

PROJECT DESCRIPTION (March, 2002)

MI-31 Recycler Electron Cooling Enclosure

The MI-31 Enclosure project is comprised of the construction of a new 4,000 square foot building to the south of the existing MI-30 service building in the Main Injector complex. The new enclosure will consist of a high bay area, a control room and a tunnel, connecting the high bay to the MI/Recycler tunnel. Also part of this project is the installation of steel shielding blocks in the connecting tunnel so as to allow personnel to occupy the enclosure while the Main Injector complex is operating. The enclosure will house the equipment for the electron cooling project. The required equipment consists of a 5 MeV electron accelerator, beamlines, an outside SF₆ gas storage tank, and various other components needed to deliver the electron beam to the MI/Recycler tunnel and to return it back to the Pelletron for energy recovery. Most of the equipment has already been procured on Equipment and M&S funds prior to this project as part of the R&D effort and will be relocated from the WideBand target hall to the MI-31 enclosure. At the time of writing this document some of the beamline components are still in the R&D stage. The procurement of the remaining equipment, the disassembly of the R&D prototype at the WideBand hall, and the installation of all components at MI-31 are not part of this project.