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C-A OPERATIONS PROCEDURES MANUAL

15.1.3 Procedure for Working in the BBLR Power Supply Rack

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Hand Processed Changes

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 Collider-Accelerator Department Chairman Date

W. Eng

15.1.3 Procedure for Working in the BBLR Power Supply Rack

1. Purpose

To provide instructions for ensuring that the energy stored in the filter capacitor is discharged before working on the power supplies.

2. Responsibilities

Pulsed Power System personnel are responsible for executing this procedure.

3. Prerequisites

All work must be planned. See [C-AD OPM 2.28](#).

4. Precautions

4.1 All personnel working on any electrical system or equipment in the C-AD shall be familiar with BNL [SBMS Electrical Safety](#), BNL [SBMS Lockout/Tagout \(LO/TO\)](#), [C-A-OPM 1.5, "Electrical Safety Implementation Plan"](#), [C-A-OPM 1.5.3 "Procedure to Open or Close Breakers and Switches and Connecting/Disconnecting Plugs"](#), [C-A-OPM 2.36, "Lockout/Tagout for Control of Hazardous Energy"](#). C-AD will provide on-site/work specific training to individuals in the electrical safety aspects of their job functions and assignments.

4.2 Adhere to all postings and wear proper PPE while performing work.

5. Procedure

5.1 The BBLR power supply has a 2600F 2.7V capacitor connected at its output terminals. The capacitor has a 1 ohm bleeder resistor connected across it and is housed in a capacitor cabinet.

5.2 After applying general LOTO to the power supply rack, verify that the filter capacitor is discharged as follow:

5.2.1 Connect a digital Fluke VOM to the power supply capacitor cabinet test points (labeled capacitor voltage) on the front panel.

5.2.2 Check that the test point voltage drops to < 80 mV. If necessary, switch the voltage range to 300 mV to get an accurate reading.

5.2.3 Confirm that the capacitor has been discharge to < 80 mV by checking the voltage across the power supply output terminals.

5.3 If you have to work inside the capacitor cabinet, perform the above steps and the following:

5.3.1 Open the cabinet drawer.

5.3.2 Put on face shield, fire retardant clothing, and gloves.

5.3.3 Check that the voltage across the capacitor is < 80 mV and put a short across it.

Note 1:

There are two terminals inside the cabinet drawer marked “Shorting Terminals” for this purpose.

Note 2:

The short across the terminals must be removed when work is completed.

6. Documentation

None

7. References

7.1 [C-A-OPM 1.5, “Electrical Safety Implementation Plan”](#).

7.2 [C-A-OPM 1.5.3 “Procedure to Open or Close Breakers and Switches and Connecting/Disconnecting Plugs”](#).

7.3 [C-A-OPM 2.36, “Lockout/Tagout for Control of Hazardous Energy”](#).

7.4 [SBMS Electrical Safety](#).

7.5 [SBMS Lockout/Tagout \(LOTO\)](#).

8. Attachments

None