

DUNE Project Status

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DUNE PMG Meeting
February 16, 2016

Management Update – News

- Main effort continues to be development (refinement) of resource-loaded schedule FY16-FY18
 - Targeting operation of single-phase ProtoDUNE detector in 2018
 - Working to incorporate non-DOE partners where possible
 - Studying effect of potential funding restrictions in 2017
- Next step will be to integrate the Single-Phase ProtoDUNE schedule with the EHN1 (CERN neutrino platform) and Dual-Phase schedules
 - The management teams are planning to spend the week of February 22nd at CERN to work on synchronizing schedules

Management Update - News

- With revised schedule, working to prioritize FY16 budget to speed up critical-path activities for ProtoDUNE
 - APA construction activities
 - Engineering support for CPA and Field Cage design activities
 - Engineering support for Electronics Integration Issues (define needed QA/QC activities)
 - Photon Detector engineering studies
 - TPC integration facility
 - Engineering support for development of installation plan and tooling
 - Accelerating development of COLDATA ASIC chips (Far Detector)

Management News – Collaboration Activities

- Processing “Expressions of Interest” received from DUNE collaboration institutes for participating in ProtoDUNE efforts
 - 41 EOI received
 - 47 institutes
 - 125 single-phase protoDUNE
 - 50 dual-phase protoDUNE
 - 20 unspecified (TBD, based on funding and expertise)
- For time-critical ProtoDUNE components, organizing near-term working meetings among the interested institutions to develop plans and discuss the distribution of responsibilities

