

Charge Letter: LBNC October 2023 Review, October 2-4, 2023

The LBNC is charged by the Fermilab Director to provide external scientific peer review and to monitor the technical progress of the International DUNE collaboration, and those aspects of the facility construction that have direct impact on the DUNE experiment.

For the October 2023 meeting, the LBNC will meet in remote mode to review status and progress of LBNF and DUNE. As with other meetings, 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 LBNC should hear about the general status of LBNF and DUNE. In addition to updates on major detector systems, the LBNC should also receive updates on DUNE computing, activities towards ProtoDUNE-II, the neutrino beamline including beamline monitoring and plans for 2MW capable targets, and FDC status following the September IPR. Along with technical progress, presentations should report on issues and concerns related to supply chains and availability of components.

In considering the presentations and material provided for the meeting, attention should be given to prior LBNC recommendations and actions that have been undertaken to address these recommendations. For the DUNE detectors and computing, we would like to continue our work toward uniform and regular reporting and tracking of major DUNE technical milestones.

In this review particular attention should be paid to the Near Detector and Beamline areas. The committee is not being asked specifically for comments on these areas in this review, but it is expected that these two areas will be features of the February 2024 review.

In this review the committee should particularly comment on:

- 1) Overall status and progress of international DUNE computing
- 2) The role of the US Computing effort within the international effort
- 3) Does the DUNE software and computing model and plan meet the physics requirements.

- 4) The plan for Near Detector computing and its integration with the broader DUNE computing effort

The LBNC should develop a Closeout Report which it should deliver at the end of the meeting. Subsequently this should be refined into a LBNC Meeting report.