

**ENTERGY****ENTERGY OPERATIONS INCORPORATED
ARKANSAS NUCLEAR ONE**

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TITLE: REACTOR TRIP**PROC/WORK PLAN NO.
1202.001****REV.
25****EXP. DATE
N/A****SAFETY-RELATED
☒ YES ☐ NO****CONTROLLED COPY #**

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☒ NO**

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VERIFIED BY**DATE****TIME****APPROVAL AUTHORITY:****APPROVAL DATE:**

12/20/94

REQUIRED EFFECTIVE DATE:

12-22-94

FORM TITLE:**LIST OF AFFECTED PAGES****FORM NO.
1000.006A****REV.
41**

ENTRY CONDITIONS

- An automatic Rx trip or DSS trip.
- Failure of RPS to trip the Rx upon reaching a limit listed below:
 - High power 104.9%
 - High power/pumps one pump per loop ..≥55%
OR
0 pumps in one loop ..≥0%
 - High power/imbalance/flow COLR Figure 9
 - High RCS temp ≥618 °F(T-hot)
 - High RCS press ≥2355 psig
 - Low RCS press ≤1800 psig
 - Variable low RCS press Tech Spec Figure 2.3-1
 - High RB press ≥18.7 psia
 - Turbine trip Rx power ≥43% AND Turbine is tripped
 - Both MFW pumps trip Rx power ≥9% AND both MFW pumps tripped.
- PZR level dropping <100",
AND
no indication of recovery.
- PZR level >290".
- Any MSIV closure at power.
- Either SG level <15" or >95%,
AND
no indication of recovery.
- A system degradation that requires manual Rx trip based on operator judgment.
- Abnormal Operating Procedure requirement.
- IF a system degradation occurs while shutdown, above DHR operation,
THEN perform applicable steps.

INSTRUCTIONS

1. Depress Rx Trip PB.

A. Verify all rods inserted

AND

Reactor power dropping.

2. Depress Turbine Trip PB.

A. Verify Turbine throttle and governor valves closed.

CONTINGENCY ACTIONS

A. Perform the following:

- 1) Depress CRD Power Supply Breaker Trip PBs on C03 (A-501 and B-631).
- 2) IF A-501 or B-631 fails to trip, THEN manually insert rods at C03.
 - a) Dispatch an operator to open CRD AC Power Supply breakers.
- 3) IF more than one rod fails to fully insert

OR

Rx power is not dropping, THEN perform Emergency Boration (RT 12).

A. Perform the following:

- 1) IF 125 V DC Bus D01 is de-energized as indicated by both of the following, THEN perform Loss of 125V DC (1203.036) "Loss Of Bus D01" section in conjunction with this procedure.
 - Turbine Trip Solenoid Power Available light off.
 - Breaker position indications on left side of C10 off.

INSTRUCTIONS

2. (Continued).

3. Reduce Letdown by closing Orifice Bypass (CV-1223).

4. Check adequate SCM.

5. Advise Shift Superintendent to implement Emergency Action Level Classification (1903.010).

6. Check for proper electrical response as follows:

A. Check 125V DC Bus D01 energized:

- Turbine Trip Solenoid Power Available light lit.
- Breaker position indications available on left side of C10.

B. Check Main Generator and Exciter Field breakers open.

CONTINGENCY ACTIONS

2) IF SG press is <900 psig, THEN perform the following:

a) Actuate MSLI for affected SG(s)

AND

actuate EFW

AND

verify proper actuation and control (RT 6).

b) GO TO 1202.003, "OVERCOOLING" procedure.

4. GO TO 1202.002, "LOSS OF SUBCOOLING MARGIN" procedure.

A. Perform Loss of 125V DC (1203.036) "Loss Of Bus D01" section in conjunction with this procedure.

B. Perform the following:

1) IF D01 is energized, THEN manually trip Main Generator and Exciter Field breakers.

INSTRUCTIONS

6. (Continued).

