

30 May 2017

LBNC Meeting: June 21-24, 2017  
CHARGE for the Referee Groups

The LBNC is asked provide candid assessments of the scientific, technical, and managerial preparations and decisions for the Fermilab Long Baseline Neutrino Facility (LBNF), the long baseline Deep Underground Neutrino Experiment (DUNE), and some specific aspects of the Short Baseline Neutrino program. The LBNC referee groups are asked to focus on specific areas of these activities.

**Speakers:**

We ask the speakers to provide some general items for most talks/reports (where relevant):

- An update on previously agreed milestones in a standard format (comparing planned with actual or projected for example).
- An assessment of risks, mitigating strategies, and status of these strategies.
- An update on manpower planning and status of key scientific, engineering, or QA/ESH personnel.
- Status relevant recommendations (completed, not adopted for reasons, in progress and projected completion).

**Referee Groups:**

We ask the referee groups, for their focus areas, to:

- (i) Assess recent progress against key milestones and schedules. Identify any new areas that need special attention, and draft the associated recommendations, if needed.
- (ii) Assess the status of the actions recommended in past LBNC meetings. Identify any areas where progress may be insufficient.
- (iii) Consider issues and recommendations from recent U.S. and International funding agency reviews (for example, the recent DOE status review). Are there sound plans to address these issues and recommendations?
- (iv) Consider synergies with the SBN program (where applicable).

In addition, for each referee group there are some specific areas we would like the group to focus on for this meeting:

1. protoDUNE-SP CE & TPC:
  - i) Detector support structure status.
  - ii) Cold electronics testing of production chips.
  - iii) High voltage testing (35 ton).
  - iv) APA status.
2. protoDUNE-SP DAQ:
  - i) Integration of the DAQ with the two main detectors through their electronics (SSP, WIB).
  - ii) Integration of other detectors into the DAQ.
  - iii) Availability of DAQ group effort at CERN to participate in the installation and commissioning of the DAQ for the cold-box.
  - iv) Development of higher level DAQ functions, such as monitoring.
3. protoDUNE-SP schedule & planning:
  - i) APA assembly: change request and approval mechanism and schedule modification due to changes in module assembly procedures resulting from lessons learned from winding of first APA; status of APA assembly in UK.
  - ii) DSS design and fabrication status; summary of installation workshop; when must the installation be completed; more detail on schedule – especially through July and August; effort requirements and plan.
  - iii) PD status; milestones in the project plan.
  - iv) Enumeration and status of Interface documents
  - v) Watch list.
4. DUNE physics & reconstruction, and planning for joint SBN analysis
  - i) ND+LBL activities, post-ND TF activity, etc.
  - ii) LBL oscillation fitting tools
  - iii) Progress in FD event selections
  - iv) TDR Physics Volume: organization, planning
5. DUNE computing:
  - i) Response from the Expression of Interest process.
  - ii) Preparations for the protoDunes test beam:
    - a) Plans for both SP & DP and status of plan execution.
    - b) Resource estimates.
    - c) CERN/FNAL interactions on computing.
  - iii) SCD contributions to protoDUNE.
6. LBNF/DUNE planning for cryogenics:
  - i) Operational and Lessons learned Experience with WA105.

7. LBNF management, schedule & planning:
  - i) Management of priorities and resources between far site and near site for LBNF work.
  - ii) LBNF/DUNE Interfaces at far site: CF and cryo systems.
  
8. LBNF/DUNE interfaces:
  - i) Progress on logistics planning and cryostat penetration design effort planning. Is the protoDUNE work on the penetrations and detector/cryostat/cryogenics being captured/tracked sufficiently to understand the level of effort needed to deliver the final system for the single phase detector?
  
9. protoDUNE-DP technical, schedule & planning:
  - i) Update on fall schedule
  - ii) Status of parts procurements
  - iii) Review of manpower planning
  
10. DUNE management, schedule & planning [MacFarlane, Heinemann, Proudfoot]:
  - i) Update on EOI process and next steps
  - ii) Timeline and planning for review process, including RRB and DCG
  - iii) Responses to recommendations from last meeting