Lab Status/ AEM Meeting Notes

Monday June 26, 2017

https://indico.fnal.gov/conferenceDisplay.py?confId=14770

Incidents:

- None.

Accelerator Operations:

- Laser notcher commissioning continues in preAcc.
- Linac running well: Booster running well and tuning continues. MI/RR running fine.
- NuMI: 1.83E19 POT; BNB: 0.74E19 POT.
- 141.6 hours of beam to SeaQuest, 74 hours to MTest, 31.6 hours to MCenter (LArIAT).
- Muon Campus: delivered beam at 4.32e16 pph. Quads PS regulation issues.
- May need dedicated machine study time before shutdown. NuMI target scan done.
- 2017 Shutdown Planning: ComEd driven power outages (see slides/calendar).
- Future schedule: http://www-ad.fnal.gov/ops/schedule.html
- PIP-II Injector test: Studies and commissioning.
- FAST: Flow restriction in one of the quads continues. 50 MeV beamline checkout done. EE support investigating current readback sampling issue in dipoles.
- CMTS1: LCLS-II proto-type CM03 undergoing test.

MicroBooNE:

- 96.8% uptime. POT delivered: 0.74E19, recorded: 0.72E19.
- AD carried out a one hour BNB target scan last Tuesday.
- Computing: Job success rate 51%; CPU eff 29%. Working with SCD to improve.

MINERvA:

- Uptime 98.4%, with MINOS ND 96.6%.
- Computing job success rate 99%, CPU eff. 89%.
- Improved database access efficiency but working with SCD to understand improvement and whether further improvements are needed.

NOvA:

- POT-weighted Uptimes: 97% for FD and 99.5% for ND
- Rebooting of all DAQ nodes and cold start solved the problem of DAQ crashes seen in previous week.
- Computing: job success rate 73%, CPU eff. 54%. Working on both issues to optimize.

SeaQuest:

- Taking good data with solid targets and liquid hydrogen.
- Station-1 chamber flushed with inert gas and flowing new operating gas; to be tested. Station 0 currently used for physics.

g-2:

- Focused on continuing data-taking with beam to better understand systems. ~68% DAQ uptime. 2.4 TB data collected.
- Increased kicker voltage to maximize/saturate particles (p/e+) stored.

- Surface coils installed and performed vertical position scan of the beam. Found 250 mA to be the optimal current.
- Data taken so far used to test tracking algorithms, matching tracks with calorimeter clusters. Currently have >300,000 tracks fit. Reconstructed momentum distribution nicely peaking at 3 GeV.

ND Operations:

- SBN
  - There was a briefing in Germantown to staff of OHEP on June 21. Well received. Have been asked to follow-up with plans evaluating funding scenarios.
- ICARUS
  - ICARUS left Antwerp as scheduled, on June 23. Expecting arrival at Fermilab mid-July.
- SBND
  - Installation of CRT bottom planes and a pORC completed. Tested with beam.
  - Review of cryostat interface with cryogenic system.
  - Preparing for insulation installation at FD.
- DUNE
  - Good LBNC meeting at CERN last week. Discussion on schedule for cold-electronics for protoDUNE and DUNE. Many recommendations on mitigations of protoDUNE-SP cold electronics issues in the initial report.
  - Schedule for APA assembly. APA#1 in progress; APS#2 to start soon.
  - Photon detectors for first APA#1 ready to be shipped to CERN.
- LAr R&D
  - LArIAT turned on after repairing short, and refilling. Took data for a few hours but then the DAQ computer broke and no data-taking since.

LBNF Project:

- No report.

PPD Operations:

- g-2
  - Going well. Reached 1/25th of the design beam intensity. Working on improving vacuum, reducing kicker sparks, etc.
- Mu2e
  - Collaboration meeting last week.
- DESI had collaboration meeting in Berkeley last week. Funding uncertainty affecting summer plans.
- LArIAT had DAQ issues as reported in the experiment report.
- D0 trailers as well as Lab 8 trailer are being demolished.
- Efforts underway on Electrical Safety Awareness training in the PPD.

TD Operations:

- SRF Sector
  - R&D going well. 1.3 GHz 1-cell cavities vertical tested… achieved excellent gradient of 43 MV/m. Q0 needs improvement.
  - Nb3Sn Coating work delayed; furnace being repaired.

    - LCLS-II: CM03-07 in various stages of assembly and testing. CM02 being prepared for shipping. CM03 showed worsened field emission and two cavities have low gradients. Total voltage meets 128 MV spec.
    - PIP-II: Spoke cavity S11 STC tested; does not qualify and is being reprocessed.
- Magnet Sector
    - LCLS-II: SPQA107 to be delivered to MP9 on Monday. SPQA108 being prepared for cold tests this week. SPQ109 accepted and waiting for cold test.
    - LARP: Coil fabrication for the full-length prototype magnet is in progress.
    - Mu2e: At the HAB test stand, prototype solenoid (for TS) has been mounted to the dish-head top of the cryostat. Both moved to the cryostat.
    - g-2: MSE pulsed septum assembly continues. Inflector: discussion of muon beam optics analysis; redesign of inflector coil ends and lead boxes complete; procurement started.
    - AS: IQBB401 (rebuilt MI quad) field quality not satisfactory due to octupole component. Awaiting shims to install for improvement.
    - MDP 15-17 T dipole R&D: Fab of 15T dipole coils in progress. Work on stress management for 16 T coil started. Design and parameters for a Nb3Sn undulator prototype discussed with ANL APS.
    - Infrastructure (IB1): Removing old Power System used for Tev test stands.
- Cryo Sector Operations
    - MTA operation extended by one week. NML (FAST) cooldown planned.

Computing Operations:

CCD:

- Issues with ServiceNow on June 23rd. Links to many knowledge articles have changed; investigating.
- Kronos/timecard issue on June 26. Pre-populated task codes were blank for many employees on Monday morning.

SCD:

- Good week. Using HEPCloud slots for excess jobs.
- IF jobs continue to effectively use empty slots.

Office of Communication:

- No report.

Directorate:

- No report.

AOB:

- The entrance to the WH west parking lot will be closed from Friday through Tuesday; pouring concrete and repairs.