEN 1CV8146 or 1CV8147. • THROTTLE 1CV121 to Establish maximum normal charging header flow on 1FI-121A.	☐	☐	☐
6. Turn on Pzr Backup Heaters.	Energize PZR Backup heaters.	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*7. Check if Boration flow can be stopped. **(Note: At 150 gallons per minute it will take almost 74 minutes to add 11,000 gals from the RWST.)** **(CUE: When examinee has determined how much time remains to borate from the RWST, use time compression to proceed.)**	Determine if boration can be stopped: • Calculate flowrate and time remaining to add 11,000 gals, inform US. (5500 gal per rod if borating from the RWST)	☐	☐	☐
*8. Stop Emergency Boration Flow.	Stop Emergency Boration flow from the RWST without losing suction to the CV pump: • VERIFY/OPEN 1CV112B and 1CV112C. • VERIFY/CLOSE 1CV112D and/or 1CV112E.	☐	☐	☐
9. Notify Chemistry to sample the RCS and the PZR to determine Boron Concentrations. **(CUE: If asked as chemistry, acknowledge the need to sample.)** **(CUE: CRS will assign another operator to align RMCS to AUTO makeup)**	Determine RCS and PZR boron concentrations are within 50 ppm of each other: • Request chemistry sample RCS and PZR. • Maintain PZR Level.	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

TPM NO: N-27B

REQUIRED SIMULATOR MODE(S):

MALFUNCTION #'S: (Data A & B Failures on 2 control rods)

COMMENTS:

1. Set BA pot for 4.41 (1030 ppm)
2. On SDG CV8, throttle 1AB8460 to 10% to prevent > 30 gpm BA flow.
3. Provide cues/feedback from local operator at boric acid skid that lineup is correct.
4. Provide info when BA transfer pump running that filter dp is 25 psid.
5. Bypass filter if directed and report normal filter DP. (5 psid), by opening 1AB8458 on SDG CV8.
6. Data A and Data B failure on two (2) control rods.

TASK CONDITIONS:

1. You are the Unit NSO.
2. Unit 1 is in Mode 3 following a turbine trip / reactor trip.
3. Data A and Data B failures exist on two control rods.
4. Current RCS Boron Concentration is 1030 ppm.

INITIATING CUES:

2. Following a turbine trip / reactor trip, the crew is performing steps of 1BwGP 100-5. DRPI for two (2) rods on the trip indicated Data A and Data B failures. After investigation it has been determined that these two rods my be partially withdrawn or stuck. You have been directed to emergency borate for this condition per 1BwGP 100-5 step F.11 CAUTION statement using 1BwOA PRI-2.

JOB PERFORMANCE MEASURE

TASK TITLE: **Perform an Emergency Boration with a plugged AB filter, for 2 stuck rods following a normal reactor trip.**

JPM No.: **N-27** REV: 0

TPO No.: IV.D.OA-8 K&A No.: (024AA1.17)

TASK No.: OA-099 K&A IMP: 3.9/3.9

TRAINEE:_____

EVALUATOR:_____ DATE:_____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 3,4,6,7** JPM TIME:_____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME **16** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. 1BwOA PRI-2, Emergency Boration.
2. 1BwGP 100-5, Plant Shutdown and Cooldown

MATERIALS:

Copy of 1BwOA PRI-2 and 1BwGP 100-5 step F.11 CAUTION

TASK STANDARDS:

1. Perform actions necessary to initiate emergency boration flow of 30 gpm of 7000 ppm Boric Acid or equivalent to raise RCS Boron concentration.

TASK CONDITIONS:

1. You are the Unit NSO.
2. Unit 1 is in Mode 3 following a turbine trip / reactor trip.
3. Data A and Data B failures exist on two control rods
4. Current RCS Boron Concentration is 1030 ppm.

INITIATING CUES:

1. Following a turbine trip / reactor trip, the crew is performing steps of 1BwGP 100-5. DRPI for two (2) rods on the trip indicated Data A and Data B failures. After investigation it has been determined that these two rods my be partially withdrawn or stuck. You have been directed to emergency borate for this condition per 1BwGP 100-5 step F.11 CAUTION statement using 1BwOA PRI-2.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
RECORD START TIME _____				
1. Refer to 1BwGP 100-5 step F.11 and open and refer to 1BwOA PRI-2. **(CUE: After the correct procedure is located, provide a copy.)**	Locate and Open 1BwGP 100-5 and 1BwOA PRI-2.	☐	☐	☐
2. Check at least 1 Charging pump is running.	Determine at least 1 Charging pump is running: • RUN light lit, and amps or flow indicated.	☐	☐	☐
*3. Establish Boration Flow from the BAT.	Perform the following to establish boration flow from the BAT: • OPEN 1CV8104 • START boric Acid Transfer Pump. • CHECK emergency boration flow > 30 gpm.	☐	☐	☐
*4. Align CV pump discharge flowpath.	Perform the following to align CV pump discharge flowpath: ❑ Check OPEN 1CV8105 and 1CV8106. ❑ Check OPEN 1CV8324A or 1CV8324B. ❑ Check OPEN 1CV8146 or 1CV8147. • THROTTLE 1CV121 to Establish >30gpm normal charging header flow on 1FI-121A.	☐	☐	☐
5. Turn on Pzr Backup Heaters.	Energize PZR Backup heaters.	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*6. Check if Boration flow can be stopped. **(CUE: When examinee has determined how much time remains to borate from the BAT, use time compression to proceed.)**	Determine if boration can be stopped: • Calculate flowrate and time remaining to add 2,640 gals, inform US. (1320 gal per rod if borating from the BAT)	☐	☐	☐
*7. Stop Emergency Boration Flow.	Stop Emergency Boration flow. • Stop BA Transfer Pump • Close 1CV8104	☐	☐	☐
8. Notify Chemistry to sample the RCS and the PZR to determine Boron Concentrations. **(CUE: If asked as chemistry, acknowledge the need to sample.)** **(CUE: CRS will assign another operator to align RMCS to AUTO makeup)**	Determine RCS and PZR boron concentrations are within 50 ppm of each other: • Request chemistry sample RCS and PZR. • Maintain PZR Level.	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

