

# Status & Plans

Eric James

Far Detector Technical Board Meeting

January 10, 2019

# Welcome to 2019

- Get ready for a busy year!
  - Submission of Far Detector TDR volumes -> July
  - RRB sign-off of Far Detector Responsibility Matrix -> September
  - Baseline review for LBNF/DUNE-US Project -> October

# TDR Production Schedule

Consortium	1st draft	2nd draft	To LBNC
SP-HV	2-Nov-18	7-Dec-18	21-Dec-18
SP-APA	2-Nov-18	14-Dec-18	21-Dec-18
SP-DAQ	12-Nov-18	14-Dec-18	21-Dec-18
SP-PDS	7-Dec-18	11-Jan-19	25-Jan-19
SP-CISC	30-Nov-18	11-Jan-19	25-Jan-19
TC	7-Dec-18	11-Jan-19	25-Jan-19
PHYSICS	30-Nov-18	11-Jan-19	25-Jan-19
SP-CE	14-Dec-18	8-Feb-19	22-Feb-19
DP-Electronics	14-Dec-18	8-Feb-19	22-Feb-19
Computing Exec Summary	14-Dec-18	8-Feb-19	22-Feb-19
DP-HV	1-Feb-19	1-Mar-19	29-Mar-19
SP-IIC	1-Feb-19	1-Mar-19	29-Mar-19

Consortium	1st draft	2nd draft	To LBNC
DP-PDS	1-Mar-19	5-Apr-19	26-Apr-19
SP-Calibration	1-Mar-19	5-Apr-19	26-Apr-19
SP-Exec Summary	1-Mar-19	5-Apr-19	26-Apr-19
ND-Exec Summary	1-Mar-19	5-Apr-19	26-Apr-19
DP-IIC	5-Apr-19	10-May-19	31-May-19
DP-DAQ	5-Apr-19	10-May-19	31-May-19
DP-CISC	5-Apr-19	10-May-19	31-May-19
DP-Calibration	10-May-19	7-Jun-19	28-Jun-19
DP-CRP	10-May-19	7-Jun-19	28-Jun-19
DP-Exec Summary	10-May-19	7-Jun-19	28-Jun-19
Overall Exec Summary	10-May-19	7-Jun-19	28-Jun-19
TDR Final			26-Jul-19

# LBNC TDR Feedback

- LBNC chair has proposed having in-person interactions on Feb. 26-28 at FNAL
  - Current idea would be to spend one day each discussing Physics Volume, Technical Coordination Volume, and SP Detector Volume (drafts of most sections of these volumes will have been delivered to LBNC by this point)
  - Would require representation from all of SP and joint consortia
  - Likely something similar in May/June (perhaps at CERN?) for DP volume

# Risks

- Message from TDR editors:
  - Chapters **\*should include\*** a risk section (if not already included) with a table and some explanatory text. An excellent example of a risk section is the one in the developing CE draft. See Sec. 8 of <https://dune.bnl.gov/docs/dune-tdr/vol-sp/vol-sp-ch-sp-tpcelec.pdf> (this document handles all project related issues quite well). Anne can provide the table template.
- Technical Coordination also needs to collect all consortia risks into a global risk registry
- All risks should have an assigned probability and some indication of potential cost and schedule impact (e.g. high, medium, or low)

# Risk Impact

- Just to provide some rough guidance ...

Impact	Cost	Schedule
Low	< 5% increase in total sub-system cost	< 2 month delay in final sub-system completion
Medium	5-20% increase	2-6 month delay
High	> 20% increase	>6 month delay

- Need risk information for next stage of NCG review starting in March (more on next slide)
- Targeting April/May for reviewing Risk Register

# Sub-system Cost Estimates

- I have been promising an example that we can use as a template to help “standardize” our cost estimates for the next round of review
  - Hoped to have this ready for today, but it will require another week to finalize
- The required time scale for updated cost estimates is end-of-February
  - NCG will initiate next round of review after the RRB meeting in March

# Requirements

- We have successfully completed the process of having the Executive Board take ownership of the high-level SP detector specifications
  - Need to re-visit this process for the DP detector in the context of preparing to write TDR sections
- Consortia should be continuing to develop their lower-level specifications in the context of preparing their TDR chapters



# Schedule

- Big question is how to converge on updated dates for the start of installation of the first two far detectors
  - LBNF is expected to converge on dates as part of its reconciliation of the 90% final conventional facilities designs in April/May
  - We expect to have a discussion at the upcoming collaboration meeting on how we will handle this issue in the TDR
- In the meantime, will continue to work with consortia individually on further developing the global schedule

# Reviews

- Need to schedule design reviews for each subsystem between now and July TDR submission date
- Currently,
  - CE Mechanicals: Feb 11-12 @ BNL
  - APA: March 27-28 @ PSL (TBC)
- Engineering team has been developing safety review requirements in context of APA review – will iterate with each consortia on its requirements

# Interface Documents

- Two important workshops associated with upcoming collaboration meeting:
  - Integration/Installation Workshop: Jan 24-25 @ CERN
  - Computing & Software Interfaces Workshop: Jan 30 @ CERN
- Coming out of these workshops, we will need to update our interface documents and place them under signature control
  - Process needs to be completed on time scale of final TDR submission

# ProtoDUNEs

- There will be presentations at the January SPSC meeting (Jan 22-23) regarding potential post-LS2 operation of the ProtoDUNE detectors
- Final installation of the ProtoDUNE-DP detector is in progress with a target goal of operating in July 2019
- Planning continues for the continues operation of the ProtoDUNE-SP detector with cosmic rays in 2019

# Upcoming Schedule

- SPSC Meeting: Jan 22-23 @ CERN
- Integration/Installation Workshop: Jan 24-25 @ CERN
- DUNE Collaboration Meeting: Jan 28-Feb 1 @ CERN
- Computing & Software Interface Workshop: Jan 30 @ CERN
- CE Mechanical 60% Design Review: Feb 11-12 @ BNL
- LBNC TDR Review: Feb 26-28 @ FNAL (TBC)
- RRB Meeting: Mar 14-15 @ FNAL
- APA 60% Design Review: Mar 27-28 @ PSL (TBC)
- LBNC Meeting: Apr 1-3 @ FNAL
- DUNE Collaboration Meeting: May 20-24 @ FNAL