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## PPD Status

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AEM

30 April 2018

- Operations
  - Beam ramp going very well, now up to ~ 1000 colliding bunches, CMS efficiencies in the high 90s when not purposely sacrificing “physics” luminosity for start-up commissioning (timing scans, bias scans, and the like)
- Phase 1 Upgrade
  - Expecting delivery on key procurements for HB in next 6 weeks or so
- HL-LHC Upgrade
  - Preparing for CD-1 IPR (June 5-7) and working with DOE on funding profile.

- Solenoids
  - HAB dish-head B has been tested. This completes the HAB commissioning.
  - Members of the Solenoid Team are going to Tupelo this week to witness the DS1 coil winding. DS1 is the first production coil. GA is required to do this wind prior to the DS Production Readiness Review.
  - The TS thermal shield was picked up and taken back to Eden Cryogenics.
  - Solenoid group is concerned that the cryo distribution box will be delayed beyond the shut down period. This will impact commissioning of the box.

# Mu2e

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- Tracker
  - UMN starting to build first panel but is having some difficulty.
    - Sending up a Tracker expert from FNAL to help figure this out.
  - Progress with reducing environmental noise on the electronics.
    - Grounding many adjacent straws while reading out one straw.
- CRV
  - Extrusions – Custom Detector Technologies group successfully completed 100% of the production extrusions.
    - This was a T1 milestone (due date 5/31/18).
    - Additional 5km needed for construction spares
  - Preparing for the May 21 Construction Readiness Review (CRR).

# Mu2e

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- Beamline
  - Completed a mini-CRR (4/24) for the production target that will be used for low intensity beam commissioning
    - Recommend purchasing the target.
    - On track to meet our T1 milestone (10/13/18).
- Vacuum testing of the ferrites for the AC dipole has started.
- Team Center problems are slowing down HRS work
  - Drawings are critically needed for the HRS vacuum vessel PO.

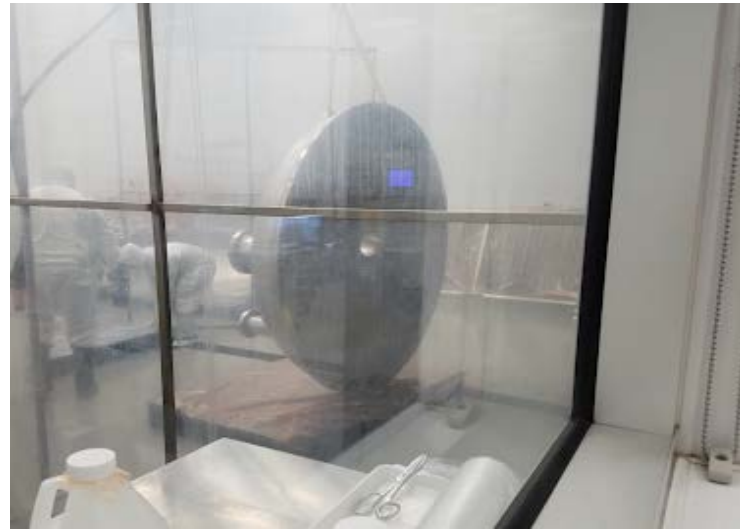
# DESI

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- 14 papers are in various states of review to be submitted to the SPIE Conference on Telescopes and Instrumentation in June

# LZ

- LXe Tower (FNAL deliverable) fabrication drawings were approved, and the manufacturer (Eden cryogenics) is now proceeding to fab.
- Cryostat now at a company called Astropak in southern California for cleaning
  - Eliminate dust to better than  $500 \text{ ng/cm}^2$ .
    - Move to SURF in two weeks, when on site activity starts in earnest





Cleaning of the Xylem heat exchanger (a core piece of the tower) was completed at CMTF



Cleaning of three other tower heat exchangers (FNAL custom) was completed at Northwestern using “piranha solution”



## Test Beam

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- sPHENIX calorimetry tests have been taking beam since Friday afternoon continuously. So far, their tests have been successful and they will continue to finish out their E&M and hadronic calorimeter tests.
- New result from test beam published last week in NIM
  - “Studies of uniformity of 50  $\mu\text{m}$  low-gain avalanche detectors at the Fermilab test beam”
  - A. Apresyan et al.
- Mcenter: Installing Beam pipe from upstream target to downstream target for Nova

# Custom Detector Technologies

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- Optical fibers:
  - CMS – prepared for quartz fiber polishing
- Scintillator:
  - Finished QA of Mu2e raw materials
- Thin Films:
  - Mu2e: meeting with Daniel Bowring to discuss QC of Mu2e target using Thin-Film infrastructure
  - ProtoDune – R&D – ARAPUCA coatings:
    - Major maintenance on pumping cart system used for coatings
- Wire windings:
  - g-2: urgent multi-wire planes needed – 4 planes done of 5 planes requested
  - No new windings for Mu2e – 20 out of 24 now completed

