

NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: LJCNR-1
Title: DEPRESSURIZE THE RCS USING NORMAL SPRAY

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat	Unsat	Total Time: minutes
Comments:			

References: EOP E-3, Steam Generator Tube Rupture, Rev. 17

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 15 minutes

Critical Steps: 4, 5, 6, 7, 8

Job Designation: RO/SRO

Task Number: 010A4.01

Rating: 3.7/3.5

AUTHOR:	_____ DAVE BURNS	DATE:	_____ 1/16/2000
REVIEWED BY:	_____ N/A JPM COORDINATOR		_____ N/A
APPROVED BY:	_____ N/A TRAINING LEADER		_____ N/A REV. 0

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** A steam generator tube rupture occurred in SG 12 and was isolated. An RCS cooldown was completed through Step 19 of EOP E-3.
- Initiating Cue:** The Shift Foreman directs you to depressurize the RCS commencing with Step 20 of EOP E-3.
- Task Standard:** The RCS is depressurized with one of the required conditions satisfied.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

References EOP E-3.

Step was: Sat: _____ **Unsat** _____*

1.2 2. Check ruptured SG pressure
stable or increasing.

2.1

Notes steam generator 12 pressure is stable
at approximately 1000 psig.

2.2 Ruptured s/g 250# >intact s/g's

Step was: Sat: _____ **Unsat** _____*

2.3 3. Check RCS subcooling based
on core exit T/Cs.

3.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks RCS subcooling greater than 36° F using the subcooled margin monitor, YI-31, or Appendix C, Subcooled Curve.

Step was: Sat: _____ Unsat _____*

3.2 4. ** Depressurize the RCS using normal pressurizer spray.

4.1

Opens the spray valves and commences RCS depressurization.

4.2 Verifies maximum spray flow by ensuring both spray valves are fully open.

Step was: Sat: _____ Unsat _____*

4.3 5. ** Check RCS pressure.

5.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks RCS pressure less than SG 12
pressure and PZR level greater than
12%.

**Note: If conditions are met, go to Step 8.
If conditions are not met, go to
Step 6.**

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

5.2 6. ** Check pressurizer level.

6.1

Checks pressurizer level greater than 74%.

**Note: If conditions are met, go to Step 8.
If conditions are not met, go to
Step 7.**

Step was: Sat: _____ Unsat _____*

6.2 7. ** Check RCS subcooling
based on core exit T/Cs.

7.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks RCS subcooling less than 20° F using the subcooled margin monitor, YI-31, or Appendix C, Subcooled Liquid Curve.

Closes the spray valves.
Step was: Sat: _____ Unsat _____*

8.2

Note: If conditions are met, go to Step 8. If conditions are not met, do Steps 5, 6, and 7 until one of them is met.

Step was: Sat: _____ Unsat _____*

7.2 8. ** Close pressurizer spray valves.

8.1

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

- Initial Conditions:** A steam generator tube rupture occurred in SG 12 and was isolated. An RCS cooldown was completed through Step 19 of EOP E-3.
- Initiating Cue:** The Shift Foreman directs you to depressurize the RCS commencing with Step 20 of EOP E-3.
- Task Standard:** The RCS is depressurized with one of the required conditions satisfied.

Initialize the simulator to snap LJCNR1 - "init LJCNR1"

Run Drill 5001

OR

Type "init ljc033" on the expert screen command line. Click the BYPASS SWCK button on the expert screen to continue after control boards are aligned.

This SNAP allows entry into EOP E-3 at Step 20 with ruptured steam generator 12 level at approximately 35% and increasing slowly. Core exit thermocouples are at approximately 489° F and the RCS is ready for depressurization.

Perform the following

Display PPC screen "E3" on one of the CC2 PPC monitors.

Inform the examiner that the simulator setup is complete.

Go to RUN when the examinee is given the cue sheet.

After RUN, display the THERMOCOUPLE MAP on SPDS Panel B.

NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: LJCNR-2
Title: TRANSFER BUS G TO AUX. POWER FROM DG 12

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat Unsat	Total Time:	minutes
Comments:			

References: OP J-6B:V, Diesel Generator 12, Manual Operations, Rev. 15

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 15 minutes

Critical Steps: 3, 5, 7, 9, 10, 11, 12

Job Designation: SRO/RO

Task Number: 064A4.09

Rating: 3.2/3.3

AUTHOR: _____ DAVE BURNS _____ DATE: _____ 1/16/2000 _____

REVIEWED BY: _____ N/A _____ DATE: _____ N/A _____
JPM COORDINATOR

APPROVED BY: _____ N/A _____ DATE: _____ N/A _____
TRAINING LEADER

REV. 0

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** Diesel generator 12 is supplying 4kV bus G in the isochronous mode. Auxiliary power is now available.
- Initiating Cue:** Parallel diesel generator 12 with Auxiliary power, unload and shutdown diesel generator 12 per OP J-6B:V, step 6.4
- Task Standard:** Auxiliary power supplying 4kV bus G, diesel generator 12 shutdown and in the AUTO mode.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.
-

1.1

Operator references OP J-6B:V, Step 6.4.

Step was: Sat: _____ Unsat: _____*

1.2 2. Check auxiliary power
available.

2.1

Operator checks Bkr 52-HG-13 available.

2.2 Checks potential light ON.

Step was: Sat: _____ Unsat: _____*

2.3 3. ** Prepare the diesel
generator for parallel to aux power.

3.1

Operator places AUTO/MAN mode selector switch to MANUAL

3.2 Cuts-Out AUTO transfer to startup feature and verifies Blue Light on VB4 is OFF.

3.3 Verifies generator protective relays CUT-IN. (Not part of critical step)

Step was: Sat: _____ Unsat: _____*

3.4 4. Verify 4kV bus G at 60 Hz.

4.1

Operator locates frequency indication on VB4.

4.2 Adjusts diesel generator 12 speed as necessary to achieve 60 Hz.

Step was: Sat: _____ Unsat: _____*

4.3 5. ** Turn on Synchroscope for incoming auxiliary power source.