TASK CONDITIONS:

1. You are the Unit NSO.
2. Unit 1 is in Mode 3 following a turbine trip / reactor trip.
3. Data A and Data B failures exist on two control rods.
4. Current RCS Boron Concentration is 1030 ppm.

INITIATING CUES:

2. Following a turbine trip / reactor trip, the crew is performing steps of 1BwGP 100-5. DRPI for two (2) rods on the trip indicated Data A and Data B failures. After investigation it has been determined that these two rods my be partially withdrawn or stuck. You have been directed to emergency borate for this condition per 1BwGP 100-5 step F.11 CAUTION statement using 1BwOA PRI-2.

SIMULATOR SETUP INSTRUCTIONS

JPM NO: N-27B

REQUIRED SIMULATOR MODE(S):

MALFUNCTION #'S: (Data A & B Failures on 2 control rods)

COMMENTS:

1. Set BA pot for 4.41 (1030 ppm)
2. Provide cues/feedback from local operator at boric acid skid that lineup is correct (If asked)
3. Data A and Data B failure on two (2) control rods.

JOB PERFORMANCE MEASURE

TASK TITLE: **Establish Excess Letdown to the Volume Control Tank, CC cooling water failure**

TPM No.: **N-11a** REV: 9

TPO No.: IV.C.CV-07 K&A No.: (APE022AK3.03)

TASK No.: CV-007 K&A IMP: 3.1 / 3.3

TRAINEE: _____

EVALUATOR: _____ DATE: _____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*)3,4,5,6** JPM TIME: _____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME **9** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. BWOP CV-15, Rev. 9, Excess Letdown Operations.

MATERIALS: None

TASK STANDARDS:

1. Perform the actions required to place Excess Letdown in service.
2. Isolate Excess Letdown flow following loss of CC Cooling
3. Demonstrates the use of good Core Work Practices (CWP).

TASK CONDITIONS:

1. You are the Unit NSO.
2. The Unit is at steady state power.
3. Normal Letdown is in service at 120 gpm.

INITIATING CUES:

1. You have been directed by the US to establish Excess Letdown to the VCT using all loop drains and both excess letdown heat exchangers due to a suspected 0.5 gpm leak in the normal letdown line.
2. Estimated time for Excess Letdown operations will be approximately 2 hours.
3. The SM does NOT desire flow directed to the VCT spray nozzle.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
RECORD START TIME _____				
1. Determine correct procedure **(CUE: After examinee locates correct procedure, provide a copy.)** **All prereqs, precautions and limits are met**	Locate and Open BwOP CV-15.	☐	☐	☐
2. Ensure thermal power limits are not exceeded. **(CUE: Calormetric power is 99.6% or indicated power if not at full power.)**	VERIFY Rx Power is at least 0.1% below the applicable power limit for plant operating conditions.	☐	☐	☐
*3. Establish Excess Letdown to the VCT. **(Note: Initiating cue was to align to the VCT.)**	Perform the following: o VERIFY/OPEN 1CV8100 & 1CV8112, Seal Water Return Cnmt Isolation Valves • OPEN 1CC9437A, CC to Excess Letdown HX Isol Vlv at 1PM06J • OPEN 1CC9437B, CC from Excess Letdown HX Isol Vlv at 1PM06J o VERIFY/CLOSE 1HCV-CV123, Excess Letdown HX Flow Control Vlv at 1PM05J o VERIFY/PLACE 1CV8143, excess Letdown to Seal Filter or RCDT Vlv, in the VCT position.	☐	☐	☐

PERFORMANCE CHECKLIST		STANDARDS	SAT	UNSAT	N/A
*4.	Align Excess Letdown Lineup.	Perform the following: • OPEN 1RC8037A-D, Loop Drain Valves, for the desired loop(s). • OPEN 1CV8153A&B, Excess Letdown HX 1A/B Inlet Isol Vlv.	☐	☐	☐
*5.	Initiate Excess Letdown flow.	Perform the following: • SLOWLY OPEN 1HCV-CV123, Excess Letdown HX Flow Cont Vlv, as required to obtain desired flow. o ENSURE Excess Letdown Outlet Temperature is < 165 °F as indicated on 1TI-122A, Excess Letdown HX Temperature.	☐	☐	☐

Note: When excess letdown flow has been fully established, CC to letdown Hx valve, 1CC9437A, will close. This will result in increasing excess letdown temperatures. Alternate path begins here.

