

Next Steps Toward Production of TDRs

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Far Detector Technical Board Meeting

August 16, 2018

Path to TDR

- Less than seven months remaining to produce TDRs by April 1, 2019
- Completion of initial detector cost estimates on desired time frame (mid-August) was a big step forward
 - Thanks to everyone for their efforts to provide this information
- Neutrino Cost Group (NGC) will now review the cost information that we have provided

Cost Estimates

- The information provided has been uploaded into the following DUNE DocDB entries:
- Please do not modify the contents of these entries while the NCG review is in progress

WBS	Description	DocDB
1.0	Project Office	9450
2.1	SP-TC	9453
2.2	SP-APA	9456
2.3	SP-ELE	9459
2.4	SP-PD	9462
2.8	SP-HV	9465
2.9	SP-DAQ	9468
2.10	SP-CISC	9471
3.1	DP-TC	9474
3.5	DP-CRP	9477
3.6	DP-ELE	9480
3.7	DP-PD	9483
3.8	DP-HV	9486
3.9	DP-DAQ	9489
3.10	DP-CISC	9492

Cost Estimates – Next Steps

- NGC will provide feedback to us and report to the RRB on the time scale of one month
- Ami Dave is working to combine the received input into a coherent WBS cost book
 - Goal is to see if we can format this in a manner that will be easier to update and maintain
- Expect the next NCG review of the cost book to take place in about six months

TDR Preparation

- Next major step is to get the writing of the document underway
- LBNC has asked that
 - We attempt to minimize the length of the TDR volumes as much as possible
 - We provide initial drafts that the committee can begin to study several months prior to the submission of the final documents

TDR Schedule (Preliminary thoughts)

- September 1 - editors appointed
- October 1 - outlines due
- November 1 – first drafts due
- December 1 – second drafts due
- February 1 – input from independent reviews of second drafts
- March 1 – final drafts due
- April 1 – independent reviews of second drafts complete
- April 15 – submit final drafts to LBNC

Next LBNC Review

- Next LBNC review is tentatively being planned for December 13-15 at CERN
 - Focus on ProtoDUNE results and a more in-depth discussion of DP not possible at last review
- LBNC would like access to second drafts of TDR volumes to begin digesting contents, although with understanding that the review itself would be based on the final versions

TDR Themes

- LBNC has continued to hammer on a number of themes which will need to be addressed in the TDRs
 - Detector requirements and how these are derived from the physics goals of the experiment
 - Identification of risks and strategies for mitigating and/or dealing with these should they be realized
 - Plans for additional R&D and how decisions between various design choices will be made
 - Definition of interfaces (both between detector sub-systems and with the supporting infrastructure)

Decision on ProtoDUNEs

- On the topic of plans for future integration testing, we will need to decide in the very near future whether to incorporate additional ProtoDUNE running into our planning
- CERN SPSC expects us to submit a proposal for future running at its October meeting
- Spokespersons have requested input from the consortia on how additional ProtoDUNE running would fit within their current plans

Other Deliverables Required for TDRs

- Finalized Cost Workbook
- Final assignments of institutional responsibilities for detector deliverables (funding matrices)
- Finalized construction and installation schedule
- Complete set of interface documents

Funding Matrices

- Need to update the RRB in September on the status of funding matrices associated with each detector sub-system
- Will need to set up another round of phone calls with the consortia leadership teams to review recent developments in advance of meeting
 - Target holding these in late August/early September

Construction Schedule

- With initial cost estimate in place, need to focus on further refining construction and installation schedule
- Initial inputs received from consortia earlier in the year did not join simply to form a coherent schedule across all sub-systems
- I have been working with Mohammed a top-down approach for connecting the individual consortia schedules in a coherent way

Construction Schedule (cont.)

- Once this is finalized, I will need to interact with the consortia leadership teams to more fully develop the schedules associated with their sub-systems
- The decision on whether to have a second ProtoDUNE run with production components has a potentially big impact on the schedule
- We need to try to have a complete first pass of the schedule on the time scale of the next few months

Interface Documents

- A lot of progress has been made on interface documents over the past few months in conjunction with assembling cost estimates
- Have started the process of placing these documents under signature control – need to continue pushing this forward
- Have started to place a bit more emphasis on software interfaces – working to identify an Online Computing Coordinator

Design Reviews

- Need to schedule 30% design reviews for SP-DSS, Installation, ITF, SP-PD, and DAQ before the end of this calendar year
 - 60% Design reviews for all sub-systems would nominally need to be scheduled for the first three months of 2019
- Tentative Schedule :
 - SP-DSS Review – Next week at CERN
 - Installation Review – First week of October at CERN
 - ITF Review – Last week of October at SURF
 - SP-PD – Late November/Early December at FNAL
 - DAQ – Third week of December at CERN