

## Lab Status/ AEM Meeting Notes

Monday January 9, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confId=13584>

### Incidents:

- There was a near miss incident in the TD right before Christmas – half of a small magnet (~70 lb) fell on the ground. No one was hurt. Investigation underway. See item 1 in TD report below for more details.

### Accelerator Operations:

- Operations summary for the past 3 weeks shown.
- Linac, Booster running well. MI/RR Slip-stacking 6+6.
- Weekly integrated intensities: NuMI 1.15E19, 1.57E19, 1.78E19. BNB 1.06E19, 9.08E18, 7.16E18.
- NUMI running at ~635 kW, reduced to ~345 kW today prior to access work starting tomorrow. Beam goes off at 04:30. BNB back Tuesday evening; NUMI back end of day Wednesday.
- Switchyard: Not running due to MI-52 septa short. New septa installation during the two-day shutdown starting tomorrow. SY back ~Thursday.
- Future schedule: <http://www-ad.fnal.gov/ops/schedule.html>
- MI-12 Communication duct repairs in progress. New cable arrives mid-January. Repairs to be coordinated with Master substation outage downtime.
- PIP-II Injector test: RFQ operation shutdown during holidays. Installed emittance scanner and performed maintenance.
- FAST: No gun operation. Working on drive laser. Shutdown for 300 MeV upgrade. Working on IOTA proton injector source at MDB.
- LCLS-II prototype cryomodule: Operation at 2K restored. All 8 cavities of pQM powered simultaneously but not to full gradient. Plan to power up all to full gradient and perform tests. Joint LCLS-II CM testing workshop at JLab.
- ICW Reduction: Flow reduction began Thursday, Dec. 29. Flow rates down as required and holding. Work should be completed by the end of this week.
- Calendar of scheduled activities and a rolling power outages (short periods) throughout the campus were shown. Please look at the slides available at the agenda link at <https://indico.fnal.gov/conferenceDisplay.py?confId=13584>

### MicroBooNE:

- DAQ uptime: ~97%. BNB uptime: 93%. MC processing had a small glitch, many jobs failed and efficiency fell to 83%. Now fixed.
- Testing SuperNova thresholds. NUMI open trigger running.

### MINERvA:

- Uptime 97.4%, with MINOS 94.8%.
- Some DAQ-related problems fixed.
- Replacing some Front-end mother boards in MINOS, pulling out 3 FEBs in MINERVA to investigate during the 2-day shutdown.

**NOvA:**

- Both FD, ND running well. POT-weighted Uptime 98.3% over last 8 weeks.
- 200F sprinklers installed in FD server room replacing old 135F sprinklers.
- New UPC installed to replace the one damaged by old sprinklers.
- Reconstructed all ND data and MC mini-production over the holidays.

**SeaQuest:**

- All ready to go and waiting for beam.

**PPD Operations:**

- This week the LPC is hosting the annual CMS Data Analysis School (CMSDAS). 50 students with a similar number of lecturers and facilitators.
- Work at g-2 continued without interruption during the holiday period. Substantial work on cryo plant, quadrupoles, and calorimeters.
- A group of scientists from PNNL is visiting this week to look for joint projects that can take advantage of PPD technical expertise in areas not available at PNNL, e.g ASIC design.
- Continue to struggle with the Halide HID lamp problem. Currently all lights at DAB high bay are off and can be used only if flammable items are secured and staff wears PPE. (See also mission support below.)

**ND Operations:**

- DUNE: Huge number of activities with protoDUNE. Steady progress in production of APA frames in U.K. and preparation of winding facilities. Arrival of the steel from the U.S. vendor had been delayed due to customs issue. The delivery appears to be back on track now, but need to monitor.
- The RF shielded room at DAB for electronics testing is ready. Work is still needed on the AC power distribution.
- Scintillator pads from Double Chooz being shipped to CERN. Part of them will be used for the cosmic muon tagger at CERN and some in ICARUS.
- SBN: report from the Director's review held in December now available.
- Formal sign-off of SBN-FD obtained on Dec. 22; SBN-ND beneficial occupancy expected in February.