*6.	Respond to increasing Excess Letdown Hx Outlet temperature.	Determine CC Cooling flow is inadequate. o Determine 1CC9437A is closed and attempt to reopen. • Isolate Excess letdown before RCP Lower Bearing Temp Alarm comes in, (1-7-C2) at 184°F by either: o Closing all RC Loop Drain Valves 1RC8037A-D o Closing flow control valve 1HCV123 o Closing Hx isolation valves 1CV8153A&B	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

MMENTS:

SIMULATOR SETUP INSTRUCTIONS

TPM NO: N-11

REQUIRED SIMULATOR MODE(S): NOP-NOT or above

MALFUNCTION #'S: N/A

COMMENTS:

1) When excess letdown flow is fully established (monitor flow and 1CV-123), then override CS for 1CC9437A to CLOSE (ZDI1CC9437A)

TASK CONDITIONS:

1. You are the Unit NSO.
2. The Unit is at steady state power.
3. Normal letdown is in service at 120 gpm.

INITIATING CUES:

1. You have been directed by the US to establish Excess Letdown to the VCT using all loop drains and both excess letdown heat exchangers due to a suspected 0.5 gpm leak in the normal letdown line.

2. Estimated time for Excess Letdown operations will be approximately 2 hours.

3. The SM does <u>NOT</u> desire flow directed to the VCT spray nozzle.

JOB PERFORMANCE MEASURE

TASK TITLE: **Respond to RCP Thermal Barrier Leak with CC Valve Failure**

JPM No.: **N-118** REV: 2a

TPO No.: IV.D.OA-51 K&A No.: (008K1.04)

TASK No.: OA-061 K&A IMP: 3.3/3.3

TRAINEE: _____

EVALUATOR: _____ DATE: _____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 5, 6** JPM TIME: _____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME **10** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. 1BwOA PRI-6, Rev. 100, Component Cooling Malfunction
2. BwAR 1-7-E4, Rev. 51E2, RCP THERM BARR CC WTR FLOW HIGH LOW

MATERIALS:

None

TASK STANDARDS:

1. Determine RCS Thermal Barrier is leaking, and close 1CC685.
2. Isolate affected RCP thermal barrier, and restore CC cooling to unaffected thermal barriers
2. Demonstrates the use of good Core Work Practices (CWP).

TASK CONDITIONS:

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

INITIATING CUES:

1. Annunciator 1-7-E4 RCP THERM BARR CC WTR FLOW HIGH LOW has just alarmed. Using appropriate procedures, respond to the annunciator alarm.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note: Examinee may take the control switch for 1CC685 to CLOSE at any time (see step 6), when it is noted that the valve did not automatically close on high flow.

Note: Examinee may refer to BwAR 1-7-E4 which directs responses per 1BwOA Pri-6 (below) and 1BwOA PRI-1. If examinee notes reference to 1BWOA PRI-1, provide CUE: Another Operator will initiate actions of 1BwOA-PRI-1, you are to perform actions of 1BwOA PRI-6.

Note: Time compression will be used to enter containment and Cued as necessary.

1.	Refer to 1BwOA PRI-6, Component Cooling Malfunction. **(CUE: If asked, All Operator Action Summary elements have been reviewed and NONE currently require action.)** **(CUE: Another operator will be assigned to review 1BwOA PRI-1)**	Locate and Open 1BwOA PRI-6.	☐	☐	☐
2.	Check surge tank level > 13% and increasing.	Checks Surge tank level: • 1LIT-670/676 • Determines level > 13% • Determines level is increasing • Goes to Attachment B, per step 1.b RNO. • Goes to Step 5 of Attachment B.	☐	☐	☐
3.	Checks for leakage from RCP Thermal Barrier.	Checks for leakage from RCP Thermal Barrier: • Annunciator 1-7-E4 LIT. • Seal Injection Flows any abnormally high. • Determines 1A RCP has abnormally high flows.	☐	☐	☐
4.	Manually throttles 1CV121 and 1CV182 to maintain seal injection flow.	Adjusts 1CV121 and 1CV182 to obtain between 8 and 13 gpm seal injection flow per RCP (as possible)	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*5. Check 1CC685 Closed. **(Note: Alternate path begins here)**	Determines corrective action to be taken: o Checks position indication for 1CC685 o Determines 1CC685 is OPEN. o Takes control switch for 1CC685 to CLOSED. • Manually Closes 1CC9438.	☐	☐	☐
*6. Restore CC to unaffected RCPs by locally closing RCP Thermal Barrier CC outlet valve to isolate affected RCP.	Dispatch operator to enter cnmt and locally close 1CC9496A.	☐	☐	☐
(CUE: SM desires affected RCP to be isolated and CC restored to unaffected RCPs.) **(CUE: Local operator reports 1CC9496A Closed)**	After 1CC9496A closure, reopen 1CC9438.	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

PM NO: N-118

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

MALFUNCTION #'S: Malf CC09 231 gpm. (flow x-mitter failure)
Malf CC07A 25 gpm. (RCP therm barrier leak)

COMMENTS:

1) Override 1CC685, ZDI1CC685 OPEN (SDG CC7 or 1PM06J(A1)CS override)

2) Note: adjust severity of malf CC07A to ensure actuation of HIGH FLOW alarm, 1-7-E4, but minimize RCS leak rate.

