



Rick Hance
Engineering Note

Date: 8/22/2002
Rev Date: 11/06/2002

Project: Dzero General Support
Doc. No: H080222A

Subject: Procedure to Change BLS Power Supply

Manpower Required: Three people, two of which are "helpers" which will carry and manipulate the power supplies; and one of which will disconnect and reconnect the cables, water hoses, and power cord. NOTE: These power supplies weigh 120 pounds. Only strong, physically fit, healthy "helpers" that can lift and maneuver with this much weight must participate. Equipment damage and/or serious long term back and arm injury is possible. At least one of the individuals must be an Operations Tech or another person familiar with maneuvering these supplies in and out of the detector.

Personal Protective Equipment Required:

- Leather gloves for helpers.
- Steel toe shoes for helpers.
- Safety glasses for person handling the water hoses and cables (stuck disconnect may cause high-pressure water spray).

Tools Required:

- Flashlight
- Phillips and standard head screwdriver
- (2) disconnect fitting plugs for water hoses (kept with spare supplies)
- Kimwipes & bucket or container to catch cooling water if necessary

Procedure:

1. If the bad BLS supply is on the center platform (center platform only!), first notify the SMT shifter or on-call person to turn off their supplies (IB + sequencer) on the appropriate side (North or South) to avoid an inadvertent SMT trip during the repair. Then notify the CFT shifter also because turning off the sequencer supply affects their apparatus.
2. There are two spare power supplies kept in the collision hall at all times. One is on the east side under the stairs, and one is in the southwest corner under the stairs. Have the helpers maneuver the appropriate spare supply into position for the swap.
3. Locate and turn off the circuit breaker for the bad supply on the AC distribution box located at the bottom the rack.
4. Remove the rear door of the rack.
5. Locate and disconnect the AC cord from the bad supply at the distribution box.
6. Locate and disconnect the water hose "quick-connects" that feed each side of the power supply. Do not allow the hose fittings to drip or spray on equipment - use the fitting plugs if necessary to abate leaks.
7. Push the supply out 5 inches and then disconnect all cables from the power supply. Be sure and remove the BNC cable also.
8. Remove the white "personality plug" from upper center rear of the power supply. This will be reinstalled on the replacement.
9. Have the helpers remove the power supply while guiding the power cord out.
10. Have the helpers insert the replacement supply while guiding the power cord in.
11. Reinstall the "personality plug".
12. Reinstall all cables to the power supply.
13. Reconnect the water lines and check carefully for leaks.
14. Reconnect the AC cord.
15. Clean up any traces of water in rear of rack.
16. Reset any "tripped" RMIs in adjacent racks.
17. Turn on the circuit breaker for the power supply on the AC distribution box.
18. Turn on the power supply main switch on the front of the power supply.
19. "Reset" the power supply on the front panel.
20. Set the power supply "Local/Remote" switch on the front panel to "Remote".
21. Reinstall the rear door and close up the rack.
22. Contact Calorimeter Shifter in the control room to verify that the power supply is "Ok".
23. Tag the removed supply as "bad" and place it back in "spare location".
24. Notify the Electrical Operations Group (Mike Cherry / Tom Regan / Rick Hance) so they can remove and replenish the spare.