

Lab Status/ AEM Meeting Notes

Monday May 22, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confId=14557>

Incidents:

- None.

Accelerator Operations:

- Linac: LRF5 network connectivity problems. Booster running well. MI52 vacuum problems persist but recovered without an access. Made access to bring MI40 abort pump online.
- NuMI: 1.17E19 POT; BNB: 1.08E19 POT.
- 96 hours of beam to SeaQuest, 72 hours to MTest, 72 hours to MCenter for LArIAT.
- Muon Campus commissioning: Going well.
- Downtime on Monday for ComEd switch 2002 repair. Successful.
- Requests for Linac laser notcher installation and Booster RF work.
- 2017 Shutdown: Preparing to adjust schedule in case of run extension.
- Future schedule: <http://www-ad.fnal.gov/ops/schedule.html>
- PIP-II Injector test: 5th week of shutdown. Anticipate running the 2nd or 3rd week of June.
- FAST: 300 MeV beamline upgrade continues.
- CMTS1: LCLS-II proto-type CM02 successfully tested. Warm up over the weekend and remove this week. Anticipate CM03 test set-up to begin next week.

MicroBoONE:

- Down due to problems since the power outage last Monday. DAQ uptime 28.6%. POT delivered: 0.89E19, recorded: 0.25E19.
- Cryo and trigger problems after power-up last Monday. Instability in the cryo system; very high PMT trigger rates (20-30 MHz). Cryo team making major effort. PMT experts and collaborators analyzing PMT data.
- Computing: Job success rate 77%; CPU eff 78%.

MINERvA:

- Uptime 96.7%, with MINOS ND 96.3%.
- Data and communication errors since coming back from power outage.
- Computing job success rate 94%, CPU eff. 41%, low due to calibration jobs accessing large files.

NOvA:

- POT-weighted Uptimes: 98.5% for FD and 98.5% for ND
- Vigorously tested protection against over-temperature events. Rack-based system works; single-node-based system failed. Shifters will continue to monitor temperatures closely.
- Computing: job success rate 75%, CPU eff. 48%. Working with dCache team to refine data pre-stage procedure.

SeaQuest:

- Station-2 fine-grained hodoscopes for the dark photon trigger installed on May 15th. Station-2 hodoscopes waiting hazard analysis, opportunistic downtime.
- Station-1 chamber maintenance done. Will join data-taking soon. All other detectors taking data.

g-2:

- Good progress. Beam and magnet work going well. Plan to establish beam to MC-1 ring this week. Beam dump arrives Wednesday.
- ORC for various detectors going well.

- Preparing final kicker connection; Inflector PS undergoing final tests with vendor.

PPD Operations:

- Mu2e
 - o General Atomics is now able to wind Production Solenoid (PS) conductor onto the winding mandrel w/o Belleville washer effect. This is done with a two-step process, first winding the conductor onto a small radius mandrel, then feeding it onto the winding mandrel. TPA will visit GA-Tupelo in mid-June to make modifications to the winding machine to make the two-step PS winding process become a one-step process
 - o Expect start up of the HAB refrigerator this week.
 - o Cosmic Ray Veto test beam is scheduled for next week. This TB will operate with a pre-production Readout Controller (ROC) in the readout chain.
 - o Frascati beam test for calorimeter "Module-0" ended last week (100 MeV electron beam). This is an array of 51 pre-production CsI crystals with 102 pre-production SiPMs. Mechanics and cooling are similar to the final design.
 - o The Tracker team completed a preliminary test of the tracker prototype panel v2.5. Leak rate is much lower than v1.5.
- Scintillator Detector Development
 - o Extruded for CANFRANC the 3rd week of April (one day, small order).
 - o Extruded for KIT - started at the end of April, had to repair tooling in early May and re-started the week of May 8 - about 1,500 strips total.
 - o Continued R&D on green dopants, polysiloxanes and MgO coating/paint
- SCDMS SnoLab
 - o Director's Status review next week at SLAC.
- Electrical Engineering
 - o The CDP1 ASIC will be submitted this week. This prototype contains many building blocks required by the DUNE cold digital ASIC. Makes use of timing models purchased from a third-party vendor and custom library parts built by Fermilab to achieve >30 year lifetime in the cold. Digital portions of the chip make use of standard place and route tools and the custom library.

ND Operations:

- DUNE
 - o Collaboration meeting last week at the Lab went well. Team members in Ash River, Minn., this week for a run-through of the protoDUNE installation procedures. The team will address installation processes, later this week.
 - o DUNE held an interface meeting with LBNF, including CERN, last week. The Far Detector feedthroughs for the cryostat must be fixed within the next couple of months.
 - o APA #1 made at PSL will be sent to CERN in the second half of June. Frame fabrication for APS#2 and#3 to be completed at PSL this week.
- LAr R&D
 - o LArIAT warming up the cryostat to prepare for installing 3-mm-pitch wire-planes. Should be ready by mid-week for installation of 3 mm plane on the TPC.
- SBN:
 - o Final acceptance of the SBN FD and SBN ND buildings completed on May 15 and May 16, respectively.
 - o Installation of the ICARUS warm vessel by CERN, Fermilab and INFN technicians completed May 17. Tack welding the assembly in progress.
 - o CERN has completed the contract for transport of the two ICARUS vessels. Shipping date should be settled within the next week.

LBNF Project:

- No report.

TD Operations:

- SRF Sector
 - o R&D: Several 1.3, 2.6, 3.9 GHz cavities tested. Nb3Sn coating pending furnace cleanup cycle.
 - o LCLS-II: CM02-07 in various stages of assembly and testing. CM02 testing successful in CMSTS1; achieved 20 MV/m average gradient with Q0 of 2.1e10.
 - o PIP-II: One spoke cavity horizontal test assembly in progress in STC test cave. One 5-cell 650 MHz cavity under optical inspection.
- Cryo Sector Operations
 - o Recovered from May 15 power outage with minimal impact.
 - o MTA will continue operation till June 23rd
 - o LCLS-II, NML, MDB, VCTF all going well.
- Magnet Sector
 - o LCLS-II: SPQA106 cold test complete and being warmed for removal. Waiting for more magnets from the manufacturer.
 - o LARP: Short model MQXFS1c cooled to 4.5K for test. LARP preparing for Director's review in June, followed by CD1.
 - o Accelerator Services: Receiving parts for the Pulsed Septum (MSE), needed for the shutdown, and will begin assembly next week. The last BKEF (short Booster kicker) magnet is complete and awaiting pickup.
 - o Mu2e: Making steady progress on the TS coil module test at the HAB facility.
 - o g-2: Inflector conductor fully insulated; winding tooling in place. ORC for the winding tooling in progress.
 - o LBNF: kicker prototype assembly in progress
 - o MDP 15 - 17T Dipole R&D: Making progress.
 - o Infrastructure: Started removal of Tevatron test stand power system interlock equipment

Computing Operations:CCD:

- Good week.

SCD:

- Good week.

Office of Communication:

- Users' meeting registration is closed. Will be recorded for future viewing.
- President's Budget request to be released tomorrow. All-hands meeting Wednesday. Time TBD.
- 50th anniversary users' meeting and related events start week after next.

Directorate:

- No report.

PPO:

- No AEM/Lab Status meeting on May 29th due to Memorial Day holiday. Next meeting in two weeks.