**TD Operations:**

- TD had a near miss incident in IB2. A small split quadrupole magnet for LCLS-II had been taken apart to add some sensors inside and was being inspected and reassembled on a table. Late Thursday, Dec. 22, as everyone was eager to leave for the holiday weekend, the lead technician and the lead engineer rolled the magnet 90 degrees on the table to check some external components without realizing that the two halves of the magnet had not yet been bolted together. The halves separated and one half, ~70 pounds, fell off the edge of table onto the floor. No one was hurt. The magnet suffered a few external dents. The electrical and mechanical suggest that the magnet will be OK, but cold magnetic

measurements are planned this week. An HPI investigation under way led by our DSO. An additional issue is that news of the incident did not reach TD HQ until January 3. Nobody was injured, there was a natural desire to assess the scope of the damage, and at least one link in the reporting chain was on vacation. TD management has reemphasized to its staff the importance of reporting all incidents promptly, even before all the data is available.

- At IB1 testing was suspended over the holiday period and the opportunity taken to send a number of instruments out for recalibration. Back in operation now and tolerating the reduced ICW flow. Measurements taken in December were very instructive and will result in changes in operating procedures in the long run.
- In spite of the interruptions, 14 SRF cavities were tested in the last three weeks.
- Right before Christmas ran a test on a pair of vapor-cooled power-leads designed to run at 15 kA. Running with a shorted bus instead of a magnet, pushed them up to 20 kA, demonstrating that they could be used on the HL LHC test stand.
- Have run into some vendor delivery issue with the pulsed septum magnets for the Delivery Ring AIP, but will try this week to get the vendors to expedite delivery.
- LARP is moving toward HL LHC AUP with work on the CDR and BoE's. Plan to move prototypes from LARP to the project. The magnet plans include shifting some work forward, putting additional time pressure on readying facilities.
- Prep underway for a Magnet Development Program workshop in early February.
- On Mu2e, General Atomics is making progress on understanding the problem with winding the Production Solenoid conductor. Their vendor should have the tooling modified in ~month so winding can resume on the demonstration coil.
- Mu2e is working to identify replacements for the Transport Solenoid L3 manager who passed away unexpectedly a week ago.
- Progress has continued, albeit at reduced pace on the first production LCLS-II cryomodule.
- The first vendor-produced split quad is being prepared for testing after the retesting of the last Fermilab-built quad.

### **Computing Operations:**

#### CCD:

- Mostly all ok. Some telecom problems in PAB; repairs complicated due to flooding and frozen manholes.
- Wireless controller upgrade scheduled for Saturday, Jan. 14, between 10 am and 2 pm. Possibility of up to 90 sec. wireless disruptions a few times.
- KCA will turn off on Jan. 31. Need other means of authentication for certain activities with docdb, etc.

#### SCD:

- FIFE, CMS, cmslpc all running well. CMS had also jobs running on NERSC.

**Mission Support:**

- HID MH lamp issue: At this time, the list of buildings on the re-lamping list includes some areas in NLD, CMTF, NMS (New Muon Lab), PB-7, D0, AP0TH, NWA, Lab F., and F40LLRW. Respective building managers and safety personnel are aware of the areas. At this time this is believed to be a complete list, but if other areas are suspected of having fixtures that include the High Intensity Discharge (HID) metal halide (MH) lamps that are not encased in a glass globe, they should contact Martin Bentivengo at Ext. 4430.

**Financial Report:**

- None.

**Office of Communication:**

- Fermilab 50<sup>th</sup> anniversary related events and colloquia were shown. More info can be seen at <http://news.fnal.gov/fermilab-at-work/50-anniversary-events-calendar/>

**Directorate:**

- No report.