5.1

Operator locates and inserts Sync key into
Auxiliary Feeder Breaker switch

5.2 Turns key to ON position.

Step was: Sat: _____ Unsat: _____*

5.3

6. Verify proper operation of the
Synchroscope.

6.1

Operator locates indication on VB4.

6.2 Observes rotation on scope, phase
lights out at 12 o'clock and on bright
at 6 o'clock.

Step was: Sat: _____ Unsat: _____*

6.3 7. ** Adjust diesel generator 12
Governor speed.

7.1

Operator locates indication on VB4.

7.2 Adjusts speed accordingly. Uses case (1) - slow in slow direction (counterclockwise).

Step was: Sat: _____ Unsat: _____*

7.3 8. Adjust diesel generator voltage.

8.1

Operator locates diesel generator 12 voltage adjust control switch.

8.2 Adjusts diesel generator voltage to match incoming auxiliary power voltage.

Step was: Sat: _____ Unsat: _____*

8.3 9. ** Close Auxiliary Feeder Bkr. (52-HG-13).

9.1

When Synchroscope is slightly before 12 o'clock (≤ 1 o'clock - counter clockwise direction) operator closes Auxiliary Bkr. 52-HG-13.

9.2 Checks VARS-OUT.

9.3 Cut out AUX FEEDER SYNC switch. (Not part of critical step)

Step was: Sat: _____ Unsat: _____*

9.4

10. ** Unload diesel generator.

Operator locates diesel generator 12 speed
adjust control switch on VB4.

10.1

10.2 Decreases speed to unload diesel
generator 12 to about 0.5 MW.

**Cue: Diesel generator 12 has been at
0.5 MW for 5 minutes.**

10.3 CUT-IN the diesel generator 12
FEEDER SYNC switch.

Step was: Sat: _____ Unsat: _____*

10.4 11. **Separate diesel generator
12 from bus.

11.1

Operator reduces load to about 0.1 MW.

11.2 Locates diesel generator 12 output
Bkr. 52-HG-5 on VB4.

11.3 Opens Bkr. 52-HG-5.

11.4 Adjusts diesel generator 12 speed and
voltage to approximately 60 HZ and
119 VAC indicated

Step was: Sat: _____ Unsat: _____*

11.5 12. **Shutdown diesel generator
12.

12.1

Operator locates START/STOP switch on
VB4.

12.2 Places switch to STOP.

Step was: Sat: _____ Unsat: _____*

12.3 13. Turn off synchroscope.

13.1

CUT-OUT the diesel generator 12 FEEDER
SYNC switch.

Step was: Sat: _____ Unsat: _____*

13.2

14. Return diesel generator 12 to
STANDBY.

Operator locates protective relay toggle
switch for diesel generator 12 on
VB4.

14.1

14.2 Places switch to CUT-OUT.

14.3 Locates Manual/Auto Mode selector
switch on VB4.

14.4 Places MODE switch to AUTO.

14.5 Locates Auto Transfer switch on
VB4.

14.6 Places transfer switch to CUT-IN
position.

Step was: Sat: _____ Unsat: _____*

14.7

Stop Time:

Total Time: (Enter total time on the cover page)

- Initial Conditions:** Diesel generator 12 is supplying 4kV bus G in the isochronous mode. Auxiliary power is now available.
- Initiating Cue:** Parallel diesel generator 12 with Auxiliary power, unload and shutdown diesel generator 12 per OP J-6B:V, step 6.4
- Task Standard:** Auxiliary power supplying 4kV bus G, diesel generator 12 shutdown and in the AUTO mode.

Initialize the simulator to snap LJCNR2 - "init LJCNR2"
OR

- Initialize the simulator to IC-1 (100%, BOL).
- There is no drill for this JPM
- Go to RUN on the simulator
- Perform the following:
 1. Place diesel generator 12 Mode Select switch in MANUAL.
 2. Start diesel generator 12
 3. Parallel to bus G and pick up 0.5 MW Load.
 4. Open Aux Transformer Breaker for bus G.
 5. Place diesel generator 12 Mode Select switch in AUTO.
 6. CUT-IN protective relays.
- Inform the examiner that the simulator setup is complete.
- Leave simulator in RUN..

Number: LJCNR-3
Title: START A REACTOR COOLANT PUMP

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat	Unsat	Total Time: minutes
Comments:			

References: OP A-6:I, Reactor Coolant Pumps - Place in Service, Rev. 28

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 10 minutes

Critical Steps: 8, 10

Job Designation: RO/SRO

Task Number: 003A4.04; 003A4.06

Rating: 3.1/3.0; 2.9/2.9

Directions: **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.

Required Materials: None

Initial Conditions: Unit 1 is in HOT STANDBY with three reactor coolant pumps running.

Initiating Cue: The Shift Foreman directs you to start Reactor Coolant Pump 1-3.

Task Standard: Reactor Coolant Pump 1-3 is running with the oil lift pump shutdown.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

References OP A-6:I.

Cue: Start at Step 6.3.

Step was: Sat: _____ Unsat _____*

1.2 2. Check prerequisites and precautions and limitations.

2.1

Reviews prerequisites and precautions and limitations.

Cue: All previous items for performance of Step 6.3 have been satisfied.

Step was: Sat: _____ Unsat _____*

2.2 3. Verify VCT pressure.

3.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks VCT pressure is between 15 and 65
psig.

**Note: Operator reads NOTE; not
applicable in this condition.**

Step was: Sat: _____ Unsat _____*

3.2 4. Establish or verify seal
injection flow.

4.1

Adjusts HCV-142 to achieve approximately
9 gpm and verifies injection
temperature is less than 130°F.

**Note: Examinee may observe VCT
temperature as an indication of
seal injection temperature.**

Step was: Sat: _____ Unsat _____*

4.2

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

5. Verify No. 1 seal ΔP .

5.1

Checks RCP 1-3 No. 1 seal
 ΔP greater than 255 psid.

