

## Lab Status/ AEM Meeting Notes

Monday Aug. 28, 2017

<https://indico.fnal.gov/conferenceDisplay.py?confid=15151>

### Incidents:

- Week of August 14:
  - o A CCD subcontractor stumbled down the stairs twisting his left ankle. No fracture, OTC medication. First aid.
  - o An FESS subcontractor suffered possible heat exhaustion after working in NS1 and NS2 for most of a day. Investigation pending.
- Week of August 21:
  - o An FESS employee suffered back spasms when he tried to bend down to pick something up. Investigation is pending the employee's return to work.
  - o LBNF contractors (SURF employees) were in the Ross Shaft gadding (rock splitting) when one employee's gadding gun hit an un-fired microblaster that had been left in the shaft wall. The employee received contusions and abrasions to his arm and finger, and some shrapnel to his face. He was wearing safety glasses, light work gloves and hearing protection.

### Accelerator Operations:

- Power outages scheduled were shown. There is a one-hour outage planned this Friday, 6:30 -7:30 am. Time and duration are estimates, actual outage may depend on ComEd.

### Special Topics:

- [Mu2e Report](#)
- [LDRD Activity: "Silicon Precision timing Detectors for MIPs"](#)

### PPD Operations:

- No report.

### ND Operations:

- DUNE
  - o A review of Cryostat #1 warm structure design held at SURF, Aug. 21-22. Review identified several integration issues to be resolved.
  - o Far site integration planning meeting on Aug. 23-24 at SURF. Agreement reached on timeline and methodology for adjustments to feedthroughs for the roof of cryostat#1, including accommodation of the Detector Support System and calibration system. Weekly meetings between DUNE and CERN to continue until sign-off of the roof design in November.
  - o Meeting with APA crate vendor, UW-PSL and DUNE management to review minor design changes for APA#2 crate.
  - o 35t cryogenic system review took place on Friday, and walkthrough this morning. Expect to cool down this week and top off next week.
- ProtoDUNE:
  - o Good progress on winding PSL-APA#2; 1<sup>st</sup> half of the v-layer complete.
  - o Winding begins on UK-APA#1; some issues with tensioning to be resolved.
  - o Delay in assembly of the CPAs due to late arrival of the field shaping strips; not on critical path and so a revised shipping plan is being developed to send partial shipments as they become ready.

- CE boxes due to arrive at CERN this week and to be installed on APA#1. Testing of production ASICs continues; chips for the next ten front-end motherboards have been selected and the boards will go to the packing house this week.
- SBN:
  - Cryo: Three engineering notes prepared for testing LN<sub>2</sub> dewar and piping systems were submitted to the safety panel and approved.
  - FD/ICARUS: At SBN FD, building prepared for compression test of the foam insulation in the warm vessel. Continued work on electrical distribution.
  - FD/ICARUS: As-built weight of the ICARUS cold vessels exceeds the capacity of the two 30 ton building cranes. The cranes were specified based on the design weights. FESS is in discussion with Superior Crane about the cost of upgrading the building cranes to 35+ tons. An RFQ for rigging the vessels in-place has been prepared in case the cranes cannot be upgraded.
  - ND: The fourth SBND APA frame must be remanufactured due to major errors in drilling the precision mounting holes. The manufacturer, Portobello of Sheffield, England, has taken responsibility and promise to deliver on a schedule so as not to delay the delivery of completed frame to Fermilab. First three frames are fine and on their way to the wire winding facilities at Daresbury and Yale.

**LBNF Project:**

- No report.

**TD Operations:**

- Muon g-2
  - Pulsed septum magnets: all built, but pumping down slowly.
  - New inflector: trial winding done, preparing to wind the real thing
- Mu2e
  - TS test facility at HAB started cooldown, but a problem with an LN<sub>2</sub> valve was discovered. There is a suggestion that this is a symptom of a bigger issue that could cause a significant delay.
  - Slow progress at Tupelo last week on the demonstration coil, waiting for tooling subcontractors return from Ferragosto.
  - AC dipole model: under test
- IOTA
  - Lambertson magnet coil winding in progress
- LARP/HL-LHC-AUP
  - CD1/3A Review was a great success. Preparing responses.
- SRF Sector Update
  - R&D: VTS shutdown was completed. TE1AES011 was tested for quantum computing research.
  - LCLS-II
    - 3.9 9-cell dressed cavity 3HRI03 horizontal test preparation is in progress. It is in HTS cryostat.
  - 3.9 9-cell bare cavity 3HRI02 is being prepared for dressing.
  - CM03 was moved to ICB. It is being rolled back from WS6 to WS3 for leak check in the beam line.

- CM04 test is in progress. Cavities have exceeded Q0 and gradient spec. Field emission was moderate for three cavities and heavy for one cavity. Microphonics was out of spec. Investigation is in progress.
- Received JLAB pCM and completed most of the incoming inspection. It is planned to move to CMTF in two weeks. It is to be tested after Fermilab CM04.
- CM06 is in WS5 for cryogenic pipe ends welding. CM05 progressed to WS5 for warm coupler assemblies. CM07 is in WS2 for magnetic shielding assemblies and 2-phase pipe welding.
- CM08: Three cavities were qualified during last week's VTS test. Now have seven qualified cavities and two with borderline Q0 available. Three more new vendor cavities will be tested tomorrow to pick a high Q0 cavity for CM08.
- PIP-II
  - 2-cell and 1-cell cavities pending VTS test.
- STC: S113 was installed and waiting for cryogenic cool down.
- Processing: B9AS-AES-005 20um EP, clean room assembly.

### **Computing Operations:**

#### CCD:

- Good week. No problems to report.

#### SCD:

- Good week.
- CMS: 25% of operations were on NERSC, continued demo with HEPCloud. Scheduled down time 3<sup>rd</sup> Thursday of the month.
- FIFE: 28% ran on OSG, none at FNAL. DCache/GPGrid downtime tentatively scheduled for 9/19-9/20.

### **Office of Communication:**

- More than 17, 400 registrants now for the open house on Sep. 23<sup>rd</sup>. Will close registration at 20,000.
- Another 250 or so Volunteers/helpers still needed. Some specific jobs such as orientation, tour bus guides are in acute shortage.

### **Directorate:**

- No report.