3) To locally operate/close 1CC9496A (SDG CC7)

4) Note: Time compression to perform containment entry to locally close 1CC9496A will be used. Cue as necessary.

5) If desired to simulate the alarm that comes in for operating the Cnmt hatch personnel door, override the annunciator at 1-1-B2, PN1148 ON/OFF as necessary.

6) Drain VCT / reset setup to 56% via drn valves 1CC2020A&B

TASK CONDITIONS:

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

INITIATING CUES:

1. Annunciator 1-7-E4 RCP THERM BARR CC WTR FLOW HIGH LOW has just alarmed. Using appropriate procedures, respond to the annunciator alarm.

JOB PERFORMANCE MEASURE

TASK TITLE: **Drain the Pressurizer Relief Tank (PRT)**

JPM No.: **N-119** REV: 2a

TPO No.: IV.C.RY-03 K&A No.: (007A1.01)

TASK No.: RY-003 K&A IMP: 2.9/3.1

TRAINEE: _____

EVALUATOR: _____ DATE: _____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 3,4,6,7** JPM TIME: _____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME: **10** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. BwOP RY-4 Rev. 8, Draining the Pressurizer Relief Tank

MATERIALS:

None

TASK STANDARDS:

1. Decrease PRT level to ≤ 80% , but ≥ 75%.
2. Restores PRT Pressure to > 0 psig, if reduced to ≤ 0 psig.
3. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

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

INITIATING CUES:

1. PRT level has risen to 81% due to inadvertent opening of a PZR PORV. The US has directed you to lower PRT level to 78-79%.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note: Examinee may refer to BwAR 1-12-A7 "PRT LEVEL HIGH LOW." Actions here will direct 1) Checking PORVs and Safety Valves NOT open, 2) Drain the PRT per BwOP RY-4, 3) Check RCS leakage. It is not required for the examinee to perform these actions, but is acceptable f actions are completed.

1.	Refer to BwOP RY-4, "Draining the PRT." **(CUE: All Prerequisites, Precautions, Limitations and Actions have been met.)**	Locate and Open BwOP RY-4.	☐	☐	☐
2.	Verify/ Open 1AOV-RY8033, Nitrogen Supply to PRT Isolation valve.	At 1PM05J, VERIFY/OPEN: • 1AOV-RY8033	☐	☐	☐
*3.	Verify/ Open 1RE1003, RCDT Pumps Discharge Cnmt Isolation Valve.	At 1PM11J, OPEN: • 1RE1003	☐	☐	☐
*4.	Open 1AOV-RY8031, PRT Drain Isolation Valve.	At 1PM05J, OPEN: • 1AOV-RY8031	☐	☐	☐
5.	Verify/Start 1RE01PA/B, RCDT Pump.	At 1PM05J: • VERIFY/START 1RE01PB. • VERIFY PRT pressure remains > 0 psig on 1PI-469.	☐	☐	☐

NOTE: The following step will be CRITICAL, if during the lowering of PRT level, the PRT pressure drops to ≤ 0 psig and the operator does NOT stop draining the PRT.

PERFORMANCE CHECKLIST		STANDARDS	SAT	UNSAT	N/A
*6.	Verify PRT Pressure remains > 0 psig.	On 1PM05J: o Monitors PRT pressure indicator 1PI-469 • Ensures PRT pressure remains > 0 psig while draining. If PRT pressure falls to 0 psig, then immediately: • Stops draining PRT by stopping the running RCDT pump. • Allows PRT pressure to rise to ~3 psig, before restarting RCDT pump.	☐	☐	☐
*7.	Close 1AOV-RY8031, PRT Drain Isolation Valve, when desired level is reached.	When PRT level is between 75-80%, on 1PM05J, takes control switch for 1AOV-RY8031 to CLOSE.	☐	☐	☐
8.	Stop running RCDT pump.	On 1PM05J, VERIFY/STOP RCDT pump when 1AOV RY-8031 CLOSES: ° 1RE01PA • 1RE01PB	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

PM NO: N-119

REQUIRED SIMULATOR MODE(S): At power, steady state

MALFUNCTION #'S: N/A

COMMENTS:

1) Vent PRT, then start filling PRT.

2) Fill PRT to 81% level.

3) Ensure RCDT pump controls in AUTO on 1PM05J.

4) Ensure 1RE1003 is closed and in AUTO on 1PM11J.