Step was: Sat: _____ Unsat _____*

5.2 6. Verify No. 1 seal leakoff is in
the safe operating range.

6.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Compares No. 1 seal leakoff flow with the requirements of Figure 1 of OP A-6:I.

Step was: Sat: _____ Unsat _____*

6.2 7. Check all related RCP alarms are cleared.

7.1

Checks alarms clear on PK05-03 and PK05-05.

Note: May use the PPC to monitor:

- Seal outlet temperatures
 - Pump and motor bearing temperatures
 - Stator temperature
-

Step was: Sat: _____ Unsat _____*

7.2 8. ** Start the oil lift pump.

8.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Starts the oil lift pump for RCP 1-3 at least 2 minutes prior to starting the reactor coolant pump with the control switch.

Step was: Sat: _____ Unsat _____*

Evaluates footnotes and determines they are only applicable in MODES 4 and 5.

Step was: Sat: _____ Unsat _____*

8.2 9. Review Technical Specifications 3.4.1.3 footnote ** and 3.4.1.4.1 footnote ##.

9.2

9.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

10. ** Start the reactor coolant pump.

10.1

Starts reactor coolant pump 1-3 (after the oil lift pump has run for at least 2 minutes).

10.2 Checks pump amps, loop flows, and other parameters for normal operation. (Step 10.2 is not a required element of the critical step)

Step was: Sat: _____ Unsat _____*

10.3 11. Verify oil lift pump shuts down automatically.

11.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks green light ON and red light OFF for
the oil lift pump after approximately 1
minute.

Step was: **Sat:** _____ **Unsat** _____*

11.2

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Initial Conditions: Unit 1 is in HOT STANDBY with three reactor coolant pumps running.

Initiating Cue: The Shift Foreman directs you to start Reactor Coolant Pump 1-3.

Task Standard: Reactor Coolant Pump 1-3 is running with the oil lift pump shutdown.



Initialize the simulator to snap LJCNR3 - "init LJCNR3"

Run Drill 5001

OR

Initialize the simulator to IC-4 (C/D BOL, RCS 500° F & 1960 psig).

Go to RUN

Perform the following:

1. Stop RCP 13
2. Allow the plant to stabilize

Go to FREEZE.

Inform the examiner that the simulator setup is complete.

Go to RUN when the examinee is given the cue sheet.

Number: LJCNR-4
Title: ALIGN RHR TO CONTAINMENT SPRAY

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat	Unsat	Total Time: minutes
Comments:			

References: EOP E-1.3, Transfer to Cold Leg Recirculation, Rev. 17A

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 10 minutes

Critical Steps: 4, 5, 6, 8, 10, 11, 12

Job Designation: RO/SRO

Task Number: 026A4.01

Rating: 4.5/4.3

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** Unit 1 experienced a large break LOCA. RWST level dropped to 33% and a transition to EOP E-1.3 was performed. The procedure is complete through Step 9.
- Initiating Cue:** You are directed to align Containment Spray from RHR per the procedure.
- Task Standard:** Containment spray is aligned from the RHR system.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

References EOP E-1.3,
Step 10.

Note: If operator notices RED path on FR-P.1 inform him actions have been addressed.

If operator notices MAGENTA path for FR-Z.2, allow him to enter the FR. Step 1 RNO will return to procedure and step in effect.

Step was: Sat: _____ Unsat _____*

1.2 2. Check Containment Spray actuated.

2.1

Checks PK01-18, CONTMT SPRAY ACTUATION, ON

OR

PI-934, 935, 936, 937 for indication of containment pressure greater than 22 psig.

Note: Pressure decayed to less than 3 psig following initiation of Containment Spray.

Step was: Sat: _____ Unsat _____*

2.2 3. Check RWST level less than 4%.

3.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks RWST level less than 4% (VB2 LI-920,921,922).

Step was: Sat: _____ Unsat _____*

3.2 4. ** Reset Containment Spray.

4.1

Resets Containment Spray by depressing both Containment Spray reset push buttons.

Step was: Sat: _____ Unsat _____*

4.2

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

5. ** Stop both containment spray pumps.

5.1

Secures both pumps by placing control switches to STOP RESET position.

5.2 Verifies green indicating lights ON and pump amps go to zero. (Not Critical)

Step was: Sat: _____ Unsat _____*

5.3 6. ** Close containment spray pump discharge valves.

6.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Positions switches for valves 9001A and
9001B to CLOSE

6.2 Verifies green lights ON and red
lights OFF. (Not Critical)

Step was: Sat: _____ Unsat _____*

6.3 7. Verify both RHR trains in
service.

7.1

Verifies both RHR trains are in service.
(RHR pump red lights ON and Flow
via F1-970B & 971B.)

Step was: Sat: _____ Unsat _____*

7.2 8. ** Close RHR discharge
valve to cold legs 1 and 2.

8.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Cuts in the series contactor for 8809A.

8.2 Closes 8809A, RHR to cold legs 1 and 2.

8.3 Verifies green light ON and red light OFF. (Not Critical)

Step was: Sat: _____ Unsat _____*

9. Open RHR pump 11 discharge valve to spray header A.

9.1

Locates and places the control switch for 9003A in the OPEN position.

9.2 Determines that 9003A will not open.

9.3 Places the control switch for 9003A in the CLOSE or STOP position.

Step was: Sat: _____ Unsat _____*

9.4

10. ** Verify valve 8809A OPEN.

10.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Locates and places the control switch for
8809A in the OPEN position.

10.2 Verifies red light ON and green light
OFF. (Not Critical)

Step was: Sat: _____ Unsat _____ *

10.3 11. ** Close valve 8809B, RHR
to cold legs 3 and 4.

11.1

Cuts in the series contactor for 8809B.

11.2 Locates and places the control switch
for 8809B in the CLOSED position.

11.3 Verifies 8809B green light ON and
red light OFF. (Not Critical)

Step was: Sat: _____ Unsat _____ *

11.4 12. ** Open valve 9003B, RHR
pump 2 to spray header B.

12.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Locates and places the control switch for
9003B in the OPEN position.

