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Addendum to Experimental Safety Assessment Document for the $PrimEx$ run

1 Running Conditions

The Hall B *PrimEx* Collaboration is scheduled to receive beam between September 17 and November 19, 2004. The experiment will perform a high precision ($\sim 1\%$) measurement of the lifetime of the neutral pi meson. The energy of the electron beam will be 5.75 GeV, the beam current for production running ~ 50 nA, and a photon radiator of thickness 10^{-4} radiation lengths will be used. Several targets will be placed in the photon beam. The targets for production running will be tin, lead, and carbon, each of thickness 5% radiation lengths. In addition, a 1% radiation length carbon target as well as two beryllium targets of thicknesses 0.5% and 0.1% will be employed for test purposes. These targets will be located approximately $15m$ upstream of CLAS center. The CLAS will not be used for this experiment. A new multichannel calorimeter, the *HYCAL*, will be located approximately $7.4m$ (run configuration) or $8.7m$ (calibration configuration) upstream of the center of the CLAS. It consists of 1700 lead glass and lead tungstate detector modules, each with photomultiplier tubes. Each module is supplied with high voltage and is equipped with readout of dynode and anode signals. In addition, an LED based light monitoring system is used to deliver a pulse of light to each module via a fiber optic cable. There will be a charged particle veto detector consisting of 12 plastic scintillator paddles, each with two photomultiplier tubes at opposite ends. The *HYCAL* will sit in two positions along the beamline. In the "run" configuration *HYCAL* will sit on a stationary cart, and in the "calibration" configuration it will be mounted on a transporter which will enable motion in the horizontal and vertical directions. The detector has overall dimensions of $1.5m \times 1.5m$ and will be centered on the beamline during production data taking. A $4cm \times 4cm$ hole at the center of the detector will allow the passage of the primary photon beam to the beam dump. The Hall B pair spectrometer will be used, with a new helium bag placed between its exit vacuum window and the HYCAL. Additionally, a Total Absorption Counter (TAC) and a scintillating fiber beam position monitor will be placed approximately $1m$ downstream of the *HYCAL* (when it is in run position). These will be placed on a common cart which has the capability of moving them in and out of the photon beam with horizontal motion. This experiment requires a standard operation condition for the photon tagging system.

The major new safety considerations for this experiment involve the remotely operated motion of the *HYCAL* and the large number of new high voltage channels. Detailed descriptions of these systems are given in the *PrimEx* Conduct of Operations manual.