5) Stop PRT Venting.

TASK CONDITIONS:

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

INITIATING CUES:

1. PRT level has risen to 81% due to inadvertent opening of a PZR PORV. The US has directed you to lower PRT level to 78-79%.

JOB PERFORMANCE MEASURE

TASK TITLE: **Drain the Pressurizer Relief Tank (PRT)**

JPM No.: **N-119** REV: 2b

TPO No.: IV.C.RY-03 K&A No.: (007A1.01)

TASK No.: RY-003 K&A IMP: 2.9/3.1

TRAINEE:_____

EVALUATOR:_____ DATE:_____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 3,4,6,7** JPM TIME:_____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME: **10** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. BwOP RY-4 Rev. 9, Draining the Pressurizer Relief Tank

MATERIALS:

None

TASK STANDARDS:

1. Decrease PRT level to ≤ 80%, but ≥ 75%.
2. Restores PRT Pressure to > 0 psig.
3. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

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

INITIATING CUES:

1. PRT level has risen to due to inadvertent opening of a PZR PORV. The US has directed you to lower PRT level to 78-79%.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note: Examinee may refer to BwAR 1-12-A7 "PRT LEVEL HIGH LOW." Actions here will direct Checking PORVs and Safety Valves NOT open, 2) Drain the PRT per BwOP RY-4, 3) Check RCS Leakage. It is not required for the examinee to perform these actions, but is acceptable if actions are completed.

1.	Refer to BwOP RY-4, "Draining the PRT." **(CUE: All Prerequisites, Precautions, Limitations and Actions have been met.)**	Locate and Open BwOP RY-4.	☐	☐	☐
2.	Verify/ Open 1AOV-RY8033, Nitrogen Supply to PRT Isolation valve.	At 1PM05J, VERIFY/OPEN: • 1AOV-RY8033	☐	☐	☐
*3.	Verify/ Open 1RE1003, RCDT Pumps Discharge Cnmt Isolation Valve.	At 1PM11J, OPEN: • 1RE1003	☐	☐	☐
*4.	Open 1AOV-RY8031, PRT Drain Isolation Valve.	At 1PM05J, OPEN: • 1AOV-RY8031	☐	☐	☐
5.	Verify/Start 1RE01PA/B, RCDT Pump.	At 1PM05J: • VERIFY/START 1RE01PB. • VERIFY PRT pressure remains > 0 psig on 1PI-469.	☐	☐	☐

NOTE: The following step will simulate draining of the PRT at a rate faster than N2 is supplied, reducing PRT pressure to zero (0). The alternate path begins here by stopping the drain and restoring pressure prior to reaching the desired level.

PERFORMANCE CHECKLIST		STANDARDS	SAT	UNSAT	N/A
*6.	Verify PRT Pressure remains > 0 psig.	On 1PM05J: o Monitors PRT pressure indicator 1PI-469 • Determines PRT pressure is ≤0 psig. • Stops draining PRT by stopping the running RCDT pump. • Allows PRT pressure to rise to ~3 psig, before restarting RCDT pump.	☐	☐	☐
*7.	Close 1AOV-RY8031, PRT Drain Isolation Valve, when desired level is reached.	When PRT level is between 75-80%, on 1PM05J, takes control switch for 1AOV-RY8031 to CLOSE.	☐	☐	☐
8.	Stop running RCDT pump.	On 1PM05J, VERIFY/STOP RCDT pump when 1AOV RY-8031 CLOSES: ° 1RE01PA • 1RE01PB	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

TASK CONDITIONS:

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

INITIATING CUES:

1. PRT level has risen to due to inadvertent opening of a PZR PORV. The US has directed you to lower PRT level to 78-79%.

SIMULATOR SETUP INSTRUCTIONS

JPM NO: N-119

REQUIRED SIMULATOR MODE(S): At power, steady state

MALFUNCTION #'S: N/A

COMMENTS:

1) Vent PRT, then start filling PRT.

2) Fill PRT to 81% level.

3) Ensure RCDT pump controls in AUTO on 1PM05J.

4) Ensure 1RE1003 is closed and in AUTO on 1PM11J.

5) Stop PRT Venting.

6) When the PRT drain valve is opened, slowly decrease PRT pressure to 0 before reaching 80%. Restore pressure when the drain valve is closed or RCDT pump is secured.

JOB PERFORMANCE MEASURE

TASK TITLE: **Restore from Auxiliary Feedwater Check Valve Leakage**

JPM No.: **N-57a** REV: 0

TPO No.: K&A No.: (035K1.01)

TASK No.: K&A IMP: 4.2/4.5

TRAINEE:_____

EVALUATOR:_____ DATE:_____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*)3-6** JPM TIME:_____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME **8** MINUTES

EVALUATION METHOD:
__X__ PERFORM
_____ SIMULATE

LOCATION:
_____ IN PLANT
__X__ SIMULATOR

GENERAL REFERENCES:

1. 1BwOA SEC-7, Rev. 4A, Auxiliary Feedwater Check Valve Leakage

MATERIALS:

Copy of 1BwOA SEC-7.

