10 Drift Chamber Electrical Safety

The sense wires of the drift chamber are normally operated at 1960V. The current limit per HV channel is 40µA and the maximum stored energy per superlayer is 0.15 J. With these features, the HV is not considered to be dangerous. However, since it can be a “startle” hazard the supply is locked-off during work on the HV distribution boards or on the HV lines. The procedure, which is not a lock-and-tag, is available from the DCh safety web site.

The power supply for the front-end electronics produces 300A of current. It is shut off using a lock-and-tag procedure to allow work on the supply itself. The procedure is available from the web site and is posted near the supply itself.

Additional details concerning the electrical safety of the drift chamber are available in “Safety Considerations for the Drift Chamber HV System”, D. Coupal, TNDC–99–96.