

S. Dock



Date
6/14/89

Unit COMMON

Georgia Power

Revision No. 6
Page No. 1 of 5

ABNORMAL OPERATING PROCEDURE

05-23-90

LOSS OF CLASS 1E ELECTRICAL SYSTEM **MANUAL SET**
No. 8

PURPOSE

This procedure addresses the loss of one train of either 4160V AC or 480V AC Class 1E Electrical System.

SYMPTOMS

- Loss of offsite power to one train of 1E Electrical System (1AA02, 1BA03, 2AA02, 2BA03) concurrent with diesel failure to tie on same train.
- Electric fault on Unit 1 Switchgear 1AA02 or 1BA03 or on Unit 2 Switchgear 2AA02 or 2BA03.
- Loss of one train of 480V Class 1E power.

ACTION/EXPECTED RESPONSERESPONSE NOT OBTAINEDIMMEDIATE OPERATOR ACTIONSCAUTION

A Diesel Generator will be operating without NSCW cooling unless the associated train of 4160V 1E power is restored.

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| 1. IF a loss of a 4160V AC bus, THEN trip the affected Diesel Generator by depressing both EMERGENCY STOP Pushbuttons. | 1. Dispatch a PEO to shut down the Diesel at the Engine Control Panel. |
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SUBSEQUENT OPERATOR ACTIONS

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| 2. Verify running or start the following unaffected Train components:

a. Two NSCW Pumps.

b. Two CCW Pumps.

c. One CCY, if PD Pump is inoperable.

d. One ACCW Pump.

e. Motor-Driven AFW Pump, if AFW System is initiated.

f. ESF Chiller. | 2. Perform the following as required:

a. Initiate 18021-C, LOSS OF NUCLEAR SERVICE COOLING WATER.

b. Initiate 18020-C, LOSS OF COMPONENT COOLING WATER.

c. Initiate 18007-C, CHEMICAL AND VOLUME CONTROL SYSTEM MALFUNCTION.

d. Initiate 18022-C, LOSS OF AUXILIARY COMPONENT COOLING WATER.

e. Verify that Turbine-Driven AFW Pump is operating

f. Restore ESF Chillers. |
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ACTION/EXPECTED RESPONSERESPONSE NOT OBTAINEDNOTE

Train B components are shown in parenthesis.

3. Verify the following unaffected Train Class 1E 480V Load Centers - Energized:

UNIT 1

- 1AB04 (1BB06)
- 1AB05 (1BB07)
- 1AB15 (1BB16)
- 1NB01 (1NB10)

UNIT 2

- 2AB04 (2BB06)
- 2AB05 (2BB07)
- 2AB15 (2BB16)
- 2NB01 (2NB10)

4. Verify the following unaffected MCCs energized by observing - No Trouble Alarms On The QEAB:

UNIT 1

- 1ABA (1BBA)
- 1ABB (1BBB)
- 1ABC (1BBC)
- 1ABD (1BBD)
- 1ABE (1BBE)
- 1ABF (1BBF)

UNIT 2

- 2ABA (2BBA)
- 2ABB (2BBB)
- 2ABC (2BBC)
- 2ABD (2BBD)
- 2ABE (2BBE)
- 2ABF (2BBF)

3. Attempt to restore power to any Load Center not energized:

- a. Check Load Center Overcurrent Relays reset.
- b. Check Load Center overcurrent lock-out relay reset.
- c. Attempt one manual reclosing of the Load Center 480V AC Feeder Breaker.

4. Dispatch an operator to attempt to restore power to any MCC not energized:

Attempt one reclosure of the 480V feeder breaker from the respective 480V Load Center.