TASK STANDARDS:

1. Recover AFW line temperatures.
2. Demonstrates the use of good Core Work Practices (CWP).

TASK CONDITIONS:

1. You are the Assist NSO.
2. Unit 1 is at 99% power.

INITIATING CUES:

1. Auxiliary Feedwater line temperature failed to return to normal following a Train A AFW flow path operability non routine surveillance. 1BwOA SEC-7, "Auxiliary Feedwater Check Valve Leakage" is in progress to address suspected check valve leakage on the Train A, loop 1B injection line. The crew has completed performing step 2. AFW piping has cooled to <130°F. You have been directed by the US to complete steps 3&4 of 1BwOA SEC-7.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A

RECORD START TIME _____

Note: When examinee locates correct procedure, provide a copy for placekeeping.

1. Refer to 1BwOA SEC-7. **(CUE: US acknowledges entry into 1BwOA SEC-7. SM has previously evaluated for GSEP.)** **Affected temp is 98°F if asked)**	Locate and Open 1BwOA SEC-7. o Inform US of entry	☐	☐	☐
2. Verify 1AF013B Closed	Verify closed affected SG isolation valve: • 1AF013B	☐	☐	☐
*3. Start 1A AFW Pump **(CUE: All Prereqs, precautions, Limits and actions of BwOP AF-5 are met. An operator is standing by locally and ready to start 1A AFW Pump. Through step 9 of AF-5 is complete. Step 10 is NA per SM.**	Start 1A AFW Pump per BwOP AF-5 o Review Prereqs, precautions, limits and actions	☐	☐	☐
(CUE: LOCAL/REMOTE switch at 1PL04J is in REMOTE)	• Start the 1A AFW Pump from 1PM06J			
(CUE: Recirc flow is 98 gpm)	o Verify recirc flow >84 gpm locally at FI-AF095			
(CUE: Local operator will complete AF-5T1 if asked)	o Perform applicable steps of AF-5T1			
*4. Establish 15-20 gpm AFW flow **(NOTE: Alternate Path begins here. Operators will not be able to control AF013B valve position well enough to limit AF Flow to 15-20 gpm and will have to throttle AF005B to maintain this flow rate.)** **(CUE: Use time compression if flow is stabilized.**	o Throttle open 1AF013B Identify failure of 1AF013B to adequately control flow rate to 15-20 gpm. o Open 1AF013B • throttle 1AF005B to establish 15-20 gpm flow rate. o Maintain flow for a minimum of 10 minutes.	☐	☐	☐

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A
*5. Shutdown the 1A AFW Pump **(CUE: lube oil pump is started.** **(CUE: AF004A is OPEN and in AUTO at local control panel)**	Locate and open BwOP AF-6 and shutdown the 1A AFW Pump. • Direct local start of lube oil pump • Place control switch at 1PM06J to NORM/AFTER TRIP o Verify open AF004A	☐	☐	☐
*6. Restore AF Alignment **(CUE: Crew will wait 6 hours to check AF piping <130°F. The JPM should be ended here.**	AT 1PM06J: • Verify 1AF013A-D OPEN • Set 1AF05B Potentiometer at 6.8 o Inform US of need to wait 6 hours to recheck AF Temps.	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

PM NO: N-57

REQUIRED SIMULATOR MODE(S): N/A

MALFUNCTION #'S: N/A

COMMENTS:

Close 1AF013B (Train A, Loop 1B AF Isolation Valve)

Start 1A AFW Pump Aux Oil Pump. Ensure run light lit on 1PM06J

When AF013B begins to open, override CS to OPEN (1PM06J(A1) or (ZDI1AF013B) to force AF flow > 20 gpm. DELETE override when this is accomplished. REPEAT if further attempts at 1AF013B control is made. The object is to NOT allow control at 15-20 gpm and force throttling of 1AF005B.

TASK CONDITIONS:

1. You are the Assist NSO.
2. Unit 1 is at 99% power.

INITIATING CUES:

1. Auxiliary Feedwater line temperature failed to return to normal following a Train A AFW flow path operability non routine surveillance. 1BwOA SEC-7, "Auxiliary Feedwater Check Valve Leakage" is in progress to address suspected check valve leakage on the Train A, loop 1B injection line. The crew has completed performing step 2. AFW piping has cooled to 98°F. You have been directed by the US to complete steps 3&4 of 1BwOA SEC-7.

JOB PERFORMANCE MEASURE

TASK TITLE: **Align Fire Protection Cooling to the 2A Centrifugal Charging Pump**

TPM No.: **N-138**

REV: 0

TPO No.: IV.D.OA-69

K&A No.: 062AK3.03

TASK No.:

K&A IMP: 4.0/4.2

TRAINEE: _____

EVALUATOR: _____

DATE: _____

The Trainee: PASSED _____ this JPM.

