



Neutrino Cost Group Kickoff

Steve Nahn

October 2019 Kickoff Meeting

16/25 Oct 2019

Charge to the NCG

The Long Baseline Neutrino Committee (LBNC) and the Neutrino Cost Group (NCG) are part of the international project governance and oversight structure for the international Deep Underground Neutrino Experiment (DUNE), hosted by Fermilab. The LBNC and NCG are review committees charged by and reporting to the Fermilab Director. Importantly, this reporting should make recommendations concerning the Technical Design Reports for DUNE to the Director. Both groups will provide updates to the DUNE Resources Review Board (RRB). The LBNC reviews DUNE from a technical perspective, and the NCG reviews costs and schedule associated with DUNE construction.

- Above from the LBNC/NCG [charge](#), signed by N. Lockyer 8/16/2018
- Modeled after a similar process for LHC Experiment Upgrades, the LHCC and **Upgrade Cost Group**
 - Chaired by (A.J.) Stew Smith, Princeton

Scope of the NCG (also from charge)

- The purpose of the NCG is to review the cost, schedule, and associated risks for the DUNE experiment, and to provide reports and recommendations to the Fermilab Director and the RRB. This includes:
 - Evaluating the reliability, completeness and appropriateness of the cost estimate for the DUNE experiment including computing.
 - Assessing the feasibility of the schedule for DUNE and the availability of the manpower necessary to execute the project.
 - Evaluating the project management structure and the risk analysis for DUNE, along with the LBNC, including proposed levels of cost realism and schedule contingency to address identified risk mitigation strategies.
 - Monitoring progress of DUNE against the cost and schedule associated with the Technical Design Reports.
- The NCG will establish a common methodology which can be used to value international contributions to DUNE.

History and current membership of the NCG

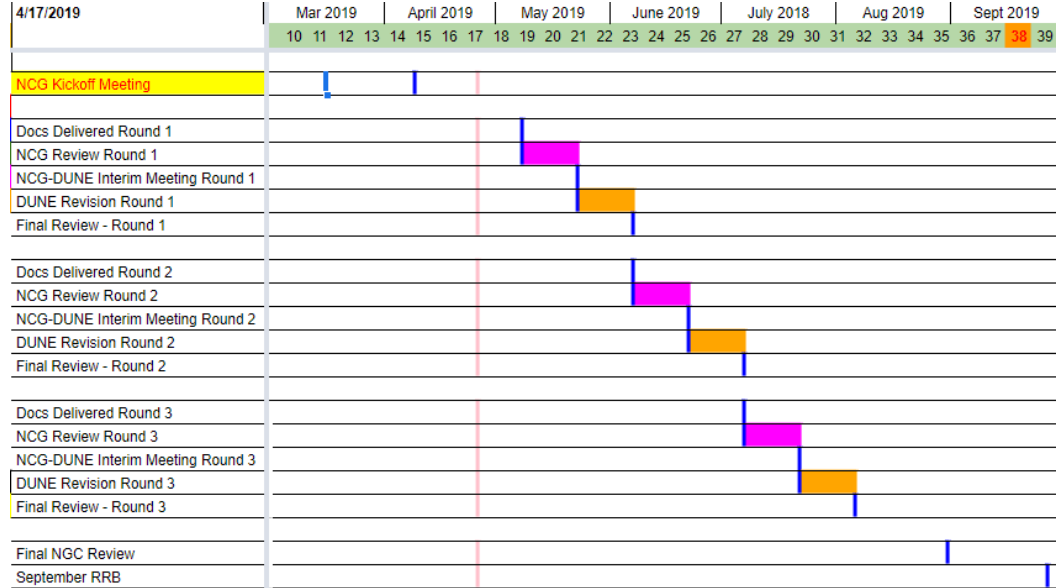
- Originally Regina Rameika was the chair, and recruited
 - Steve Nahn, FNAL
 - Luisella Lari, FNAL
 - Markus Nordberg, CERN
 - Catherine Decosse, CERN
- Regina switched from Reviewer to Chief Proponent in early 2019, Nigel asked me to assume the chair
- I have managed to add two members
 - Jeff Spalding, FNAL (ret.) -- also a member of the LBNC
 - Antonello Di Mauro, CERN
- We can also conscript as necessary from the LBNC team

Original Plan

- On previous schedule, plan was to do the Cost Review during the summer
 - 3 iterations, as documents become ready

