

Lab Status / AEM Meeting Notes

Monday October 2, 2017

<https://indico.fnal.gov/event/15390/>

Incidents:

- A TD employee's chair broke while he was sitting in it causing him to fall hitting his thigh, scraping his arm and elbow.

Accelerator Operations / Shutdown Report:

- Shutdown work advanced.
- Distribution of cumulative effective doses based on pocket dosimeter reports looks OK.
- Shutdown duration drivers: Linac Marx Modulator installation and Muon Campus work (more crews added).
- This week will return to operational key cores for Enclosure B, F-Sector, 8 GeV. Switchyard will start safety system tests. Major LCW systems will be brought to operational levels.
- Next week: Safety system testing, complete/verify enclosure cleaning, Re-core MI/NuMI to operational key cores.
- Week of Oct 16: Complete remaining enclosure cleaning & system testing. Out of all enclosures by 16:00 on Friday Oct 20.

Special Topic:

[Dark Matter Experiment Update](#)

PPD:

- Muon g-2 : Operational Readiness Review all day today. Last week: (i) Magnetic test of full-week continuous operation. (ii) The kickers were conditions without the magnetic field to have good feedback with vacuum measurements. (iii) Continued conditioning with field. (iv) Tested quads at operating point of 20.5kV. Expect >95% operational efficiency at 10⁻⁶ Torr.
- Mu2e: Today there is a Protection Collimator production readiness review.
- The CMS upgrade barrel calorimeter “pre-production” printed circuit cards have been produced and are now being assembled. Back for testing by mid-October.
- Electrical Engineering Department: For SBND, as part of the study of commercial ADC options for SBND, we completed an almost 1 week run with 4 ADCs operating at a 77K, with an increased supply voltage, to accelerate hot carrier damage. The result- that the ADCs are able to survive these conditions - indicates that SBND will be able to use these COTS devices without undue concern about shortened lifetime. Several members of the ASIC group projects are participating in the HEP Integrated Circuits 2017 workshop at SLAC. The CDP1 was delivered to the ASIC group for testing.

This is a prototype ASIC to test out functional blocks required for the COLDATA (cold digital ASIC for DUNE).

ND:

- DUNE: the 35T high voltage test continued for the ProtoDUNE-SP field cage design. The liquid argon purity level plateaued to 6 ms as measured by the purity monitors.
- protoDUNE: progress integrating the FTBF wire chamber readout with pLAPPD readout in preparation for pLAPPD development running.
- SBN: Preparing a requisition to upgrade the two building cranes in the SBN FD building from 30 short tons to 37 short tons. CERN and FNAL cryogenics engineers met at Demaco in Holland to observe testing of SBN FD (ICARUS) valve boxes.

LBNF:

- No report.

TD:

- Magnet Sector: **LARP/HL- LHC, AUP** – Coil production in progress, QXFA106 (4.2m) coil prepared for impregnation. MQXFS1c short model modified for next test. MQXFAP1 full length prototype test readiness review completed. **LCLS II** – test & qualification of quadrupoles continues, SPQA113 cold test in progress, SPQA117 delivered to Fermilab. **Mu2e** – Transport Solenoid (TS) test facility in HAB cold commissioning has started. System will be commissioned using prototype coil module, as today it's cold at 20k. OS & Quench protection system checked. Final assembly of one-meter model of AC dipole complete. It's currently undergoing testing for matching power supplies to magnet. **Muon G-2** – Inflector production coil winding continues. **AS** – EDWA (a spare magnet) final assembly continues with manifolding. Magnet expected to be sent to MTF for measurements next week. 9 IDV trim magnets for MI/Recycler have arrived from Buckley Systems & are undergoing incoming inspection. **MDP 15-17 T dipole R&D** – Fabrication of 15 T dipole coils in progress; Preparing to wind inner Layers 1 & 2 of coils, waiting for review recommendation, detailed plan for magnet production in progress. **Infrastructure (IB1)** – MTF, continue to remove the old Tevatron Power System & clean up.
- SRF Sector: **LCLS II** - CM03 – Disassembly continues will be @ WS3. Shields removed Beamline pump down to pinpoint leak. CM04 @ CMTS – Stored outside of cave for open house. CM05 @ WS3 Magnet current leads to instrumentation flange soldering in progress. Welding/closing early next week. CM06 @ WS5 Insulating vacuum pump down in progress. CM07 @ WS3 Mechanical Interference problems during alignment. CM08 @ string assembly 50% complete. Jlab pCM @ CMTS.
- Cryogenic Sector: **J1.3-01**: being tested on cryomodule test stand. **LCLS II**: Reviewing documents for LCLS-II surface transfer line Production Readiness Review next week. **PIP2: IT** cave transfer line Preliminary Design Review

scheduled for end of October. Testing of spoke cavities continues at MDB. **NML** has cooled down to 2K. **Other:** RFPs for all three laboratory helium & nitrogen contracts received. The cost of both nitrogen & helium has gone down to level of 2-3 years ago.

Computing Operations:

- CCD: ServiceNow, FermiWorks and Email all had external outages during the week. Thursday – FermiDash down 6 hrs due to unexpected reboot after OS patch. Monday – DocDB down for 1 hr due to loss of storage pointers. Investigating why.
- SCD: FIFE operations – Efficiency data not being reported since downtime on 9/19 – being investigated. Various dcache hardware problems degraded performance.

Office of Communication:

- Open House feedback: 1700 visitors responded to survey. Good feedback, lots of comments. For example, 73% didn't know Fermilab was open to public.

Directorate:

- Director at Italian Embassy in Washington.

AOB:

- FESS: There will be smoke testing Tuesday at 4 locations around the Lab.