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November 5, 2020

**LBNC December 2-4, 2020 Charge: Draft 2**

As usual, the LBNC should construct a report in which it acknowledges, comments on, and where appropriate, makes recommendations following the presentations and discussions during the meeting.

The progress of LBNF-DUNE towards a baseline for the DOE project is critically dependent on achieving a high degree of clarity with respect to the scope of the project. In the presentations, LBNF and DUNE should pay attention to this aspect of its progress. In its report, the LBNC should explicitly address this issue with respect to both the Far Detector scope and convergence, and for the Near Detector scope and convergence.

The LBNC should hear about the general status of LBNF. Of continuing interest are the progress of and planning for DOE-IPRs, the current schedule, and any options for early delivery of beam. The discussion of the beamline progress should be addressed in a breakout session shared with Technical Coordination.

The LBNC should hear from DUNE about its overall status and progress at a high level, and provide a basis for the details which follow. The situation with respect to the IPR process and the approach to a Baseline review should be updated and clarified. The overview should include discussion of the development path for a second technology as well as the approach to the Near Detector including its Day-1 incarnation.

Time has been allotted including a share of a breakout session for discussions of the advances in the Technical Coordination of DUNE. In addition to the general issues, the preparations for ProtoDUNE II SP and for installation at SURF should be addressed.

The LBNC should hear about the progress with the Far Detector Horizontal Drift SP technology. The presentation(s) should cover:

1. Progress towards ProtoDUNE II SP.
2. Technical progress on the SP Far Detector, APAs, assembly etc
3. Progress on the TPC electronics development and the progress towards a choice.
4. Physics analysis of the PD-SP data.

Substantial time has been reserved for dedicated SP Horizontal breakout discussions which should be used for some of these discussions. Time is reserved in the Computing Breakout for a presentation on the physics analysis and results.

It is understood that, following completion of the ProtoDUNE Dual Phase running in NP02, the DUNE collaboration is discussion a substantial strategic change of direction, likely towards a Vertical Drift configuration. The LBNC should hear about these developments, and the planning for the Vertical Drift Workshop. It will be important to hear about the plans for taking decisions and setting directions. Not all the technical issues with the DP running were limited to the readout. Even with a major change, there will be several technical issues to be resolved. The LBNC should hear plans for resolution of these issues. In addition a perspective on the future plans for NP02 should be discussed.

In the plenary session in-depth discussion may not be possible but that there is substantial dedicated breakout time.

The revised version of the Conceptual Design Report for the Near Detector complex is anticipated. A description of both the documentation and the technical status should be heard. The LBNC will be presented with documentation describing the components and the strategy to be employed for a Day-1 Near Detector. A Charge for a separate LBNC review of this plan has been prepared by the Laboratory Director. At this juncture, the LBNC should hear as much of these plans as are permitted by the time available.

There will then be breakout time which should be shared between these aspects of the Near Detector planning.

The LBNC was very pleased with the progress made towards a coherent view of the computing and software project up to the September 2020 meeting. The LBNC should hear about any further progress. Of particular interest would be an understanding of the evolution of the staffing.

With a basis for the computing structure in hand, the LBNC should hear about some of the particular technical issues currently being addressed and progress therewith.

Following the success in the September meeting a substantial breakout session has been scheduled. During that breakout, the LBNC should also receive a presentation on the progress with analysis and results from the ProtoDUNE data taking.

The LBNC should develop a Closeout Report which it should deliver at 12:15 CDT December 04. Subsequently this should be refined into a LBNC Meeting report.