12.2 Verifies 9003B red light ON and
green light OFF. (Not Critical)

**Note: The only indication of RHR flow
to Containment Spray is an
increase in RHR pump 11 amps.**

Step was: Sat: _____ Unsat _____*

12.3

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Initial Conditions: Unit 1 experienced a large break LOCA. RWST level dropped to 33% and a transition to EOP E-1.3 was performed. The procedure is complete through Step 9.

Initiating Cue: You are directed to align Containment Spray from RHR per the procedure.

Task Standard: Containment spray is aligned from the RHR system.

Initialize the simulator to snap LJCNR4 - "init LJCNR4"

- Run Drill 5001

OR

- Type "init ljc139" on the expert screen command line. Click the BYPASS SWCK button on the expert screen to continue after control boards are aligned. This SNAP will also work for this JPM.
- This SNAP allows entry into EOP E-1.3 at Step 10. RWST level lo-lo alarm is in (4%) and both containment spray pumps are running.
- Enter drill file 1045, or manually insert the following:

Command	Description
1. vlv css6 2,0,0,0,d,0	Fails 9003A closed.

Perform the following:

- Inform the examiner that the simulator setup is complete.
- Go to RUN when the examinee references EOP E-1.3.

Number: LJCNR-5

Title: MANUALLY ISOLATE PHASE A COMPONENTS -
TRAIN A AND B FAILURE

Examinee:

Evaluator:

Print

Signature

Date

Results: Sat Unsat Total Time: minutes

Comments:

References: EOP E-0, Reactor Trip or Safety Injection, Rev 23

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 10 minutes

Critical Steps: 4

Job Designation: RO/SRO

Task Number: 013A4.01

Rating: 4.5/4.8

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** A Unit 1 reactor trip and safety injection occurred.
- Initiating Cue:** Containment Isolation Phase A did not occur. You are instructed by the Shift Foreman to take the required actions to establish Phase A Isolation.
- Task Standard:** All Phase A valves closed.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

INSTRUCTOR WORKSHEET

References EOP E-0.

Step was: Sat: _____ Unsat _____*

1.2 2. Manually actuate Phase A.

2.1

Locates the Phase A actuation switch on
VB-1 or CC-2.

2.2 Turns the Phase A actuation switch to
ACTUATE.

2.3 Notes that Phase A isolation is still
incomplete.

Step was: Sat: _____ Unsat _____*

2.4 3. Activate Monitor Light Test
Switch to locate valves.

3.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Locates the Monitor Light Test Switch.

3.2 Places the Monitor Light Test Switch
in TEST.

Step was: Sat: _____ Unsat _____*

3.3

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

INSTRUCTOR WORKSHEET

4. ** Manually close the Phase A isolation valves as necessary.

Locates the unisolated valves as indicated on Monitor Light Box B.

4.1

4.2 Selects CLOSE for the unisolated valves that are indicated on Monitor Light Box B.

Note: Preferred, but not required, to select CLOSE on 8034B (GAS SAMPLE ISOL O.C.) to prevent automatically cycling open.

Step was: Sat: _____ Unsat _____*

4.3

PRT TO GA IN CNT 8034A OP 1	5	LETDOWN DRF 1 ISD 8149A OP 9	RCDT PPS DISCH I.C. FCV253 OP 13	RCDT TO GA I.C. FCV258 OP 17	CNT SUMP PPS I.C. FCV500 OP 21	ACC TEST ISD I.C. 8871 OP 25	CHL WTR SUPPLY I.C. FCV655 OP 29	PRZ STM SAMPLE I.C. 9354A OP 33	RCS SAMPLE I.C. 9356A OP 37	41	STM GEN 1 BLOWDOWN FCV151 OP 45	STM GEN 1 SAMPLE FCV250 OP 49
PRT TO GA OUT CNT 8034B OP 2	6	LETDOWN DRF 2 ISD 8149B OP 10	RCDT PPS DISCH C.C. FCV254 OP 14	RCDT TO GA O.C. FCV257 OP 18	CNT SUMP PPS O.C. FCV501 OP 22	ACC TEST ISD O.C. 8861 OP 26	CHL WTR SUPPLY O.C. FCV654 OP 30	PRZ STM SAMPLE O.C. 9354B OP 34	RCS SAMPLE O.C. 9356B OP 38	SI TEST LINE O.C. 8893 OP 42	STM GEN 2 BLOWDOWN FCV154 OP 46	STM GEN 2 SAMPLE FCV248 OP 50
PRT N2 SUPPLY 8045 OP 3	7	SEAL WTR RET I.C. 8112 OP 11	LETDOWN DRF 3 ISD 8149C OP 15	RCDT VENT HEADER I.C. FCV255 OP 19	RCDT N2 SUPPLY FCV260 OP 23	CNT INBT AIR ISD FCV594 OP 27	ACC N2 SUPPLY 8880 OP 31	CHL WTR RETURN I.C. FCV657 OP 35	PRZ LIQ SAMPLE I.C. 9355A OP 39	ACCUM SAMPLE I.C. 9357A OP 43	STM GEN 3 BLOWDOWN FCV157 OP 47	STM GEN 3 SAMPLE FCV246 OP 51
PRT PR1 WTR SUP 8029 OP 4	8	SEAL WTR RET O.C. 8100 OP 12	LETDOWN HX INLET 8152 OP 16	RCDT VENT HEATER O.C. FCV256 OP 20	CNT FIRE WTR ISD FCV633 OP 24	EX LETDN HX OCW FCV381 OP 28	CHL WTR RETURN O.C. FCV656 OP 32	PRZ LIQ SAMPLE O.C. 9355B OP 36	ACCUM SAMPLE O.C. 9357B OP 40	44	STM GEN 4 BLOWDOWN FCV160 OP 48	STM GEN 4 SAMPLE FCV244 OP 52

Monitor Light Box B

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Initial Conditions: A Unit 1 reactor trip and safety injection occurred.