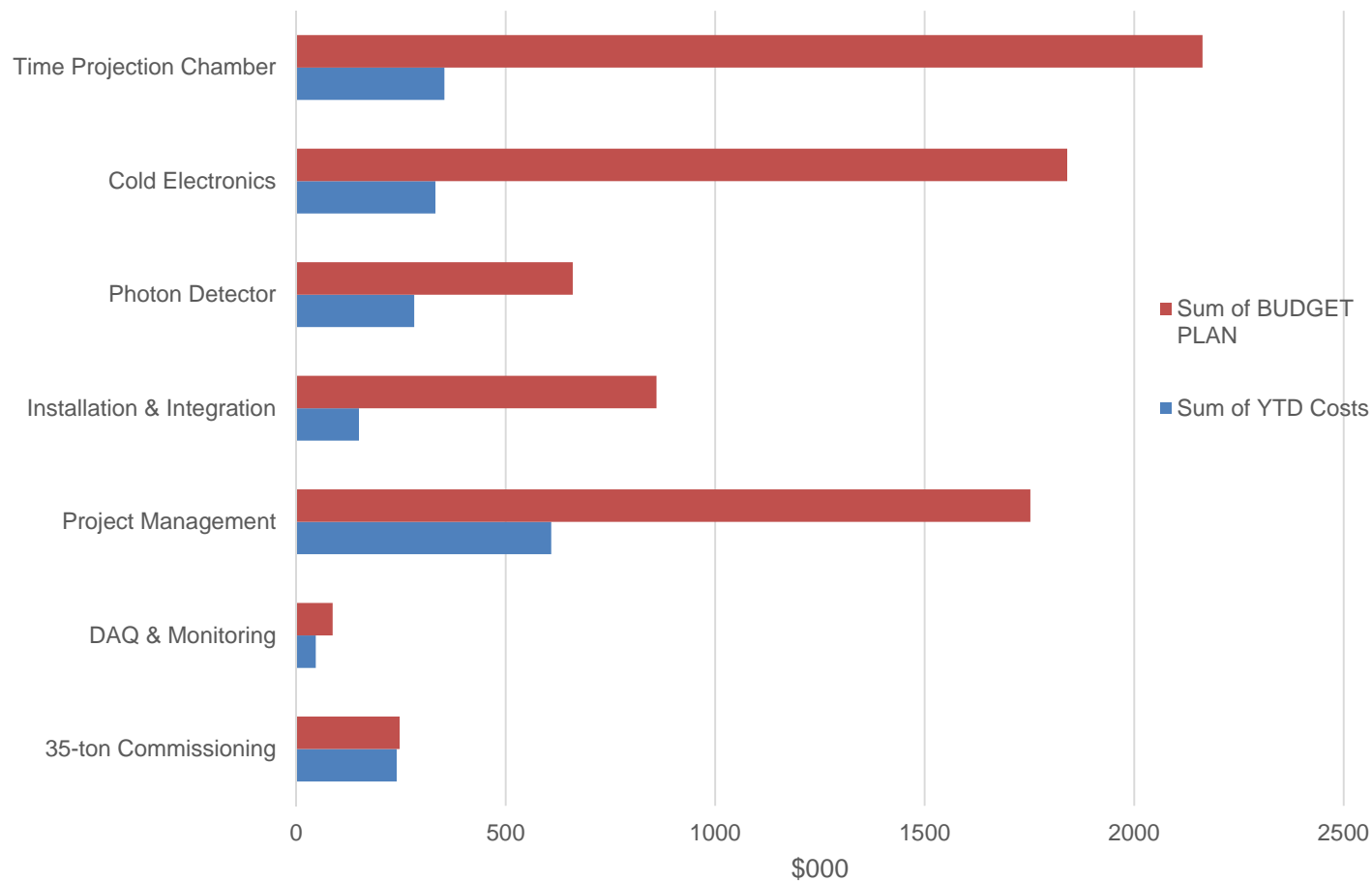
Management Update – News

- DAQ Working Meeting at CERN, February 25-26
- Electronics Integration Working Meeting at BNL, March 2-3
- TPC Integration Working Meeting at BNL, March 7-11
