4/9/2002

CDF Preliminary Hazard Assessment for Run IIb

CDF Hazard Assessment of SVX2B

1. Mechanical System – This represents the new detector, and the parts within the tracking volume.
   a. Mechanical Hazards: The system will cost over $100,000. This hazard will be handled procedurally. That is, procedures will be implemented to assure safe handling of the detector and its components during construction and installation.
   b. Fire Hazards: There will be cables and epoxy used in the construction. A review of cable specifications will be made before purchase or installation of cables.
   c. Toxic Materials: The beam pipe will be made of beryllium. No machining of beryllium will be performed at Fermilab. All beryllium will be passivated, and handled only by people trained in beryllium handling procedures.
2. Power Supply – This represents the power supplies used to provide bias voltage to the silicon sensors.
   a. Mechanical Hazards: The system will cost over $100,000. This will be mounted in the existing relay racks, and will be protected by the collision hall safety systems.
   b. Fire Hazards: The system will contain standard electrical components. The system will be commercially built, and will be fused to prevent overheating.
   c. Toxic Materials: Standard materials used in circuit board construction will be present. As above, the fire and mechanical protection will assure the integrity of the supplies.
3. Cabling – This covers the front end cables, that connect the detector to the data acquisition and power supplies.
   a. Electrical Hazards: Both high current and high voltage will be carried in these cables. A cable and electrical review will assure that the cables cannot be driven at to high a voltage or current.
   b. Fire Hazards: Cables will be bundled in large quantities. The load limits (above) and collision hall fire detection system will protect against fire.
   c. Toxic Materials: Standard materials used in cable construction will be present. . As above, the fire and electrical protection will assure the integrity of the cables.

CDF Hazard Assessment of CPR2B

1. Detector System – This represents the detector elements, located on the calorimeter front face.
   a. Mechanical Hazards: The system will cost over $100,000. This hazard will be handled procedurally. That is, procedures will be implemented to assure safe handling of the detector and its components during construction and installation.
   b. Fire Hazards/Toxic materials: Approximately 500 kg of scintillator will be contained in the system. No electrical apparatus operates on the scintillator. The collision hall fire protection system will monitor this system.
2. Phototube enclosures – These are the boxes that hold the phototubes, and are mounted on the back sides of the calorimeter wedges.
   a. Mechanical Hazards: The system will cost over $100,000. . This hazard will be handled procedurally. That is, procedures will be implemented to assure safe handling of the detector and its components during construction and installation.
   b. Electrical Hazards: High voltage will be present within the enclosure. Connections and cabling will be reviewed to control the hazards. Proper procedures will be implemented for operations, such as lock out-tag out procedures for sources of high voltage.