Initiating Cue: Containment Isolation Phase A did not occur. You are instructed by the Shift Foreman to take the required actions to establish Phase A Isolation.

Task Standard: All Phase A valves closed.



Initialize the simulator to snap LJCNR5 - "init LJCNR5"

- Run Drill 5001

OR

- Initialize the simulator to IC-1 (100%, BOL).
- Go to RUN.
- Enter drill file 1026 or manually insert the following:

Command	Description
1. mal pp11a act,2,0,0,d,0	Phase A Failure Train A
2. mal pp11b act,2,0,0,d,0	Phase A Failure Train B
3. mal pp12a act,0,0,0,d,2	Inadvertent S1 Actuation Train A
4. mal pp12b act,0,0,0,d,2	Inadvertent S1 Actuation Train B
5. frz when zpplcntr.gt.59.5	Freezes simulator when S1 timer times out

Perform the following:

- Inform the examiner that the simulator setup is complete.
- Go to RUN when the examinee is given the cue sheet.

Number: LJCNR-6

Title: INITIATE A NATURAL CIRCULATION COOLDOWN

Examinee:

Evaluator:

Print

Signature

Date

Results: Sat Unsat Total Time: minutes

Comments:

References: EOP E-0.2, Natural Circulation Cooldown, Rev. 15

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 10 minutes

Critical Steps: 7

Job Designation: RO/SRO

Task Number: 041A4.08

Rating: 3.0/3.1

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** Unit 1 tripped from 100% power. EOP E-0.1, Reactor Trip Response, is complete and reactor coolant pumps are not available. Actions in accordance with EOP E-0.2, Natural Circulation Cooldown, are complete through Step 8. Boration to cold shutdown is complete and all CRDM fans are running.
- Initiating Cue:** The Shift Foreman directs you to take control of the steam dumps and initiate a natural circulation cooldown in accordance with EOP E-0.2, Step 9.
- Task Standard:** A natural circulation cooldown using steam dumps has been started.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

References EOP E-0.2.

1.2 Reads CAUTION prior to Step 9.

Step was: SAT: _____ Unsat _____*

1.3 2. Check MSIVs open.

2.1

Checks MSIVs open, VB3 red lights ON.

Step was: SAT: _____ Unsat _____*

2.2 3. Check C-9 status light on.

3.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks annunciator window PK 08-14 is ON.

Step was: SAT: _____ Unsat _____*

3.2 4. Place HC-507 in MANUAL and reduce demand to 0%.

4.1

Depresses the MANUAL pushbutton.

4.2 Depresses the DECREASE push button to reduce the controller output to 0% as displayed on HC-507.

Note: Operator may leave HC-507 in AUTO and reduce demand to 0% by increasing the pot setpoint.

Step was: SAT: _____ Unsat _____*

4.3

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

5. Place the steam dumps in the steam pressure mode.

5.1

The STEAM PRESS position is selected.

Step was: SAT: _____ Unsat _____*

5.2 6. Establish a 25° F/hour
cooldown rate by using Condenser
Steam Dumps.

6.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Adjusts HC-507 using the INCREASE push button to manually open the 40% steam dumps and begin dumping steam.

OR

decreasing the pot setting with the controller in AUTO to begin dumping steam.

6.2 Determines that HC-507 is failed.

Step was: SAT: _____ Unsat _____*

6.3 7. **Establish a 25° F/hour cooldown rate by using Steam Generator 10% steam dumps.

7.1

Stop Time:

Total Time: (Enter total time on the cover page)

Locates Steam Generator 10% steam dump hand controllers.

7.2 Places 10% controllers in manual.

7.3 Adjusts 10% by using the INCREASE push button to manually open the 10% steam dumps and begin dumping steam.

7.4 Checks RCS Wide Range Temperature Recorders.

Note: Once a cooldown is established the JPM can be terminated.

Step was: SAT: _____ Unsat _____*

7.5

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

- Initial Conditions:** Unit 1 tripped from 100% power. EOP E-0.1, Reactor Trip Response, is complete and reactor coolant pumps are not available. Actions in accordance with EOP E-0.2, Natural Circulation Cooldown, are complete through Step 8. Boration to cold shutdown is complete and all CRDM fans are running.
- Initiating Cue:** The Shift Foreman directs you to take control of the steam dumps and initiate a natural circulation cooldown in accordance with EOP E-0.2, Step 9.
- Task Standard:** A natural circulation cooldown using steam dumps has been started.

Initialize the simulator to snap LJCNR6 - "init LJCNR6"

Run Drill 5001

OR

Type "init ljc046" on the expert screen command line. Click the BYPASS SW CHECK button on the expert screen to continue after control boards are aligned.

Manually insert the following:

Command	Description
1. cnh mss1 1,0,0,0,d,0 #xcnh507	Fails 40% steam dump controller HC-507 as is.

This snap allows entry into EP E-0.2 prior to the cooldown step. RCS pressure is ~2255 psig and Pzr level is ~33%. Pressure control is heaters and Aux. spray. Leave the simulator in FREEZE.

Perform the following:

Select E-0.2 display on SPDS.

Type "grpdis cooldown" on a CC2 PPC computer, and enter a 5 second update rate.

Inform the examiner that the simulator setup is complete.

Go to RUN when the examinee is given the cue sheet.

NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: LJCNR-7
Title: ESTABLISH EMERGENCY BORATION

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat	Unsat	Total Time: minutes
Comments:			

References: OP AP-6, Emergency Boration, Rev. 11

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 10 minutes

Critical Step: 4

Job Designation: RO/SRO

Task Number: 004A2.14

Rating: 3.8/3.9

AUTHOR: DAVE BURNS DATE: 1/16/2000

REVIEWED BY: N/A DATE: N/A
JPM COORDINATOR

APPROVED BY: N/A DATE: N/A
TRAINING LEADER

REV. 0

Directions: **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.

Required Materials: None

Initial Conditions: Unit 1 is shutdown in MODE 3 and an unexplained increase in reactivity is causing source range counts to increase.

Initiating Cue: The Shift Foreman directs you to emergency borate.