- Additional meetings focusing on less time-critical components later this spring

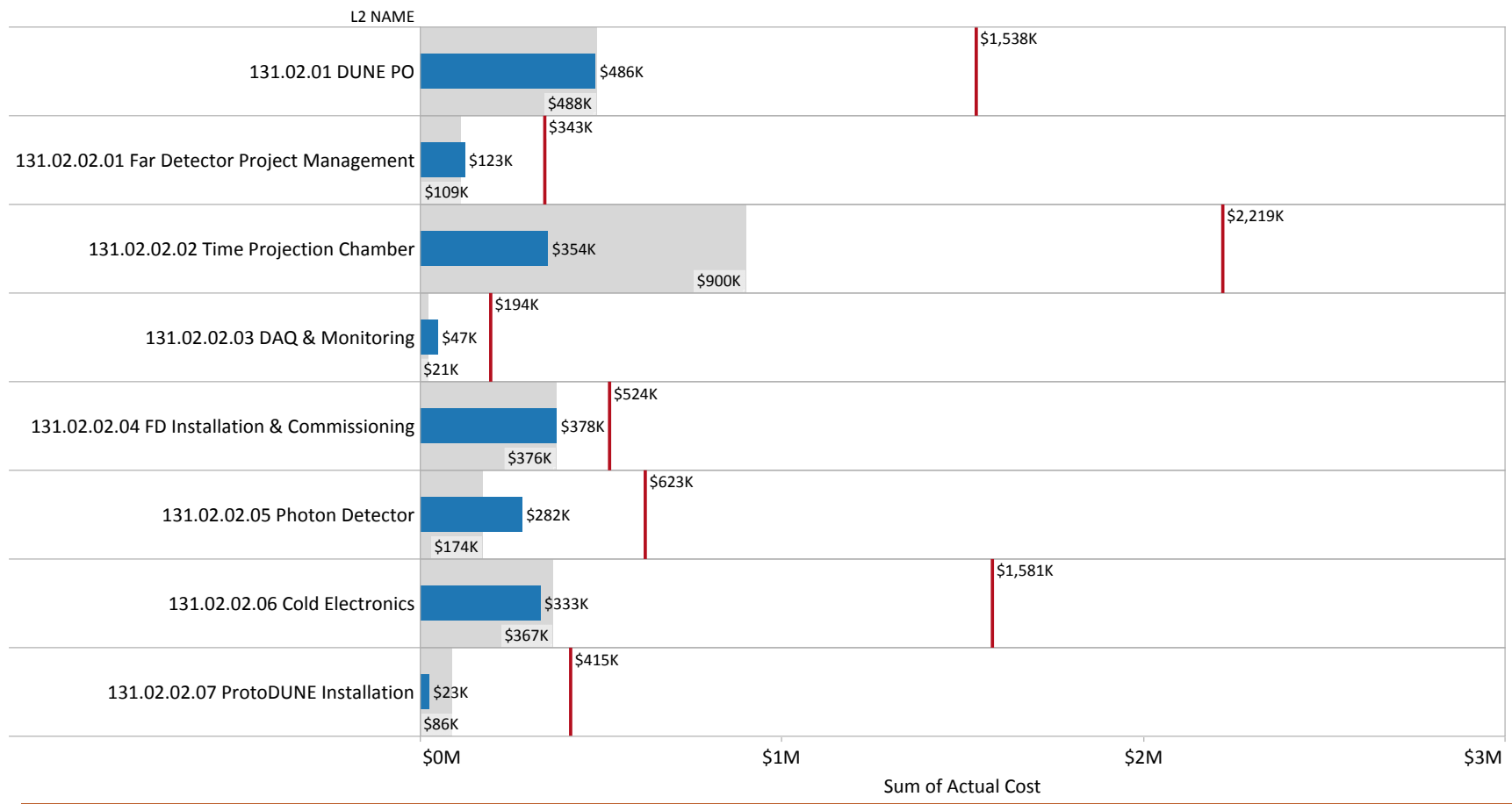
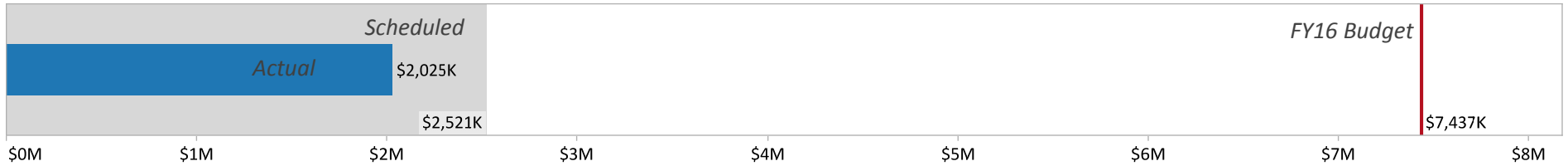
Management Update – News

