

Lab Status/ AEM Meeting Notes

Monday April 17, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confId=14237>

Incidents:

- An AD employee suffered a laceration to his left fifth finger when he was startled by a discharging capacitor, recoiled and hit his finger on a bus bar behind him. First aid only. But the incident is ORPS SC3 - Hazardous Electrical Energy Control. Investigation underway.

Accelerator Operations:

- All machines running; working on various small problems.
- SY interrupted Sunday due to MI52 septa B broken wire. Replace Mon -Wed.
- NuMI: 1.71E19 POT.
- BNB: 0.97E19 POT.
- 130 hours of beam to SeaQuest, 76 hours to MTest, 114 hours to MCenter for LArIAT.
- One-day maintenance downtime planned for late April. Good progress on opportunistic Interlock safety system tests.
- Future schedule: <http://www-ad.fnal.gov/ops/schedule.html>
- PIP-II Injector test: Installations and studies ongoing. Install more of MEBT.
- FAST: 300 MeV beamline upgrade continues.
- CMTS1: LCLS-II proto-type CM arrived last Tuesday. Cool down last week of April.

MicroBooNE:

- DAQ uptime 97% for the week.
- POT delivered: 9.6E18, recorded: 9.3E18.
- Computing: Job success rate 92%; CPU eff 75%.
- Taking test runs for a heavy sterile neutrino search trigger.

MINERvA:

- Uptime 97.1%, with MINOS ND 83.9%; POT delivered = 1.76E19 (March 23-29).
- Computing job success rate 92%, overall CPU efficiency 69%, low due to MINOS DB not being able to handle too many jobs.
- Removed the roof and replaced an unresponsive FEB.
- MINOS magnet tripped a couple of times. Investigating.

NOvA:

- POT-weighted Uptimes: 99.2% for FD and 99% for ND (Last 8 weeks)
- FD: Identified missing DB entries. POT fraction 0.5% better than previously reported.
- Computing: job success rate 72%, CPU efficiency 89%.

SeaQuest:

- Taking good data with liquid targets and Iron, and an empty target.

g-2:

- Walkthroughs completed last week; ready for ORC.
- Successful pump down; vacuum holding for 4 days and counting.
- Detectors (calorimeters, tracking modules) partially installed.
- Kicker pulsing at full power; noise scans under vacuum.
- Preparing for beam in early May.

PPD Operations:

- No report.

ND Operations:

- DUNE:
 - o DUNE-US continues to monitor obligation plans through the balance of FY17 in various CR or appropriation scenarios. Full contingency plans will need to be implemented May 1 if the CR continues beyond April 28.
 - o DUNE management continues to assess schedule impacts based on projected APA delivery dates to CERN.
 - o U-plane winding is complete on APA #1.
 - o Preparing for the May collaboration meeting at Fermilab.
 - o LArIAT began taking data to collect an electron-enriched sample for dE/dx comparisons at 5mm wire pitch.
- SBN:
 - o Still waiting the signing of the CERN-DOE neutrino protocol addendum. CERN requested that the signing be simultaneous with the two addenda concerning LHC accelerator and detector work. SBN is concerned that this could delay completion and impact the schedule for technicians from CERN, scheduled to arrive on May 1.
 - o CERN is in final negotiations on the shipping contract for the ICARUS vessels. Expectation is that the vessels will be shipped in mid-May with delivery to Fermilab in mid-June. One prospective subcontractor for the delivery to Fermilab to meet with FESS and SBN on April 17.
 - o Significant progress made on the SBND TPC work.
 - o Preparation for ICARUS installation work progressing at the FD building and with cosmic ray trigger panels work in the Wideband Lab.

LBNF Project:

- No update.

TD Operations:

- R&D- Vertical Test (VT):
 - o Cryogenic tests to study effect of low RRR material on surface resistance and magnetic flux trapping; Material Science Lab (MSL): SIMS and PPMS studies ongoing; Dilution Fridge for Quantum Computing Procurement moving forward.
- LCLS-II:
 - o Cryomodule 2 moved to CMTF; CM 3, 4, 5 moving forward, CM 6 has 5 cavities qualified.
 - o SPQA104 shipped to Jefferson Lab. Repair of LCLS-II magnet SPQA105 completed, preparations for cryogenic tests, good progress on the second top head fabrication for Stand 3.
- PIP-II:
 - o Successful P2MAC review; cavity studies moving forward; issues at MDB/LAB2.
 - o Medium Energy Beam Transport (MEBT) triplets received from India (BARC), assembled on the stands, one triplet is ready for magnetic measurements.
- Mu2e:
 - o Making steady progress on the TS coil module test facility. Completed cryo piping connections, insulation, and electrical instrumentation of Transport Solenoid prototype on dished head #A, for installation into cryostat next week. The SC lab measured the critical current (I_c) of two cable samples for DS solenoid as part of the QA program.
 - o Preparation for the first coil epoxy impregnation for the Muon g-2 EDWA magnet (spare) is in progress.
- g-2:
 - o Inflector parts prepared for winding, tooling is finalized; the delivery of the NbTi shield material from Japan to Fermilab is being discussed.
- LARP:
 - o Vacuum epoxy impregnation of the first 4.2-m, production length coil, QXFA101 is complete. Completed load testing of the new LARP Top Plate assembly, started mechanical and electrical integration for testing of the LARP 2-m long magnet MQXFS1c.
- 15T Dipole R&D:
 - o Conceptual design studies of 15-16 T dipoles continue – first results on stress management in cos-theta coils were presented at the US Magnet Development Program (MDP)-FCC-EuroCirCol video meeting. Layer 3 winding completed in the first coil.
- Infrastructure:
 - o Removing old Tevatron equipment, feeder cables for TeV test stand power system were disconnected.

- Cryogenic Sector:
 - o Requested meeting with PPD senior management to finalize cryogenic expertise consolidation by the end of FY17.
- Operations:
 - o Shutting down MTA cryogenic system at the end of April, 2017
 - o NML and CMTF are being prepared for cooldown
 - o VCTF is operational
- Projects:
 - o LCLS- II Cryogenic Distribution System
 - o Infrastructure upgrades
 - o Dilution refrigerator procurement

Computing Operations:

CCD:

- Very good week.
- TD & ND lost 7 hours waiting for engineering licenses.

SCD:

- FIFE: Starting draining of affected nodes for network maintenance.
- CMS : Production still light. NOvA and MicroBooNE capitalizing on available slots.

Office of Communication:

- No news.

Directorate:

- No report.