

Hall A Summer Down

June 9 - Oct 23

Activities

Cryo-target removal

BigBite detectors reconfiguration

Magnet repairs

RICH detector assembly and installation

Installation of new Electron Detector for the Compton
Polarimeter

Reconfiguration of Left Detector Stack

Polarized Helium-3 target installation

Miscellaneous Tasks

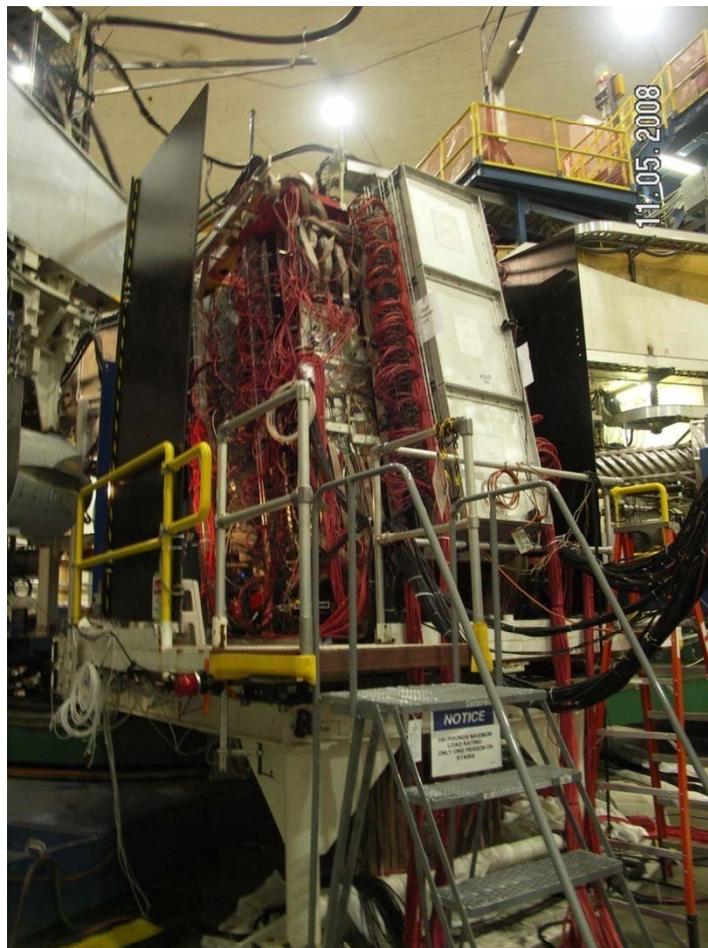
Cryo-target Removal

- Shutdown and remove all cryogenics
- Bleed up to atmospheric pressure
- Dismantle and store the vacuum chamber and target

BigBite Detectors Reconfiguration

- Remove BB electron detector stack from platform
- Move 2 wire chambers from BB hadron stack to the BB electron stack
- Remove and re-install Freon gas cherenkov counter, after re-work
- Re-install the BB electron stack
- Add assorted DAQ elements

BigBite Electron Detector Stack



Magnet Repairs

- To plug some helium leaks and do some maintenance of power supplies
- Repairs went smoothly
- Cooldown erratic
- One temperature sense lead lost on Left Q1 during cooldown
- Assorted issues with bringing cryogenics back online

RICH Detector Assembly and Installation

- RICH detector shipped from Rome
- Re-assembled clean tent and glove box
- One broken wire during testing
- Installation and refurbishment of liquid freon system and methane gas system

Installation of New Electron Detector for the Compton Polarimeter

- Removal of old electron detector for the Compton Polarimeter
- Installation of new detector, cabling, and DAQ
- There was a problem with every single piece
- Eventually installed. Still DAQ issues

Compton Polarimeter Electron and Photon Detectors



Reconfiguration of Left Detector Stack

- Removal of two Straw Tube Wire Chambers and Gas Cherenkov
- Installation of Aerogel counter, RICH (with freon, methane, control, and DAQ systems), and re-installation of Gas Cherenkov

Installation of Polarized Helium-3 Target

- Installation of coils, platforms, optics, target, fibers for lasers, enclosure, lasers, controls

Polarized Helium-3 Target



Installation of coils, platforms, optics, target, fibers
for lasers, enclosure, lasers, controls and interlocks
Thomas Jefferson National Accelerator Facility

Miscellaneous Tasks

- Installation of parasitic tests (PVDIS DAQ test, GEM test)
- Numerous instrumentation repairs and maintenance (DAQ, Slow Controls, cryogenic controls)
- Installation of Aerogel counter, RICH (with freon, methane, control, and DAQ systems), and re-installation of Gas Cherenkov

Lessons Learned

- All installation dimensions need to be taken from a known, and verified, datum (i.e. 0,0,0 at the Hall A target). Prior to design these dimensions must be checked with existing drawings to prevent propagation of errors in new drawings.
- Lock down the designs and limit the number of last minute changes by requiring approval from one single person who has overall responsibility for the entire project.
- FREQUENT coordination meetings are a necessity before and during a long down. Outside groups need to be invited to these meetings.
- Better communication is needed with outside groups. The needs of outside groups has to be taken into consideration if we expect their support.

Lessons Learned

- We need to do a better job of ensuring that users have the training they might require in order to do the tasks during the installation and the experiment. Lack of training will prevent them from being able to do the necessary tasks.
- Schedule extra time to deal with unanticipated errors and changes. Schedule delays snowball when the schedule is too tight.
- The last minute flurry of activity to meet a “hard” schedule deadline is an environment rife with potential for accidents and injuries. Extra vigilance is required of personnel at these times.