- Transition to new L3 Manager for Photon Detection system (Leon Mualem, Cal Tech) on March 1st
- New Project Mechanical Engineer candidate has been identified from within project and will start transitioning into this role (replacing Russ Rucinski)
- Working with L3 managers to define requirements and dates for high-level design and production readiness reviews that will be held for each of the ProtoDUNE detector systems

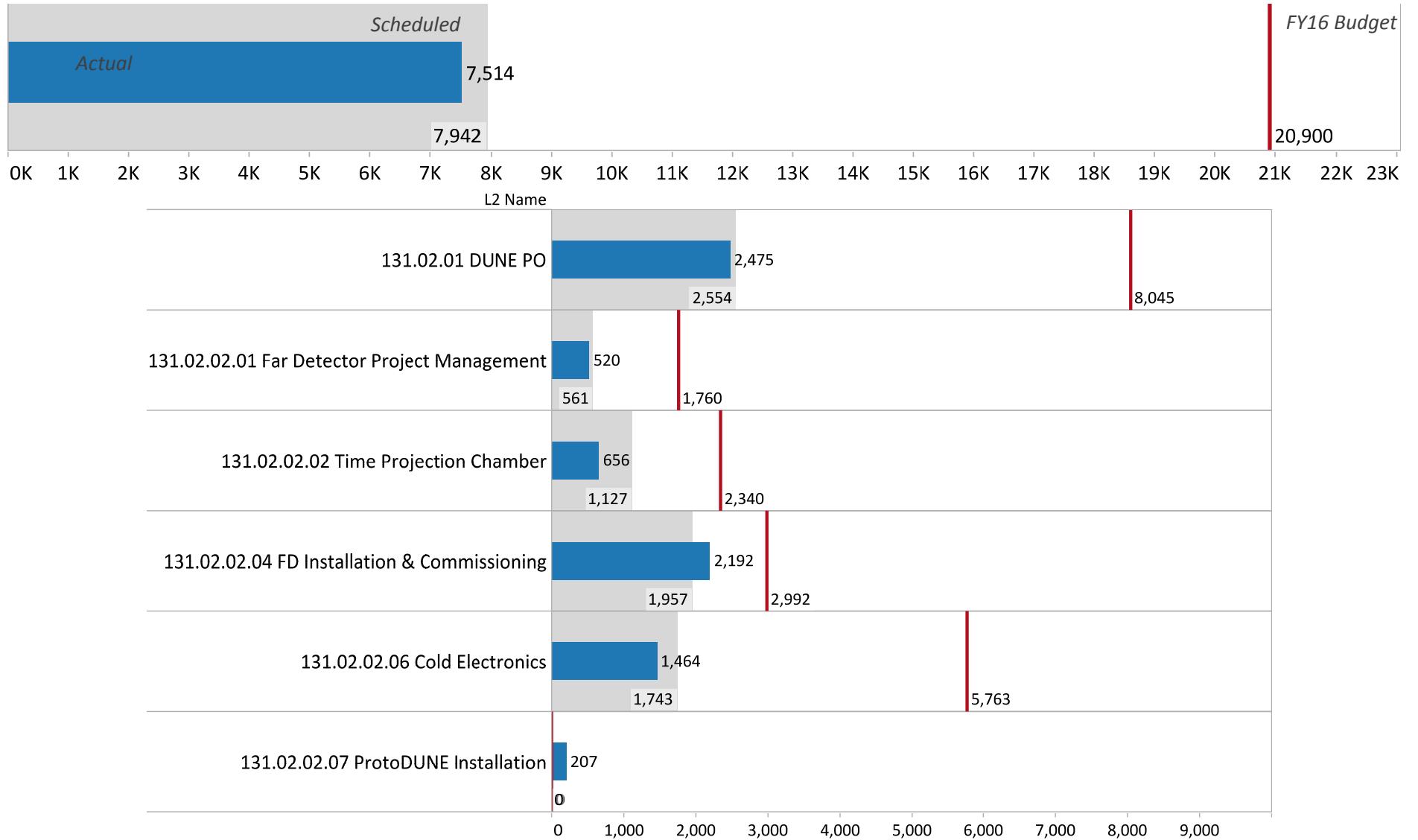
Management Update – Budget (Oct-15 re-plan) Status, by L3 WBS



Management Update – Budget Status, FY16 Costs vs. schedule



Management Update – Budget Status, FY16 Hours vs. schedule



Interfaces with LBNF

- In process of moving some scope from LBNF to DUNE
 - Single-phase ProtoDUNE beam window
 - Interface with cryostat
 - Interface with field cage
 - Single-phase ProtoDUNE cryogenics (components inside cryostat)
 - Interface with cryostat
 - Interface with TPC installation
- Reviewed Control Room Requirements Document from Arup (no issues)
- Progressing on studies of fluid flow requirements inside cryostat with goal of addressing associated LBNF change control items prior to the start of the final CF design stage

ProtoDUNE Operations Budget

- Fermilab Directorate and DOE have charged DUNE management with producing a proposal for a U.S. operations budget for the ProtoDUNE detectors by March 4th
- Intended to fund travel and housing expenses for U.S. personnel required at CERN for operating the detectors, detector consumables such as cryogenics, and offline computing needs (not covered by project)
- Fermilab Computing Division is in contact with CERN IT department for initial conversations regarding the potential division of responsibilities for ProtoDUNE-related computing activities

35-ton Status

- Cool-down completed January 29th
- Filling completed February 2nd
- Filtration pumps started February 11th
 - Electron Lifetime ~ 2ms as of the morning of February 15th
- First tracks observed within 24 hours of starting pumps (see event display on next slide)
- Lots of ongoing work on understanding noise issues
- High Voltage running at half of nominal operating value (60 kV)
 - Will attempt ramp high-voltage to full operating value after detector operation at current settings is well-understood



35-ton Status

