125 VDC ELECTRICAL SYSTEM

A. PURPOSE

The purpose of this procedure is to outline the method used to place the battery charger in service, operate it normally, transferring to an alternate power source, and removing the battery charger from service on the 125 VDC electrical system.

B. REFERENCES

1. None.

C. PREREQUISITES

1. None.

D. PRECAUTIONS

1. None.

E. LIMITATIONS AND ACTIONS

1. From and after the date that one of the two 125/250 VDC battery systems is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding seven days unless such battery system is sooner made operable.

F. PROCEDURE

1. Placing the charger in service.

   a. CLOSE the 480 VAC supply breaker at MCC 29-2 (MCC 39-2) for the unit charger and MCC 28-2 (MCC 38-2) for the reserve chargers.

   b. CLOSE the A.C. breaker at the charger cabinet.

   c. CLOSE the D.C. breaker at the charger breaker.

   d. CLOSE the D.C. breaker charger to battery bus 2(3) at 125 VDC turbine building Main Bus 2(3).

2. Normal operation.

   a. The charger control will be in the FLOAT mode. Verify the battery voltage is being maintained and the charger is at 130.2 volts. Float mode is obtained by turning the timer dial on the battery charger to "float".

3. EQUALIZE mode.

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a. Equalizing battery.

(1) Verify that the electrolyte levels in the cells are between the low level and high level markers. Fill with water if low. Avoid spilling water on top of cells. If any is spilled, wipe it dry to avoid shorting cells.

(2) Turn dial on battery charger to 72 hour equalize.

(3) The charger should read 135 volts during the equalize charge.

(4) Battery is to be equalized for at least 72 hours.

(5) Give the time of start of equalizing charge to the Shift Engineer so he can record it and pass it on to the following shifts.

(6) Verify periodically the electrolyte levels.

(7) When charging current has tapered and stabilized (no further reduction for 3 hours), continue charging until there is no further increase in the lowest cell voltage. Perform this by doing the following at the end of the 66th, 67th, 68th, 69th, 70th, 71st and 72nd hours:

(a) With a voltmeter, find the lowest cell voltage and record on Attachment A.

(b) Read the charging current off the battery charger and record on Attachment A.

(8) If no changes in the readings are noted, terminate equalization. If there is a change, continue steps in 3.a.(7) until no change is found.

(a) Terminate equalizing by turning equalizing timer dial to zero.

b. Place the charger in the EQUALIZE mode for the conditions listed below.

(1) The temperature corrected specific gravity of any cell is less than 1.205. (10 points below full charge value).

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(2) When any cell has a voltage less than 2.13 volts. (.04 volts below nominal voltage of 2.17 volts).

(3) When the battery has received an emergency discharge lasting 15 minutes or more.

(4) Before a battery discharge test.

(5) Monthly, regardless of the conditions outlined above.

4. Transfer of 125 VDC reactor building MCC to alternate source.

a. OPEN breaker A-2 (Turbine Building 125 VDC MCC to Reactor Buildin 125 VDC MCC) and tag it OUT-OF-SERVICE.

b. Verify breaker E-2 (reserve Turbine Building 125 VDC MCC to Reactor Building 125 VDC MCC)is open, and tag it OUT-OF-SERVICE.

c. Remove the copper links from their present location and insert them in the alternate feed location.

d. Remove the OUT-OF-SERVICE cards and CLOSE the breaker E-2 (reserve Turbine building 125 VDC MCC to Reactor Building 125 MCC).

5. Removing a charger from service.

a. Verify another charger is connected to the battery bus.

b. OPEN the CHARGER TO BATTERY BUS breaker at the 125 VDC turbine building Main Bus 2(3).

c. OPEN the charger D.C. breaker.

d. OPEN the charger A.C. breaker.

e. OPEN the charger supply breaker at the 480 VAC MCC (MCC 29-2 Chgr #2, MCC 39-2 Chgr #3, MCC 28-2 Chgr #2A, MCC 38-2 Chgr #3A).

f. Rack out the breaker and place OUT-OF-SERVICE cards as required.

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6. Transfer of turbine building reserve bus.

   a. Normally each units reserve bus is supplied by the other units main bus. This provides reliability for control power. If it becomes necessary to transfer the power supply on a bus, the following procedure will be used to ensure continuity of control power:

      (1) CLOSE the Unit 2(3) Reserve Bus Feed from Unit 2(3) at the Unit 2(3) Main Bus 2(3).

      (2) OPEN the Unit 3(2) Main Bus Supply to Unit 2(3) Reserve Bus at the Unit 3(2) Main Bus 3(2).

G. CHECKLISTS

1. Checklist A.

H. TECHNICAL SPECIFICATION REFERENCES

1. Section 3.9.

2. Section 4.9.

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CHECKLIST A

HOUR	LOWEST CELL VOLTAGE	CHARGING CURRENT
66		
67		
68		
69		
70		
71		
72		

Date _____

Unit _____

Battery _____

Operator _____

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