Purpose

This document defines the procedure for removing AC power and discharging electrical hazards from the above equipment. This procedure is NOT a SLAC lock and tag procedure. The red lock and tag padlock may not be used. This lockout is to protect personnel from “startle” hazard. This hazard can occur when personnel are working on the following equipment:

1. The rear endplate high voltage printed circuit boards and wiring.
2. Any time when the power supply or filter chassis is disconnected.
3. The forward end when the endplate covers are removed.

Scope

The document will locate the appropriate controls for lock out of the equipment.

Distribution

(1) copy BaBar Safety web page Master File
(1) copy IR-2 control room
(1) copy posted at equipment

Note: Please check for the latest changes before using this procedure.
General Description
The BaBar Drift Chamber uses one high voltage power supply mainframe and one filter chassis, that delivers 350, 900 and 2,000 volts at 40 micro-amperes to the sense and field wire in drift chamber volume. The power supply and the filter chassis are located in the IR 2 electronics building, B620B, rack 11. The cables deliver the voltage to the rear end plate bulkhead. Lockout is required when personnel service the power supply, cabling, the rear end plate distribution printed circuit boards or when the forward endplate covers are removed.

Manufacturer
High voltage mainframe - CAEN.
Filter chassis - SLAC

Equipment Number
• Model SY527
• 350-707-50

Location of Equipment Evaluated
• High voltage mainframe - IR-2, B620B, RK 11, ELEVATION 26
• Filter chassis - IR-2, B620B, RK 11, mounted on rear, ELEVATION 20
II. Operator Controls

• Computer Control System (Remote) - N/A
• equipment control (Local)
• power - 110VAC power cord plugged into the quad 110VAC distribution box which is located in the rear of rack 11 in building B620B.

NOTIFY ALL AFFECTED EMPLOYEES WHEN THIS PROCEDURE IS IN APPLICATION.
Energy Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>115 V AC, 1 Ø</td>
</tr>
<tr>
<td>Steam</td>
<td>N/A</td>
</tr>
<tr>
<td>Hydraulic</td>
<td>N/A</td>
</tr>
<tr>
<td>Pneumatic</td>
<td>N/A</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
</tr>
<tr>
<td>Stored Energy</td>
<td>Filter capacitors</td>
</tr>
</tbody>
</table>

1
Sources and Location: The power supply has front panel key switch.

Lockable (Y/N): NO

2
Sources and Location: The power source is the 110VAC power cord which is plugged into the quad power distribution box mounted in the rear of rack 11.

Lockable (Y/N): YES
Lock or Control Device: Lock-A-Plug, 110V, Bradey CAT# 65674, SLAC stores # 42-301-001-01. This device must be painted red.

NOTIFY ALL AFFECTED EMPLOYEES WHEN THIS PROCEDURE IS IN APPLICATION.

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Equipment Administrative Lockout Procedures

IV. Shutdown Procedures - ELP/4

1
Action Step: Turn off the key on front panel of power supply.
Lock Type and Location: N/A
Verify De-energized State: YES
How: Observe that the equipment goes off by observing the front panel LCD display clears and that the red light located on the rear of the CAEN SY527 goes out. The red light will take about a minute to go out which is the time required for the system to discharge.

2
Action Step: Remove the CAEN SY527 chassis 100VAC power plug from the quad power distribution box mounted in the rear of rack 11.
Lock Type and Location: Attach the Yellow Plug Hugger the power plug. Add lockout tag to plug.
Verify De-energized State: yes
How: Turn the front panel key to local. Verify the equipment did not turn on by observing the front panel LCD display does not display after a minute. Turn the power supply front panel key off.

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1
Action Step: Clear tools and personnel and secure barriers.

2
Action Step: Secure equipment for operating. Insure that the all protection covers are properly installed.
Energy Source Activated: N/A

3
Action Step: Remove Plug Hugger, and tag from power plug.
Energy Source Activated: Turn the key switch on which is located on the power supply mainframe front panel.

4
Action Step: Power up equipment
Energy Source Activated: N/A

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Equipment Administrative Lockout Procedures

VI. Affected and Authorized Employees - ELP/6

- Technicians
- Engineers
- Physicists

NOTIFY ALL AFFECTED EMPLOYEES WHEN THIS PROCEDURE IS IN APPLICATION.