

## Lab Status / AEM Meeting Notes

Monday November 13, 2017

<https://indico.fnal.gov/event/15744/>

### Incidents:

- None reported.

### Accelerator:

- NuMI: 1.74E15 POT
- BNB: 1.10E19 POT.
- MTEST: 25.1 hours.
- Booster tuning continues. MI/RR startup studies, RR beam scrubbing, Quad moves.
- NuMI: Target scans completed.
- SY120: Beam established.
- Muon: Tunnel work wrapping up.
- PIP-II Injector test: Performed 24 hr run – 10mA high power operation, 5ms pulse at 20Hz. Two-week shutdown planned for Nov. 13.
- FAST: Commissioning 300 MeV beamline. 258MeV electron beam through SRF linac, exceeding 150MeV IOTA injection energy milestone.
- LCLSII Prototype Cryo Module: F1.3-06 testing complete. Warmup in progress.
- Schedule: <http://www-ad.fnal.gov/ops/schedule.html>

### MicroBooNE:

- POT weighted uptime: 91%.
- Stable physics running with 70kV HV.
- Router failed Tuesday. DAQ failed Wednesday after router replaced – multi casting not new router default.
- LN2 delivery skipped causing LN2 level to drop below threshold. Emergency delivery made.

### MINERvA:

- MINERvA DAQ computer running but still have issues with spare DAQ computer ... will be moved to Lab F for debugging.
- MINOS near detector Ready for beam.

### NOvA:

- Detectors running stably.
- Uptimes: ND/FD = 98.2%/94.6%
- FD network maintenance last week .. some faulty hardware swapped.
- Migrating to new database machines today.

- Target scans showed NOvA correctly timed in.

### **Muon g-2:**

- Last week work on Inflector, Kicker & Quads, IBMS, Collimators, Calorimeter, Tracker, Trolley and Cryopumps.
- Main focus for the week: Vacuum work & complete cryo pump infrastructure.
- Preparing for first beam week of Nov. 13.

### **PPD:**

- DES held collaboration meeting in Brisbane, Australia. Several SCD & PPD members attended & gave talks, including a portion of a public lecture on gravity waves and kilonovae given by Jim Annis.
- LSST held review about planning for operations. Patty McBride and Tom Diehl were reviewers - bringing DES experience.
- DESI is preparing for Director's review of commissioning and operations at LBL in December.
- Mu2e: (i) Solenoid PS/DS: Vacuum Pressure Impregnation (VPI) of PS/DS model coil will start Saturday at GA-Tupelo. It's expected to take 1 day. HAB: still waiting on repair of dump switch. Expert was absent & could not do the work. Expect this will get fixed this week. (ii) Accelerator: Prototype AC dipole test will start up this week (at 300 kHz). (iii) Tracker: 14,000/19,000 straws fabricated. Problems of leaks seem to be solved by reducing gaps between straw material wrapping. Remaining straws will be fabricated after QC tests completed on this batch. First production Panel Assembly Station (PAAS) assembled. This will be used at Fermilab to fabricate another prototype panel. A second PAAS that will be sent to UMN will be fabricated this week. Vadim Rusu working with Ryan Rivera to test FPGA/optolink clock extraction firmware. (iv) TDAQ: DAQ room racks and PDUs delivered to Mu2e hall. This is infrastructure for upstairs DAQ room. (v) CRR: (11/7/17) We had Construction Readiness Review for Delivery Ring Low Level RF. The proponents have decided to use a larger FPGA from that used in Recycler LLRF. Reviewers most likely will require internal review after prototype board made with new FPGA. (11/13/17) Cosmic Ray Veto Extrusion/Fiber/Photosensor CRR being held today. Upcoming CRR: Transport Solenoid Outer Cryostat (TBD - late Nov/early Dec). (vi) Site Visits: ESH&Q: Mu2e ESH&Q team scheduled a visit to the UVA Cosmic Ray Veto module fabrication facility, but due to airline problems, only safety coordinator able to get to campus. So visit at UVA was conducted by Dee Hahn, who was on the ground, with phone connection to Raymond Lewis and Jemila Adetunji. The only safety issue found was daisy chained set of power strips. Once this is addressed, UVA will be able to go into CRV module production. Craig Dukes and George Ginther will visit Argonne to see CRV installation tooling. ANL successfully tested hanging full-length module.
- Test Beam started up over weekend. They will be running T-992 (Rad Hard Sensors for HL-LHC) and T-1209 (CMS Outer Tracker). They will be asking

for about 16 hours of beam daily. Startup for PixLAR in MCenter delayed until December 1.

- ICFA provided strong support for 250 GeV ILC in Japan. It paves way for large number of test beam and other activities to be conducted at Fermilab.
- A large number of CMS TDRs for HL-LHC are under LHCC review - many of these TDRs have strong Fermilab's involvement. These TDRs will be formally commented on by LHCC at November 27 LHCC week. CMS also submitted various "preliminary" documents, such as trigger, DAQ and (soon) timing layer for LHCC reviews.

**ND:**

- LArIAT: Completed the integration of the BERN readout box into the Lariat DAQ for PixLAR. Ongoing testing/development of the PixLAR pixel plane readout.
- SBN Director's Review was held Nov 1-2.
- DUNE: APA#1 has returned to the cold box in the EHN1 clean room after inserting a clamp to account for concerns with operation of the APA trolley in the cold. The 35T is continuing to remove liquid argon before breathable air can be introduced.
- ProtoDUNE: APA#2 is packed in its shipping crate and is to be trucked to O'Hare airport today (13 November).
- Near-infrared test in LAr: The cryostat has been filled with LAr. Taking data with source.

**LBNF:**

- No report.

**TD:**

No report.

**Computing Operations:**

- CCD: Good week. MicroBooNE DAQ router crash – experiment owned equipment. Networking replaced equipment.
- SCD: Good week.

**Office of Communication:**

- No report.

**Directorate:**

- No report.

**AOB:**

- None