

Lab Status / AEM Meeting Notes

Monday October 23, 2017

<https://indico.fnal.gov/event/15549/>

Incidents:

- Bee stung a FESS employee. First aid.
- A TD employee was struck in the head as he bent down near the handle of a shear press. He was treated at the Medical office. First aid only.
- TD incident during curing of 15T coil. Failure of temp. control resulted in overheating and smoke. Fire Dept. called. G10 & SC cable damaged.
- ESH&Q employee had a twisting injury resulting in pain in back.

Accelerator Operations / Shutdown Report:

- Shutdown work advanced. Beam sign-offs this afternoon.
- Linac has 2-3 days of studies/commissioning and Booster has 3-4 days.
- Various water leaks being repaired.
- Muon Campus work advanced. Beam start-up week of Oct 30.
- This week: Install abort septa. Tunnel cleaning. Return to safety system keys by Friday, then safety system tests. Install abort septa cable. Final walk through. Power supply commissioning.
- Oct 30: Beam Startup

MicroBooNE:

- All shutdown studies completed: late-light study, grounding PMT flange, DAQ SN operations.
- Preparing to take beam data.
- Problems with router in LArTF: monitoring stability with new hardware.

MINERvA:

- Spare DAQ computer reformatted, installation of software ongoing.
- Some chains are having timing issues. Tests with cable length and config, file this week.
- New drip pans being fabricated to mitigate leak in roof above detector.
- Nearline computer crashed. Back to normal after cleaning machine and restarting all processes.
- Various Minder boards replaced.

NOvA:

- Uptimes: ND/FD = 98.4% / 81.7%
- Full suite of data-driven triggers running.
- Enabled 71 "new" buffer nodes to replace those lost in sprinkler incident last FY.

- Full dress rehearsal for return of beam starts Wednesday.

Muon g-2:

- Shifts underway.
- Completed Quad/Kicker integration.
- Magnet down weeks of Oct 16 & 23 for cryo fridge refurb.
- Inflector: progress on identifying ground loop issue.
- Earliest beam to MC-1 anticipated for Nov 6.

PPD:

- CMS ran well again last week. LHC luminosity still leveled at $1.5E34$, with pileup around 60. CMS Data-taking efficiency around 93%. 40 fb-1 delivered so far in 2017, 36 fb-1 recorded. Last week LHC set record instantaneous luminosity $2.2E34$ before leveling.
- Mu2e collaboration meeting last week. GA almost finished winding Prototype Coil. Work on VPI will start this week with Fermilab engineer present along with GA project manager. Horst Friedsam made important QC contributions to Transport Solenoid machined aluminum shells. He caught problem with location of holes for bolting together TS coil modules & the company will be able to properly manufacture a mating coil without having to remake part.
- Electrical Single line drawings for SCDMS reviewed on Wednesday, and we are ready to proceed in getting engineering drawings produced at SNOLAB.

ND:

- SBN: Getting ready for Director's Progress Review scheduled for Nov. 1-2. Investigating clock distribution mechanisms for DAQ.
- SBN-FD: Established requirements for internal cryogenic sensor readout. Completion of installation of surge suppressor for GPS antenna.
- DUNE: Testing in the 35T is ramping down. Arapucas -- continue the work on filter coating, trying different cleaning techniques, and assessing the impact on uniformity of the final coating.
- LBNC meeting at SURF, 26-28 October.

LBNF:

- No report.

TD:

- SRF Sector:
 - * R&D: (i) 2.6 GHz doping started after high gradient run. (ii) 1.3 GHz N-infusion & doping studies continued. (iii) 650 MHz troubleshooting furnace contaminations. (iv) Nb₃Sn coating in progress. (v) Plasma processing continued studies on mode excitations. (vi) Nb/Cu equipment relocated to new location, installation in progress.
 - * LCLS-II: (i) 3.9 9-cell dressed cavity 3HRI03 horizontal test waiting for engineering approval to cool down. Coupler warm conditioning completed. Design validated. 3.9 9-cell cavity 3HRI02 dressed, pending pressure test. (ii)

CM03 disassembly in progress & will be rebuilt in future. (iii) CM01, CM02, CM04 pending retrofit work related to microphonics mitigation. (iv) CM06 at CMTF test cave & installation in progress. CM05 ready for leak checking & final checkup before CMTF test. (v) CM07 upper cold mass alignment issue resolved & tuner installation completed. Ready to move to WS4. CM08 in WS2, alignment in progress. (vi) CM09 in WS1. String assembly in progress. Stephane Berry of CEA-Saclay auditing clean room process. (vii) Jlab pCM being prepared to ship back to JLAB.

* PIP-II: (i) Spoke Test Cryostat STC test of integrated spoke cavity (S112) had strong Field Emission & needs re-HPR and re-test. (ii) STC test of spoke cavity (S113) had multipacting & field emission, re-test with active pump in progress.

- Magnet Sector:

* HL- LHC, AUP – Coil production in progress, QXFA106 (4.2m) coil impregnated, QXFA107 inner layer curing done, Trouble shooting on “Selva” winding machine being completed.

* LCLS II – test and qualification of quadrupoles continues, SPQA114 cold test being completed, SPQA118 incoming inspection done.

* Mu2e – Transport Solenoid (TS) test facility in HAB cold, Quench protection & power system commissioning continued. Starting to prepare HAB building for TS assembly.

* AC dipole prototype 300 kHz test in progress.

* Muon G-2 – g-2 Inflector inner coil winding complete. Outer coil winding has started.

* AS – EDWA completed & installed. A leaking MDCC magnet was disassembled, grid blasted & primed. Preparation to wind new coils in progress.

* Two SDG dipole magnets retrieved by PPD from Wideband Photon Lab electron tagging system for use in NOvA test beam. TD has been given go-ahead to start minor refurbishment

* MDP 15-17 T dipole R&D – Fabrication of 15 T dipole coils progressing; winding of inner coil layers 1 & 2 started.

- Cryo Sector:

* Operations: (i) CMTF: Completed LCLS-II J1.3-01 testing (ii) NML (FAST/IOTA) is cold at 2 K (iii) MDB: Cooldown refrigerators and transferline; Final preparation for spoke cavities cooldown; (iv) VCTF operational; cold testing a Fermilab R&D cavity

* Projects: (i) LCLS- II Cryogenic Distribution System; (a) Completed Surface Transferline Production Readiness Review (b) Conducted Kick-off meeting for Tunnel Installation. (ii) Complete PIP2IT cave transferline Preliminary Design Review; Fabricating external transferline; (iii) SuperCDMS-SNOLAB SLAC Director’s Review preparation (iv) Supporting procurement of dilution refrigerators for Axion detector & Quantum Computing initiative; (v) Supporting infrastructure & installation for NEXUS experiment in MINOS hall; (vi) Mu2e cryogenics project work.

Computing Operations:

- CCD. 10/18: 5 users unable to log into TeamCenter -- restarted services.
10/19: 6 hr TeamCenter problem – could not save files. Due to contactor making inappropriate changes. 10/20: MicroBooNE router crashed. Replaced entire network stack.
- SCD: Good week.

Office of Communication:

- Oct 31 is Dark Matter Day. Take a look at <https://www.darkmatterday.com/>
- Oct 24: LBNF/DUNE update for local residents at Lead, S.D. Also, at Fermilab, hosting folks from St. Charles chamber of commerce.

Directorate:

- No report.

AOB:

- None