C. Check DGs off.

D. Check A3 and A4 energized (4160V buses).

CONTINGENCY ACTIONS

- 2) IF DO1 is de-energized, THEN leave Main Generator and Exciter Field breakers closed.

C. Verify SERV WTR to running DG(s) open:

DG1	DG2
CV-3806	CV-3807

D. Perform the following for de-energized bus:

- 1) IF associated bus L.O. RELAY TRIP alarm is clear on K02

AND

associated EDG is running with normal voltage and frequency (4160VAC and 60HZ), THEN attempt to reset breaker anti-pump feature by taking handswitch to PULL-TO-LOCK AND releasing:

DG1	DG2
A-308	A-408

INSTRUCTIONS

6. (Continued).

CONTINGENCY ACTIONS

- 2) IF associated EDG cannot supply ES bus

AND

associated bus L.O. RELAY TRIP alarm is clear on K02

AND

associated non-vital bus is energized, THEN attempt to close ES bus normal feeder breaker (use SYNC switch):

A3	A4
A-309	A-409

- 3) IF all 4160V buses are de-energized, THEN GO TO 1202.008, "BLACKOUT" procedure.
- 4) IF only EDG power is supplying 4160V buses, THEN GO TO 1202.007, "DEGRADED POWER" procedure.

INSTRUCTIONS

6. (Continued).

- E. Check A1 and A2 energized (4160V buses).

CONTINGENCY ACTIONS

E. Perform the following:

- 1) IF non-vital 4160V bus is needed to power required equipment

AND

associated bus L.O. RELAY TRIP alarm is clear on K02

AND

off-site voltage is normal,
THEN perform the following:

SU1	SU2
≥22KV	≥157KV

- a) IF SU1 is available, THEN energize bus from SU1 (use SYNC switch).
- (1) IF non-vital 4160V bus feeder breaker fails to close, THEN attempt to reset breaker anti-pump feature by taking handswitch to PULL-TO-LOCK AND releasing.

INSTRUCTIONS

6. (Continued).

CONTINGENCY ACTIONS

CAUTION

- The following step will result in load
• shed of non-vital 4160V buses A1 and A2.

NOTE

SU2 is considered available if all the following conditions are met:

- AUTO X-FMR energized from 500KV
- AUTO X-FMR aligned to SU2
- No Unit 2 buses aligned to SU2
- SU2 V REG 3% reduction disabled

- b) IF SU2 only is available,
THEN energize bus from SU2
(use SYNC switch).
- (1) IF non-vital 4160V bus
feeder breaker fails
to close, THEN attempt
to reset breaker
anti-pump feature by
taking handswitch to
PULL-TO-LOCK AND
releasing.
- 2) IF only EDG power is supplying
4160V buses, THEN GO TO
1202.007, "DEGRADED POWER"
procedure.

INSTRUCTIONS

7. Check OP HPI pump supplying normal Makeup and Seal Injection.

8. Check both SG levels remain ≤ 410 ".

9. Check Instrument Air Header press > 75 psig.

CONTINGENCY ACTIONS

7. Perform the following:

- A. Isolate Letdown by closing either:
Letdown Coolers Outlet (CV-1221)

OR

Letdown Cooler Outlets (CV-1214 and 1216).

- B. Restore normal Makeup and Seal Injection (RT 1).

8. Trip both MFW pumps AND perform the following:

- A. Place overfilled SG MFW Pump Turbine (K3) Steam Supply valve in MANUAL AND close:

SG A	SG B
CV-2667	CV-2617

- B. Actuate EFW AND verify proper actuation and control (RT 5).

- 1) IF all MFW and EFW is lost, THEN GO TO 1202.004, "OVERHEATING" procedure.

- C. IF SG press is < 650 psig, THEN trip all Condensate pumps.

9. IF Instrument Air Header press drops below 35 psig, THEN perform the following:

- A. Actuate MSLI and EFW AND verify proper actuation and control (RT 6).
- B. Perform Loss of Instrument Air (1203.024) "Loss of Instrument Air Pressure (≤ 35 psig)" section in conjunction with this procedure.