

## Lab Status / AEM Meeting Notes

Monday June 5, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confId=14600>

### Incidents:

- FESS: Employee driving truck, bent down as the truck hit a bump and contacted ribs against armrest. No fracture. Recordable.

### Accelerator Operations (last 2 weeks):

- NuMI: 1.17E19 POT + 1.75E19 POT. Strategy is to keep NuMI above 641kW with ST120 running.
- BNB: 7.35E18 POT + 6.91E18 POT.
- SY120: 138 hours + 148 hours of beam to SeaQuest, 86 hours + 64 hours to MTest.
- Good progress with laser notcher commissioning.
- Muon Campus Commissioning – delivered first beam to g-2 experiment over weekend!
- Future schedule can be found: <http://www-ad.fnal.gov/ops/schedule.html>
- PIP-II Injector test: ORC scheduled for Tuesday.
- FAST: 300 MeV beamline construction continues.
- LCLSII: Cool-down expected in about 1 week.

### MicroBooNE:

- Started running again last week: 94% uptime.

### MINERvA (May 18 - 31):

- Two good weeks: 97.5% uptime (95.7% with MINOS ND).

### NOvA (2 weeks):

- Running smoothly. 100% + 99.3% FD uptime.

### SeaQuest (29 May - 4 June):

- 89% good proton utilization. Running without D2 target. Will not pause to refill since want to maximize H2 target running.

### g-2:

- Beam is in the ring! Low intensity & no proton cleaning yet, but lots of progress.
- Initial calorimeter and tracker signals look good.
- Further commissioning this week. Beam absorber will be installed in a few days enabling higher intensity beam.

### CMS:

- LHC recommissioning proceeding faster than expected. First collisions May 11. Stable beams on May 23; 2017 run starts!
- Currently ramping up from 3 colliding bunches to 600.
- Upgraded systems that had FNAL involvement (new Forward Pixel Detector & Forward Hadron Calorimeter electronics) running well.
- CMS getting ready to take physics data & preparing for large scale MC campaign. It is planned to double the LHC data set this year.

**PPD:**

- SuperCDMS had a Directors review at SLAC, in preparation for the July 18-20 DOE/NSF Status review. The Project is on track for CD2/3 in November 2017.
- CMS/HL-LHC: All subproject now in OPSS review. Workshop June 12 will focus on scrubbing to fit within budget. In response to PBR expect DOE will also give an updated overall project.
- Test Beam: Wrapped up CMS and Atlas tracker experiments, which were successful. Mu2e cosmic ray veto is currently installed for the next 2 weeks. IceCube will install in a week.
- LArIAT will continue to work on their TPC, they had problems with their wires. They hope to close up and get back to data taking soon
- This is the last week of discounted registration fees for DPF. There are 300 registrants so far, but not many from the lab.

**ND:**

- SBN-ND: Final acceptance was completed for the SBN ND building.
- protoDUNE: Begun testing FE ASICs. ADC delivery is expected next week. Good progress on photon detectors - will have enough for APA#1 at CERN in time for installation on schedule.
- ICARUS: Shipping route now chosen. Welding of the ICARUS warm vessel is progressing well with completion expected on schedule.
- DUNE: Working on FY18 priorities with constrained budget.
- LBNC meeting, 22-24 June at CERN.

**LBNF:**

- No report.

**TD:**

- SRF R&D: Four 1.3 GHz 1-cell cavities vertical tested. High gradient R&D: ichiro 9-cell cavity N2 infusion treated. Three 9-cell cavities tested. One 9-cell has great gradient in individual cell, needs more N2 studies. One 9-cell received 120C infusion. Nb3Sn coating delayed due to Furnace repair.
- SRF LCLS-II: Two 3.9 9-cell cavities completed dressing ... QC in progress. 3HR102 completed 120C baseline baking. CAV0258 (bare) retest successful,  $3.9e10@16MV/m$ , Eacc reached 23.5 MV/m. CM02 needs final RF QC at ICB after transport. CM02 & CM03 swapped at CMTF. CM03 installation in progress. Cooldown expected in next week. CM04 in WS5 stage. Warm

- coupler installation in progress. CM05 moved from WS2 to WS3. Tuner installation in progress. CM06 completed WS0, now in WS1 for string assembly. New bellows will be installed between cavity one & gate valve. CM07 has one qualified cavity. Three more cavities to be tested this week.
- SRF: PIP-II: Spoke cavity S111 STC test completed. Cavity did not qualify, needs re-process. Spoke cavity S107 being prepared, plan to install in STC ~6/14. One 5-cell 650 MHz cavity under optical inspection. One 1-cell 650 MHz cavity light EP completed, to be tested.
  - Magnets LCLS II – Quadrupoles: SPQA106 measurements & survey completed, shipped to JLAB, SPQA107 in preparation for cold test, SPQA108 arrived. Commissioning of 2nd header assembly (top plate) at stand 3 expected next week.
  - Magnets LARP – Coil fabrication for first full-length prototype magnet in progress: winding 1st (inner) layer of coil QXFA106. Cold test of short model MQXFS1c in progress.
  - Magnets Other: AS – All coils for IQBB402 (MI quadrupole) impregnated. Cores undergoing measurement. Mu2e HAB TS prototype magnet/top plate test assembly installed into vacuum vessel, started final system checkout & preparation for acceptance testing. G-2 MSE001 Pulsed Septum (MSE) assembly in progress, MSE002 core stacking begun. LBNF kicker prototype assembly done.
  - Cryogenic Operations: MTA will continue operation till June 23<sup>rd</sup>. CMTF being prepared for LCLS-II CM3 testing: CM3 installed in cave; Finishing interconnection; Cooldown June 14<sup>th</sup>. NML (FAST ): Cooldown planned for June 12 following warm conditioning; MDB: System warm; Swapping SSR1 cavities & preparing for testing. VCTF is operational → VTS 1&2 cold testing; VMTF – MQXFS1c quench and magnetic measurements testing; Stand 3 - LCLS-II split quad SPQA-107 testing. IB1 Cryo plant contamination problem arose; weekend 100K warm up of cold box.

#### **Computing Operations:**

- CCD: Good week.
- SCD: Good week.

#### **Office of Communication:**

- This is the week for the Users Meeting + 50<sup>th</sup> Anniversary Symposium.
- Daughters & Sons at Work Day on Friday.

#### **Directorate:**

- No report.