

Lab Status/ AEM Meeting Notes

Monday March 6, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confId=13985>

Incidents:

None.

Accelerator Operations:

- Beam off during the day due to replacement of Klystron 7. Beam expected soon.
- Weekly integrated intensities: NuMI 1.41E19, BNB 2.81E17, NMuon 3.39E16 (117 hours), MTest 1.16E13 (60.8 hrs), MCenter Off. A couple of outages in the past week.
- NUMI running at ~625-650 kW with SY.
- Future schedule: <http://www-ad.fnal.gov/ops/schedule.html>
- MI-12 Communication cable: Move to new cable in March.
- PIP-II Injector test: Performed maintenance. Operational readiness check this week.
- FAST: 300 MeV beamline construction continues. 3 more weeks of cable pulls. Majority of beam tube installed. 6 of the 7 transverse profile monitors vacuum certified.
- CMTS1: Prototype Cryomodule will be removed from test cave and shipped to TD this week. Cryomodule testing late March/early April.
- Please look at the slides available at the agenda link at <https://indico.fnal.gov/conferenceDisplay.py?confId=13985>

MicroBooNE:

- Resumed operations after being down for 4 weeks due to HV issues. Running at nominal 70 kV high voltage. Have demonstrated HV stability. Ready for beam expected on Wednesday.
- CRT top panels to be installed soon. Side and bottom panels in operation.
- Collaboration meets in Cincinnati for annual offline software/analysis retreat.

MINERvA:

- Uptime 95.5%, with MINOS 56.8%.
 - o MINOS DAQ disk filling up with a log file. Now monitoring this disk.
- Problem with "Watch Dog" for DAQ processes. Now fixed and tested and a Watch Dog set up to watch the former.

NOvA:

- Did some FD maintenance during the beam downtime March 1st and 2nd.
- POT-weighted Uptimes: 99.2% for FD, 99.1% for ND. (Last 4 weeks)
- Production operations have begun with ND data. MC generation starts soon.

SeaQuest:

- Beginning H2 fill with new procedure. DAQ, Trigger and Chambers ok. Minor issues with hodoscopes. Changed thresholds to accommodate.

DES (End of Season) Report:

- DES finished Year 4 of the five-year survey. It was a very good year for observation, unlike year 3. 105/180 nights useful.
- 30% of the observing time went to study ten supernova fields. Each field observed 24-28 times.
- DES is asking for extra half year of observing for a total of 5.5 years, since year 3 did not produce anticipated data due to bad weather.

CMS/LHC Report:

- At the annual Chamonix meeting it was decided that the LHC would stay at 13 TeV this year and probably Run 3 will be at 14 TeV. Expect 45 fb^{-1} this year; heavy ion run cancelled.
- CMS installing new pixel detectors this shutdown. Barrel pixels installed last week, forward pixel being installed this week.
- Hadron calorimeter readout upgrades are also being installed—new readout for HF PMTs; one readout box for HE for testing.
- CMS commissioning with cosmic runs underway.
- Computing going smoothly. Production processes for Moriond mostly completed and analysis jobs running.
- Phase II upgrade preparations ongoing.

PPD Operations:

- The ASIC group submitted the FCP130 chip to MOSIS for fabrication. This is a prototype for the HL-LHC CMS Upgrade pixel detector.
- Submitting the FASPAX_V1.5 chip as a result of commercialization contract with Field Viewers on March 20. This is an X-Ray imager project begun with Argonne.
- g-2 continues work on detector systems and cool down. The initial pump down of the beam vacuum chamber reached a level of $\sim 3\text{e-}6$ Torr within a few hours. Once the magnet is cold, the intent is to keep it cold for the next 3 years and powered for periods of months to achieve the goals of the experiment. Planned interruptions in services need to be coordinated with the experiment long in advance.
- At the test beam, 992 (CMS telescope) and T1224 (ATLAS Telescope) continue to take data at MTest. Lariat should start taking beam in MCenter next week. During the beam outage for the master substation changeover, we had planned to remove gravel from the MW7 roof to address the hole in the north sheet pile wall. As a result of ES&H concerns, that was scrubbed. The next opportunity with minimal interruption to users will be the week of March 20.

ND Operations:

- DUNE: A layer of frost developing on the bottom south east corner of the 1x1x3 cryostat was observed (March 4) on an area of approximately 50x50 cm². After multiple checks and discussion with experts it is thought that there is a leak from the inner membrane to the insulation space. The decision was taken to start warming up the tank in view of an inspection by CERN and GTT. The delay on the commissioning is still being assessed but will likely be of several weeks.
- There are five recommendations from the DOE IPR review held last week. All pretty much standard.
- LArIAT: 5 mm wire plane installation done. New meshed cathode in place. Preparing for LAr fill for Run III.
- ProtoDUNE: investigating an issue with regards to the tolerance on the APA wire tensioning requirement. Progress on the 35t HV test, but probably 2.5 - 3 weeks away from being full and cold, and able to start the tests.
- SBN: Waiting completion of the CERN-DOE neutrino protocol addendum. The Fermilab and CERN technical teams are ready to start ICARUS warm vessel installation by Monday March 20.
- Awaiting further updates on possible solutions for ICARUS import duties. The president of INFN has provided a letter agreeing to a free loan of the ICARUS detector and associated equipment.

TD Operations:

- Cryo plant is running exceptionally well. The new compressor and purifier are in routine operation.
- Tested 8 SRF cavities last week, a mix of production and R&D, a mix of LCLS-II, PIP-II, and general R&D.
- The Mu2e splice test magnet cooled down over the weekend and will be tested this week.
- The most recent tweak of the LARP model quad will be mounted. Its testing will follow the Mu2e test.
- Installation continues on the Mu2e Transport Solenoid test stand at HAB. Work continues on documentation for the system. A 3000-liter LHe storage Dewar arrived on Thursday for the experiment cryo system. Vendors continue to require constant attention.
- LCLS-II first production cryomodule is in its cryostat and will be buttoned up in a couple of weeks for testing at CMTF. The prototype cryomodule will be returning from CMTF to ICB for a few adjustments and preparation for shipment to SLAC.
- Strong Fermilab showing at the Low Temperature/High Field Superconductor Workshop last week, with five presentations, second only to NHMFL.
- All the other balls are still in the air. LCLS-II, LARP, g-2, Mu2e, PIP-II, accelerator operations, magnet and SRF R&D, multiple partnerships.

Computing Operations:CCD:

- IARC wireless did not come back immediately after the power outages last week. Have now improved monitoring.
- On Tuesday Feb. 28, Amazon S3 outage caused some disruptions in ZOOM meetings.
- Security inadvertently blacklisted Microsoft Authentication services that caused outlook365 services to fail. Recovered quickly.

SCD:

- There were a few outages but the impacts were small.
- FIFE, CMS, cmslpc all running fine. MINOS running jobs requiring high memory. CMS production jobs for winter conferences done.

Mission Support :

- No report.

Financial Report:

- None.

Office of Communication:

- First Spanish language Ask-a-Scientist this Sunday.
- Community Advisory Board meeting on March 23rd.
- Tweaking some websites. Keep the feedback coming.

Directorate:

- No report.