

## Lab Status/ AEM Meeting Notes

Monday June 19, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confid=14747>

### Incidents:

- A TD employee cut his left 5th finger while using a scalpel to remove Teflon tape from a clamp. The employee had been wearing cut resistant gloves, but removed them to make a measurement and forgot to put the gloves back on. The laceration required 8 sutures. Recordable.

### Accelerator Operations:

- Laser notcher commissioning in preAcc. Einzel lens study.
- Linac running well: Booster has ongoing tuning. MI/RR had RF issues late last week.
- NuMI: 1.65E19 POT; BNB: 0.604E19 POT.
- 136 hours of beam to SeaQuest, 32.6 hours to MTest, MCenter (LArIAT) off for most of the week.
- Muon Campus commissioning: delivered increased beam intensity  $\sim 4.32e16$  pph.
- May need dedicated machine study time before shutdown, including NuMI target scan.
- 2017 Shutdown Planning: ComEd driven power outages (see slides/calendar).
- Future schedule: <http://www-ad.fnal.gov/ops/schedule.html>
- PIP-II Injector test: Studies and commissioning.
- FAST: Investigating 300 MeV beamline quad flow meter issue. 50 MeV beamline checkout in progress.
- CMTS1: LCLS-II proto-type CM03 undergoing test. At 2K.

### MicroBooNE:

- 98% uptime. POT delivered: 0.49E19, recorded: 0.48E19.
- The resistive wall monitor experienced instabilities associated with change in the Linac laser notcher switch.
- Computing: Job success rate 82%; CPU eff 31%.

### MINERvA:

- Uptime 95.4%, with MINOS ND 94.7%.
- Computing job success rate 93%, CPU eff. 51%.
- Improved database access efficiency and hence CPU efficiency by improving the query.

### NOvA:

- POT-weighted Uptimes: 97.9% for FD and 99.5% for ND
- Unusual number of DAQ software crashes; cause not known. Rebooted all nodes.
- Computing: job success rate 55%, CPU eff. 56%. Working on both issues.
- One paper accepted in PRL; one submitted to PRD Rapid Communications.

### SeaQuest:

- Taking good data with solid targets and liquid hydrogen.
- Station-1 chamber not being used for physics. Flowing new gas and testing soon. Station 0 used for physics.

**g-2:**

- Continuing optimization of muon storage efficiency by tuning inflector, kicker and quadrupoles settings with beam. Magnet on for more than 7 days. ~70% magnet and inflector uptime. ~60% DAQ uptime. Collected data for over 100 hours.
- Coherent betatron oscillations vs quadrupole voltage and vs kicker current measured.
- First complete B-field map since vacuum chamber installation. Large perturbation in the inflector region needs more investigation. Vacuum gauges installed near quadrupoles. Vacuum gas changes to Ar/Ethane.
- Optimization to continue next week to improve vacuum in the storage ring, increase transmission through inflector, reduce radial magnetic field etc.

**PPD Operations:**

- Mu2e
  - o This is a big week for Mu2e. Also collaboration meeting this week.
  - o General Atomics is starting to wind the model coil. Completed 1 layer with PS conductor.
  - o Tracker Prototype Panel v2.5 vacuum test starting today (6/19/17)
  - o Calorimeter CsI and SiPM Construction Readiness Review (6/19/17) (TODAY!)
  - o Heat and Radiation Shield bronze casting/forging procurement is finally posted on FedBizOps.
  - o Continuing to prepare for the end of July DOE Independent Project Review.

**ND Operations:**

- ICARUS
  - o ICARUS cold vessels left CERN on June 12. Transferred from trucks to barges in Basel, Switzerland, on Friday. On Sunday June 18, vessels arrived at the Antwerp port in Belgium for transfer to an ocean vessel.
- SBND
  - o Good progress for CRT bottom module assembly/installation in SBN ND building.
- DUNE
  - o Preparations continue for spark/streamer chamber test in Blanche.
  - o Preparations also underway for near-infrared tests at the NIR cryostat in PAB.
- LAr R&D
  - o LArIAT had problem with cathode wires shorting. Emptying cryostat. Plan to open up and fix problems this week and close up by the end of the week to refill and start data-taking ASAP.

**LBNF Project:**

- No report.

**TD Operations:**

- SRF Sector
  - o LCLS-II: CM03-07 in various stages of assembly and testing. CM02 being prepared for shipping. CM03 undergoing testing at CMTF1.
- Cryo Sector Operations
  - o IB1 cryo plant (which had been warmed up to 300K) is now cold and ready for magnet tests.

- Magnet Sector
  - o LCLS-II: SPQA107 cold test complete. SPQA108 warm alignment performed.
  - o LARP: CD1 Director's review last week was a success! Coil fabrication for the full length prototype magnet is in progress.
  - o Mu2e: HAB test stand checkout and preparation for acceptance testing with TS prototype.
  - o g-2: Practically ready to wind the outer coil of the inflector.

**Computing Operations:**

CCD:

- Pretty good week.
- There was a short team center outage due to virus scanning issue.
- Brief issue with ServiceNow not accepting email inputs due to site infrastructure change.
- CMS hits a new record for network utilization, 250 Gb/s.

SCD:

- Good week.
- IF jobs continue to effectively use empty slots.
- One server node went down inducing job submission failures Saturday midnight; fixed Monday morning.

**Office of Communication:**

- 50<sup>th</sup> birthday bash at the Lab went well. 1000 people showed up for the group photo.
- Save the day notes have been sent out VIP guests for the LBNF/DUNE groundbreaking ceremony on July 21<sup>st</sup> in South Dakota.

**Directorate:**

- No report.