FAILED _____

TIME STARTED: _____

TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 2**

JPM TIME: _____ MINUTES

CRITICAL TIME: **NA**

APPROX COMPLETION TIME: **13** MINUTES

EVALUATION METHOD:

_____ PERFORM
__X__ SIMULATE

LOCATION:

__X__ IN PLANT
_____ SIMULATOR

GENERAL REFERENCES:

1. 2BwOA PRI-8, Essential Service Water Malfunction

MATERIALS:

None

TASK STANDARDS:

1. Perform the actions necessary to align FP cooling to the 2A CV Pump
2. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

1. You are an extra NSO.
2. Unit 2 is experiencing a loss of Essential Service Water and cannot be cross-tied.

INITIATING CUES:

1. The Unit Supervisor has directed you to perform the actions necessary to align Fire Protection Cooling to ONLY the 2A Centrifugal Charging Pump per 2BwOA PRI-8, Attachment C

PERFORMANCE CHECKLIST **RECORD START TIME** _____	STANDARDS	SAT	UNSAT	N/A
1. Refer to 2BwOA PRI-8, Essential Service Water Malfunction.	Locate and open 2BwOA PRI-8, Attachment C	☐	☐	☐
NOTE: This step may be performed at any time				
*2. Locally align FP to CHG PUMP Lube Oil Cooler				
(CUE: FP Supply Hose Connected. Simulate hose hookup - do NOT remove it from the locker)	• CONNECT fire hose (located in 2A CV Pump room) to CV Pump 2A lube oil cooler AND FP connection outside 2A CV Pump room (364' V18)	☐	☐	☐
(CUE: OFP840 is OPEN)	• OPEN FP hose supply isolation valve 0FP840 (364' V18)	☐	☐	☐
(CUE: Hose is not pinched by room door. No kinks in hose)	• VERIFY fire hose CHARGED	☐	☐	☐
(CUE: 2SX259A is OPEN)	• OPEN CENT CHG Pump oil cooler FP Supply valve 2SX259A	☐	☐	☐
(CUE: 2SX258A is CLOSED)	• CLOSE CENT CHG Pump oil cooler SX Supply valve 2SX258A	☐	☐	☐
3. CHECK CENT CHG Pump 2A Operation. **(CUE: 2A CV Pump is ready to start)**	INFORM NSO 2A CV Pump is ready to start	☐	☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

TASK CONDITIONS:

1. You are an extra NSO.
2. The Unit 2 is experiencing a loss of Essential Service Water and cannot be cross-tied.

INITIATING CUES:

1. The Unit Supervisor has directed you to perform the actions necessary to align Fire Protection Cooling to ONLY the 2A Centrifugal Charging Pump per 2BwOA PRI-8, Attachment C

PERFORMANCE CHECKLIST STANDARDS SAT UNSAT N/A

JOB PERFORMANCE MEASURE

TASK TITLE: **Align the Fire Hazards Panel**

PM No.: **N-34** REV: **9**

TPO No.: IV.D.OA-27 K&A No.: (APE068AA1.03)

TASK No.: OA-112 K&A IMP: 4.1/4.3

TRAINEE: _____

EVALUATOR: _____ DATE: _____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 2** JPM TIME: _____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME: **13** MINUTES

EVALUATION METHOD:

_____ PERFORM
__X__ SIMULATE

LOCATION:

__X__ IN PLANT
_____ SIMULATOR

GENERAL REFERENCES:

1. 2BwOA PRI-5, Rev. 100, Control Room Inaccessibility

MATERIALS:

Copy of 2BwOA PRI-5

TASK STANDARDS:

1. Activate the Fire Hazards Panel
2. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

1. You are an extra NSO.
2. A fire is ongoing in the Main Control Room and the Unit 2 AEER.
3. The Remote Shutdown Panels have been manned.
4. 1BwOA PRI-5 and 2BwOA PRI-5 are in progress.

INITIATING CUES:

1. You have been directed to align the Fire Hazards Panel in order to establish the capability to monitor Unit 2 S/G Levels, S/G Pressures, PZR Level, and PZR Pressure per step 7.c. RNO of 2BwOA PRI-5.

PERFORMANCE CHECKLIST	STANDARDS	SAT	UNSAT	N/A	CWP
RECORD START TIME _____					
1. Refer to procedure and proceed to 2PL10J, Fire hazards Panel. **(CUE: When examinee locates correct procedure, provide a copy.)** **(Note: 426' CWA U-12 Unit 1, S-24 on Unit 2.)**	Locate and obtain 2BwOA PRI-5, step 7.c RNO and proceed to Fire Hazards Panel.	☐		☐	☐
*2. Activate the Fire Hazards Panel. **(CUE: 2HS-FW309 is in FIRE position. If asked for indication 60%.)** **(CUE: 2HS-FW310 is in FIRE position. If asked for indication 60%.)** **(CUE: 2HS-MS193 is in FIRE position. If asked for indication 1080 psig.)** **(CUE: 2HS-MS194 is in FIRE position. If asked for indication 1080 psig.)** **(CUE: 2HS-RY034 is in FIRE position. If asked for indication 30%.)** **(CUE: 2HS-RY033 is in FIRE position. If asked for indication 2200 psig.)**	Place the following panel switches to the FIRE position: • 2HS-FW309 - SG 2A WR Level • 2HS-FW310 - SG 2B WR Level • 2HS-MS193 - SG 2A Pressure • 2HS-MS194 - SG 2B Pressure • 2HS-RY034 - PZR Level • 2HS-RY033 - PZR Pressure	☐		☐	☐

(CUE:) THIS COMPLETES THIS JPM.