Task Standard: Emergency boration has been established.

Start Time:

Step

Expected Operator Actions

1. Obtain the correct procedure.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

References OP AP-6.

1.2 Reads NOTES prior to Step 1.

**Note: This is an alternate path JPM.
Emergency boration will be
accomplished via the RWST due
to FCV-110A and CVCS-8104
failing closed.**

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

2. Initiate emergency boration using
make-up controls.

2.1

Verifies at least 55 gpm charging flow by
adjusting FCV-128.

2.2 Places VCT make up control in the
BORATE position.

2.3 Sets HC-110 pot setting to 9.5 turns.

2.4 Determines amount of boric acid
required per Appendix A.

**Note: Appendix A guidance is to borate
until control is regained.**

2.5 Sets desired gallons in the integrator.

2.6 Places make up controller to the
START position and attempts to adjust
boric acid flow to at least 32 gpm.

2.7 Determines that FCV-110A is failed
closed.

**Note: Operator may attempt to open
FCV-110A manually.**

2.8 Verifies boric acid transfer pump is in
high speed and VCT pressure is less
than 30 psig.

2.9 Determines that emergency boration
flow of at least 32 gpm is not
attainable.

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

3. Initiate emergency boration using
CVCS-8104.

3.1

Reads NOTE prior to step.

3.2 Places control switch for 8104 in the
OPEN position.

3.3 Determines that 8104 will not
reposition when selected to OPEN.

3.4 Determines that emergency boration
flow of at least 33 gpm is not
attainable.

Step was: Sat: _____ Unsat _____*

3.5 4. ** Initiate emergency
boration using the RWST.

4.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Opens 8805A and 8805B.

4.2 Closes LCV-112B and LCV-112C.

4.3 Determines that charging flow is less than 105 gpm on CC2, FI-128A.

4.4 Adjusts charging flow to greater than or equal to 105 gpm by using charging flow control valve FCV-128 or HC-459D.

Step was: Sat: _____ **Unsat** _____*

4.5

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Initial Conditions: Unit 1 is shutdown in MODE 3 and an unexplained increase in reactivity is causing source range counts to increase.

Initiating Cue: The Shift Foreman directs you to emergency borate.

Task Standard: Emergency boration has been established.

Initialize the simulator to snap LJCNR7 - "init LJCNR7"

Run Drill 5001

OR

Initialize the simulator to IC-4 (HSB,500° F).

Enter drill file 1063 or manually insert the following:

Command	Description
Set acvcvctw=12000	Increase vct level
ovr xc2i027c act,1,0,0,d,8	Ensure m/u control to start
mal nisl a act,4,600,0,d,0 mal nisl b act,4,600,0,d,0	Fail source range ni's
cnv cvc2 2,0,0,5,d,0 #rcvf110a	FCV-110A fails closed.
vlv cvc28 2,0,0,0,d,0 #rcvh8104	8104 fails closed.
Run 10	Runs for 10 sec.
Anack	acknowledges alarms

Perform the following:

Inform the examiner that the simulator setup is complete.

Go to RUN when the examinee is given the cue sheet.

NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: LJPNRC-1
Title: ALIGN CHARGING PUMP SUCTION FROM RWST

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat	Unsat	Total Time: minutes
Comments:			

References: OP AP-8B, Control Room Inaccessibility - Hot Standby to Cold Shutdown, Rev 8B

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 15 minutes

Critical Steps: 1

Job Designation: RO/SRO

Task Number: 004A2.22

Rating: 3.2/3.1

AUTHOR: DAVE BURNS DATE: 1/16/2000

REVIEWED BY: N/A DATE: N/A
JPM COORDINATOR

APPROVED BY: N/A DATE: N/A
TRAINING LEADER

REV. 0

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. The examinee may be given the procedure and told the step with which to begin.
- Required Materials:** Flashlight is recommended.
- Initial Conditions:** A fire has occurred in the Control Room, forcing evacuation. Unit 2 has started a cooldown to cold shutdown. Unit 2 VCT level is not being maintained in AUTO.
- Initiating Cue:** The Unit 2 SFM has directed you to align the Charging Pump suction to the RWST, in accordance with OP AP-8B, step 7e RNO. Breakers associated with task have been opened.
- Task Standard:** Charging Pump suction has been aligned to the RWST.

Start Time:

Step

Expected Operator Actions

1. ** Opens either 8805A or 8805B.
(Only 1 valve is required to be opened.)
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Operator locates 8805A and 8805B.

1.2 Operator engages 8805A or 8805B manual handwheel.

1.3 Operator Opens 8805A or 8805B.

Step was: Sat: _____ **Unsat** _____*

2. Closes either LCV-112B or LCV-112C.
(Only 1 valve is required to be closed.)

2.1

Operator locates LCV-112B and LCV-112C.

Note: LCV-112B & LCV-112C are in the Blender Room, which maybe a surface contamination area.

2.2 Operator engages LCV-112B or LCV-112C manual handwheel.

2.3 Operator Manually closes either LCV-112B or LCV-112C.

Step was: Sat: _____ **Unsat** _____*

2.4

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

- Initial Conditions:** A fire has occurred in the Control Room, forcing evacuation. Unit 2 has started a cooldown to cold shutdown. Unit 2 VCT level is not being maintained in AUTO
- Initiating Cue:** The Unit 2 SFM has directed you to align the Charging Pump suction to the RWST, in accordance with OP AP-8B, step 7e RNO. Breakers associated with task have been opened.
- Task Standard:** Charging Pump suction has been aligned to the RWST.

NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: LJPNRC-2
Title: LOCALLY ALIGN VITAL 4KV BUSES

Examinee:

Evaluator:

	Print	Signature	Date
Results:	Sat	Unsat	Total Time: minutes
Comments:			

References: OP AP-8A, Control Room Inaccessibility - Establishing Hot Shutdown, Rev. 10

Alternate Path: Yes No

Time Critical: Yes No

Time Allotment: 20 minutes

Critical Steps: 1,2,3,4,7,8,9

Job Designation: RO/SRO

Task Number: 062A2.11

Rating 3.7/4.1

AUTHOR: DAVE BURNS DATE: 1/16/2000

REVIEWED BY: N/A DATE: N/A
JPM COORDINATOR

APPROVED BY: N/A DATE: N/A
TRAINING LEADER

REV. 0

- Directions:** **No plant controls or equipment are to be operated during the performance of this Job Performance Measure.** All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. The examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** A fire in the vertical boards required an evacuation of the control room. Plant control was established from the Hot Shutdown Panel.
- Initiating Cue:** The Shift Foreman directs you to locally align Unit 1 Vital 4KV buses in accordance with OP AP-8A, Appendix B, steps 1 and 2.
- Task Standard:** All three vital 4KV buses energized from Startup power.

Start Time:

Step

Expected Operator Actions

1. **Operator reviews notes prior to step 1.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Operator gets Synch Key from HSDP procedure locker.

Note: Key for procedure locker is located inside the Hot Shutdown Panel - HSDP entry is not required or desired. Verbal discussion of location is adequate.

Step was: Sat: _____ Unsat _____*

1.2 2. **ALIGN Vital 4KV buses as follows:

4KV Bus F Alignment

<u>Component</u>	<u>Device</u>	<u>Position</u>
DG 13	43HF7	Local
ASW 11	43HF8	HSDP
AFW 13	43HF9	HSDP
480V 1F	43HF10	Local
CCP 11	43HF11	HSDP
CCW11	43HF12	HSDP
S/U Fdr	29HF14	Local

2.1

Transfers the following bus F component devices to the correct position:

2.2 Transfers device 43 HF7 to Local

2.3 Transfers device 43HF8 to HSDP

2.4 Transfers device 43HF9 to HSDP

2.5 Transfers device 43HF10 to Local

2.6 Transfers device 43HF11 to HSDP

2.7 Transfers device 43HF12 to HSDP

2.8 Transfers device 29HF14 to Local

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

2.9 3. **4KV Bus G Alignment

<u>Component</u>	<u>Device</u>	<u>Position</u>
D/G 12	43HG5	Local
ASW 12	43HG6	HSDP
CCP 12	43HG9	HSDP
480V 1G	43HG10	Local
PDP 13	43XHG11	11A Cutin (Control Trans Toggle)
CCW 12	43HG12	HSDP
S/U Fdr	29HG14	Local
S/U Fdr	29HG15	Local

Bus F,G,H

3.1

Transfers the following bus G component devices to the correct position:

3.2 Transfers device 43HG5 to Local

3.3 Transfers device 43HG6 to HSDP

3.4 Transfers device 43HG9 to HSDP

3.5 Transfers device 43HG10 to Local

3.6 Cuts in toggle sw 43XHG11 11A

3.7 Transfers device 43HG12 to HSDP

3.8 Transfers device 29HG14 to Local

3.9 Transfers device 29HG15 to Local

Step was: Sat: _____ Unsat _____*

3.10 4. **4KV Bus H Alignment

<u>Component</u>	<u>Device</u>	<u>Position</u>
D/G 11	43HH7	Local
AFW 12	43HH8	HSDP
480V 1H	43HH10	Local
CCW 13	43HH12	HSDP
S/U Fdr	29HH14	Local

4.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Transfers the following bus H component
devices to the correct position:

4.2 Transfers device 43HH7 to Local

4.3 Transfers device 43HH8 to HSDP

4.4 Transfers device 43HH10 to Local

4.5 Transfers device 43HH12 to HSDP

4.6 Transfers device 29HH14 to Local

Step was: Sat: _____ **Unsat** _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

4.7 5. CHECK Vital 4KV Bus F
Energized

Note: Checks that each 4KV vital bus is energized via one of the following methods:

- Three white potential lights lit on each bus's cubicle 12 locally
or
 - After synch key is cut in on cubical 14 approximately 4160V indicated on synchroscope running voltmeter locally at each bus
or
 - Approximately 4160V indicated on each bus voltmeter in HSDP
-

5.1 Checks vital bus F energized

Cue: Three white bus potential lights are lit on bus F cubicle 12

or

After synch key is cut in on bus F cubicle 14, approx. 4160V is indicated on synchroscope running voltmeter

or

Approximately 4160V is indicated on bus F voltmeter in HSDP

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

5.2 6. CHECK Vital 4KV Bus G energized

6.1

Checks vital bus G energized

Cue: Three white bus potential lights are lit on bus G cubicle 12

or

After synch key is cut in on bus G cubicle 14, approx. 4160V is indicated on synchroscope running voltmeter

or

Approximately 4160V is indicated on bus G voltmeter in HSDP

Step was: Sat: _____ Unsat _____*

6.2 7. **CHECK Vital 4KV Bus H energized

7.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Checks vital bus H and finds it deenergized

**Cue: Three white bus potential lights
are NOT lit on bus H cubicle 12**

or

**After synch key is cut in on bus H
cubicle 14, 0V is indicated on
synchroscope running voltmeter**

or

**0V is indicated on bus H voltmeter
in HSDP**

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

7.2 8. **CHECK if any 4KV bus energized from Startup

8.1

Checks S/U feeder breaker 52HF14 closed for bus F

or

Checks S/U feeder breaker 52HG14 closed for bus G

Cue: Red light is lit and green light is out for 52HF14 which shows closed

or

Red light is lit and green light is out for 52HG14 which shows closed

Step was: Sat: _____ Unsat _____*

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

8.2 9. **CLOSE Startup feeder
breaker for deenergized bus H

Inserts synch key for 52HH14 and turns to
cut in synchroscope for bus H

**Cue: Running voltmeter is 0V and
Incoming voltmeter is approx.
4160V**

9.1

9.2 Turns control sw for 52HH14 to
closed position

**Cue: Red light is lit and green light is
out for 52HH14**

9.3 Checks running voltmeter for voltage

**Cue: Both running voltmeter and
incoming voltmeter are indicating
approximately 4160V**

9.4 Cuts out synchroscope and removes
synch key

Step was: Sat: _____ Unsat _____*

9.5

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

- Initial Conditions:** A fire in the vertical boards required an evacuation of the control room. Plant control was established from the Hot Shutdown Panel.
- Initiating Cue:** The Shift Foreman directs you to locally align Unit 1 Vital 4KV buses in accordance with OP AP-8A, Appendix B, steps 1 and 2.
- Task Standard:** All three vital 4KV buses energized from Startup power.