ACTION/EXPECTED RESPONSERESPONSE NOT OBTAINED

5. Verify 125V DC Battery loads - Less Than The Following Limits:
- UNIT 1
- 1AD1B 290 amps
 - 1BD1B 290 amps
 - 1CD1B 100 amps
 - 1DD1B 80 amps
- UNIT 2
- 2AD1B 290 amps
 - 2BD1B 290 amps
 - 2CD1B 100 amps
 - 2DD1B 80 amps
6. Start one Boric Acid Transfer Pump.
7. Start one Reactor Make-up Water Pump.
8. Initiate applicable Technical Specification requirements.
9. If necessary, notify maintenance to repair faulty equipment.
5. Evaluate selective load stripping for overloaded batteries.
6. IF no Boric Acid Transfer Pump is operable AND boration is required, THEN open RWST To Charging Pump Suction Valve LV-0112D(E).
7. Verify Charging Pump suction transfers to RWST on VCT LO-LO Level.

ACTION/EXPECTED RESPONSERESPONSE NOT OBTAINED

10. Verify the fault condition cleared.
10. Return to Step 3.

NOTE

Actions in Step 11 will result in a CVI, FHBI, and CRI actuation.

If DG output breaker did not close on undervoltage bus and offsite power is available, the sequencer will need to be reset in accordance with 13427, 4160V AC 1E ELECTRICAL DISTRIBUTION.

11. Restore the affected busses as follows:
- Close normal incoming breaker by initiating 13427, 4160V AC 1E ELECTRICAL DISTRIBUTION.
 - Initiate 13429, 480V AC 1E ELECTRICAL DISTRIBUTION.
12. Initiate 13145, DIESEL GENERATORS and align the Train A(B) Diesel Generator for automatic starting.
13. Restore Train A(B) components and AFW Pumps as required by current plant conditions.
14. Return to the Unit Operating Procedure currently in effect.

END OF PROCEDURE TEXT

AL/KEN EYE

05-3-24-90

RK
25 MAR 90

25 MAR 90 DISCUSSION w/ PAUL KOCHERT (~10:30 AM)

ON 23 MAR 90 THE IB EDG WAS STARTED FOR AN 8-HR TEST. THE EDG RAN FINE FOR ~2 HRS AND THEN TRIPPED. THE TRIP ALARMS THAT CAME IN WERE LOW TACKET WATER PRESSURE AND LOW TURBO LUBE OIL PRESSURE (THESE TWO ALARMS, AND OTHERS, ~~WERE~~ ARE BELIEVED TO HAVE COME IN ON THE IA EDG TRIPS ON 20 MAR 90). THE TRIP SIGNALS WERE RESET, ^{AND} THE EDG (IB) WAS ^{THEN} RUN FOR 8 HRS WITHOUT ANY PROBLEMS.

GPC PLANS TO DO EDG IB LOGIC TESTING BEGINNING SOMETIME THIS MORNING (MAY HAVE ALREADY STARTED), AND EDG IB SEQUENCER TESTING THIS AFTERNOON. PAUL CONFIRMED THAT NO TESTING IS PLANNED FOR EDG IA UNTIL 26 MAR 90 AT THE EARLIEST. THE SEQUENCER TEST WILL BE MADE AVAILABLE ^{TO THE IIT} A PRIOR TO THE TEST. GPC WANTS TO VERIFY PROPER OPERATION FOLLOWING PART REPLACEMENT (DON'T KNOW WHICH PART). THE SEQUENCER WAS NOT ACTUATED OR INVOLVED DURING THE EDG IB TESTING ON 23 MAR 90 DISCUSSED ABOVE.

IN A PREVIOUS DISCUSSION WITH PAUL (~9:00 AM.), HE CONFIRMED THAT THE VENDOR REPS PERFORMING THE EDG IB LOGIC TESTS ARE ^{AND ARE THE} THE EXPERTS A MOST QUALIFIED TO DO THE TESTS. THE VENDOR REPS HAVE BEEN CAUTIONED CONCERNING THE NEED TO ENSURE THAT INFORMATION RELEVANT TO THE CAUSE(S) FOR THE 23 MAR 90 EDG IB TRIP IS NOT LOST BECAUSE OF THE TESTS, AND TO CAREFULLY DOCUMENT ANY INFORMATION THAT MAY BE RELEVANT TO THE CAUSE(S). ALL UNNECESSARY / UNRELATED ACTIVITIES IN THE EDG AREA HAVE BEEN STOPPED TO ALLOW THE VENDOR REPS TO PROCEED WITHOUT DISTRACTIONS.