RECORD STOP TIME _____

COMMENTS:

SIMULATOR SETUP INSTRUCTIONS

TPM NO: N-34

REQUIRED SIMULATOR MODE(S): N/A, IN PLANT

MALFUNCTION #'S: N/A

COMMENTS:

TASK CONDITIONS:

1. You are an extra NSO.
2. A fire is ongoing in the Main Control Room and the Unit 2 AEER.
3. The Remote Shutdown Panels have been manned.
4. 1BwOA PRI-5 and 2BwOA PRI-5 are in progress.

INITIATING CUES:

1. You have been directed to align the Fire Hazards Panel in order to establish the capability to monitor Unit 2 S/G Levels, S/G Pressures, PZR Level, and PZR Pressure per step 7.c.RNO of 2BwOA PRI-5.

JOB PERFORMANCE MEASURE

TASK TITLE: **Perform Local Reset of Feedwater Isolation Signal**

JPM No.: **N-91** REV: **6**

TPO No.: IV.D.EF-03 K&A No.: (013A4.02)

TASK No.: EF-003 K&A IMP: 4.3/4.4

TRAINEE: _____

EVALUATOR: _____ DATE: _____

The Trainee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED: _____

CRITICAL ELEMENTS: **(*) 3, 4** JPM TIME: _____ MINUTES

CRITICAL TIME: **NA** APPROX COMPLETION TIME: **7** MINUTES

EVALUATION METHOD:

_____ PERFORM
__X__ SIMULATE

LOCATION:

__X__ IN PLANT
_____ SIMULATOR

GENERAL REFERENCES:

1. 2BwFR-H.1, Rev. 100, WOG 1C, Response to Loss of Secondary Heat Sink

MATERIALS:

Keys for 2PA27J and 2PA28J, Laser pointer.
Copy of 2BwFR-H.1, step 7.

TASK STANDARDS:

1. Correctly RESET Feedwater Isolation Signal as required by 2BwFR-H.1, step 7.
2. Demonstrates the use of good Core Work Practices.

TASK CONDITIONS:

1. You are an extra NSO.
2. Unit 2 NSOs are responding to a steamline break inside containment after a safety injection.
3. Conditions have deteriorated to the point that an entry into 2BwFR-H.1, Loss of Secondary Heat Sink has been made.

INITIATING CUES:

1. The Unit Supervisor has directed you to locally reset FW Isolation by performing the actions of 2BwFR-H.1 step 7.f.

RECORD START TIME _____

Note: Prompt the use of a laser pointer to identify components located inside electrical cabinets.

1.	Refer to 2BwFR H.1 step 7.f. **(CUE: After examinee locates procedure, provide a copy.)**	Locate and open 2BwFR H.1, step 7.f.	☐	☐	☐
2.	Obtain keys for and locate Safeguards Cabinets 2PA27J and 2PA28J.	Obtains keys for and proceed to Safeguards Cabinets 2PA27J and 2PA28J: • Obtain keys for Cabinets 2PA27J and 2PA28J from the Shift Office. • Proceed to 2PA27J/ 2PA28J (U2 AEER).	☐	☐	☐

Note: JPM steps 3 and 4 may be performed in any order. Prompt use of laser pointer vice breaking plane of cabinet.

*3.	De-energize Feedwater Isolation Aux Relays by removing fuses at Aux. Safeguard Relay Cabinet 2PA27J. **(CUE: Fuse FU-24 is removed. Fuse FU-27 is removed.)**	At 2PA27J, De-energize Feedwater Isolation Aux Relays by removing: • Fuse FU-24 • Fuse FU-27	☐	☐	☐
*4.	De-energize Feedwater Isolation Aux Relays by removing fuses at Aux. Safeguard Relay Cabinet 2PA28J. **(CUE: Fuse FU-24 is removed. Fuse FU-27 is removed.)**	At 2PA28J, De-energize Feedwater Isolation Aux Relays by removing: • Fuse FU-24 • Fuse FU-27	☐	☐	☐

(CUE: THIS COMPLETES THIS JPM.)

RECORD STOP TIME _____

SIMULATOR SETUP INSTRUCTIONS

TPM NO: N-91

REQUIRED SIMULATOR MODE(S): N/A Inplant.

MALFUNCTION #'S: N/A

COMMENTS:

TASK CONDITIONS:

1. You are an extra NSO.
2. Unit 2 NSOs are responding to a steamline break inside containment after a safety injection.
3. Conditions have deteriorated to the point that an entry into 2BwFR-H.1, Loss of Secondary Heat Sink has been made.

INITIATING CUES:

1. The Unit Supervisor has directed you to locally reset FW Isolation by performing the actions of 2BwFR-H.1 step 7.f.