Number: LJPNRC-3

Title: ADDITION OF WATER TO THE SPENT FUEL POOL

Examinee:

Evaluator:

Print

Signature

Date

Results: Sat Unsat Total Time: minutes

Comments:

References: OP AP-22, Spent Fuel Pool Low Level/High Temp/High Rad, Appendix A, Rev. 8

Alternate Path: Yes No X

Time Critical: Yes No X

Time Allotment: 20 minutes

Critical Steps: 3, 4, 5, 6, 7, 8, 9, 10

Job Designation: RO/SRO

Task Number: 033A2.03

Rating: 3.1/3.5

- Directions:** No plant controls or equipment are to be operated during the performance of this Job Performance Measure. All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. The examinee may be given the procedure and told the step with which to begin.
- Required Materials:** None
- Initial Conditions:** Unit 2 is in Mode 5, on RHR cooling, in preparation for a Refueling Outage. Valve misalignments have caused Unit 2 Spent Fuel Pool level to decrease. PK11-04, SPENT FUEL POOL LVL/TEMP is in alarm. Local reading indicates Unit 1 spent fuel pool level is currently at 137' and steady. The valve misalignments have been corrected.
- Initiating Cue:** You are directed by the Unit 2 Shift Foreman to make up to the Unit 2 spent fuel pool per OP AP-22, Appendix A, step 3.1, Makeup from the Refueling Water Storage Tank.
- Task Standard:** Makeup to the Spent Fuel Pool from the RWST has been initiated.

Start Time:

Step

Expected Operator Actions

1. Observes procedure NOTE prior to step 3.1.1.
-

1.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Operator reviews NOTE prior to step 3.1.1

Cue: Gravity feed only will be used to increase SFP level.

Step was: Sat: _____ Unsat _____*

1.2 2. Observes procedure
CAUTION prior to step 3.1.1.

2.1

Operator reviews CAUTION prior to step 3.1.1

Cue: RWST Operability concerns will be addressed by SFM.

Step was: Sat: _____ Unsat _____*

2.2 3. **Verify the Refueling Water Purification Pump NOT in Operation.

3.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Locates controller for RWPp or RWPp
locally and verifies pump is not
running.

Cue: RWPp is OFF.

Step was: Sat: _____ Unsat _____*

3.2

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

4. **Verify the following valves are CLOSED.

4.1

Operator locates and verifies that the following valves are closed.

- SFS-2-74, SFP Cooling inlet to RWP filter (SFP Pp Room).
- SFS-2-75, RWP Filter Outlet to LHUTs (SFP Pp Room).
- SFS-2-69, RWP Pump Discharge Crosstie to RWST (100' Pen).
- SFS-2-8775, SFP Demin Outlet to SFP Filter (100' Aux Bldg Hallway).
- SFS-2-8760, RWP Suction from SFP (SFP Pump Room).
- SFS-2-8788, RWP Pump Suction from Refueling Canal (100' FHB, SF Pool Pp Room).

Cue: All valves are closed.

Step was: Sat: _____ Unsat _____*

4.2

5. **Close SFP Pump outlet to filter.

5.1

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

Operator locates and closes SFS-2-14, SFP
Pump Outlet to Filter (100' FHB, SFP
Pp Room).

Cue: Valve is closed.

Step was: Sat: _____ Unsat _____*

5.2

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

6. **Open SFP Pit Filter Outlet to SFP.

6.1

Operator locates and opens SFS-2-19, SFP
Pump Outlet to Filter (100' FHB, SFP
Hx Room).

Cue: Valve is Open.

Step was: Sat: _____ Unsat _____*

6.2 7. **Open SFP Demin Bypass
from Purification Pp.

7.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator locates and opens SFS-2-8777A,
SFP Demin Bypass from Purification
Pp (100' Aux Filter Gallery, SFP
Resin Trap Filter Area).

Cue: Valve is Open.

Step was: Sat: _____ Unsat _____*

7.2 8. **Open RWP Pp suction
from RWST.

8.1

Operator locates and opens SFS-2-8758,
RWP Pp suction from RWST (SFP
Pp Room).

Cue: Valve is Open

Step was: Sat: _____ Unsat _____*

8.2 9. **Open SFP Resin Trap
Outlet.

9.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator locates and opens SFS-2-8775,
Open SFP Resin Trap Outlet (100'
Aux Bldg Hallway).

Cue: Valve is Open

Step was: Sat: _____ Unsat _____*

9.2 10. **Verify flow on FI 656.

10.1

Stop Time:

Total Time: (Enter total time on the cover page)

Locates FI-656 and determines flow rate to
SFP (SFP Room - Panel - 2-PM-133).

**Cue: Current flow is 70 GPM, and
greater flow is not desired.**

Step was: Sat: _____ Unsat _____*

10.2

*Denotes an entry required on the JPM cover sheet.

**Denotes a Critical Step.

- Initial Conditions:** Unit 2 is in Mode 5, on RHR cooling, in preparation for a Refueling Outage. Valve misalignments have caused Unit 2 Spent Fuel Pool level to decrease. PK11-04, SPENT FUEL POOL LVL/TEMP is in alarm. Local reading indicates Unit 1 spent fuel pool level is currently at 137' and steady. The valve misalignments have been corrected.
- Initiating Cue:** You are directed by the Unit 2 Shift Foreman to make up to the Unit 2 spent fuel pool per OP AP-22, Appendix A, step 3.1, Makeup from the Refueling Water Storage Tank.
- Task Standard:** Makeup to the Spent Fuel Pool from the RWST has been initiated.