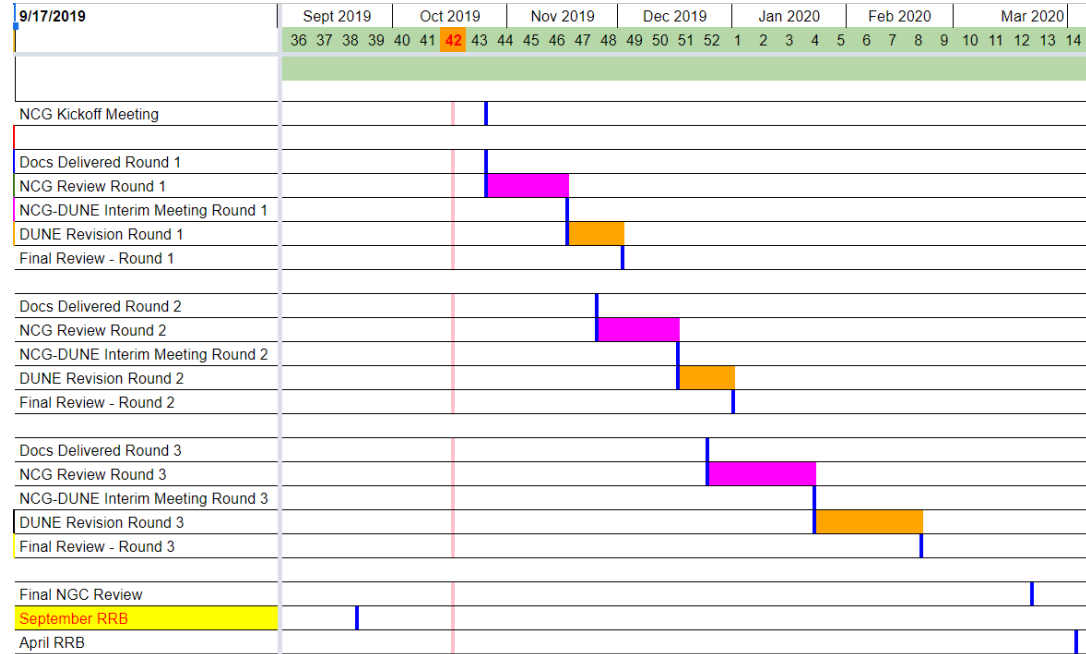
Docs Delivered Round 1
NCG Review Round 1
NCG-DUNE Interim Meeting Round 1
DUNE Revision Round 1
Final Review - Round 1

- Final Review at the end
- Schedule and Risk information also maturing on time scale of end of summer



Deceleration

- TDR process as well as other developments slowed production of the cost documentation
 - Consistent with the overall development pace of the project
 - In LHCC, UCG strictly starts after TDR approval
- Same review scheme with some allowance for holidays would provide substantial information for April RRB
 - Not clear we need to batch like this



Review Plan

- Again following LBNC, plan is to divide and conquer
 - Everyone gets to lead a “big” WBS and a “small” WBS, divided according to expertise, geographic location, and mixing teams for cross-pollination

	2.2 APA	2.3 CE	2.4 PD	2.8 HV	2.9 DAQ	2.10 CSIC
Nahn	■			■		
Lari	■				■	
Nordberg		■			■	
Decosse			■			■
Spalding		■				■
Di.Mauro			■	■		

Rest of Charge

- Currently project has supplied input on Costs, but little on Schedule and Risks
 - Chair has reached out to scheduler and Risk Manager with little response, will refresh the query in November
- Monitoring going forward
 - Discussion needed with Mont/Nigel, originally NCG was a one shot deal
- LHC model: LHCC+NCG → P2UG (not everyone, but some from each)
 - Two reviews per year, $\frac{1}{2}$ the project “in depth”, the other “overview/update”
 - Uses the “milestone tagging” approach
 - Project provides a list of appropriately high level milestones to be updated
 - May even borrow same mechanisms
 - Thoughts?

Recent Reviews

- LBNC Reviews - <https://indico.fnal.gov/category/440/>
 - Likely some access issues to sort out, will work with FNAL Mgmt on that

Long Baseline Neutrino Committee (LBNC)

Meetings and Documentation of the Long Baseline Neutrino Committee (LBNC)

July 2019

31 Jul - 02 Aug July 31- Aug 2, 2019 LBNC Meeting

June 2019

04 Jun June 2019 LBNC DUNE Near Detector Review

April 2019

01 Apr - 03 Apr April 1-3, 2019 LBNC Meeting

February 2019

28 Feb Feb. 2019 LBNC TDR Review

December 2018

07 Dec - 09 Dec Long Baseline Neutrino Committee (LBNC)

- RRB - <https://rrb.fnal.gov/> and <https://indico.fnal.gov/category/448/>
 - SN gave a short report not unlike this talk

Resources Review Board (RRB)

The Resources Review Board (RRB) is composed of representatives of all funding agencies that sponsor LBNF and DUNE, and of the Fermilab management. The RRB provides focused monitoring and detailed oversight of each of the Projects. The Fermilab Director, in consultation with the DUNE Resources Coordinator, defines its membership. A representative from the Fermilab Directorate chairs the board and organizes regular meetings to ensure coordination between the funding agencies and the Projects, and monitoring of the progress of the Projects. The managements of the DUNE Collaboration and the LBNF Project participate in the RRB meetings and make regular reports to the RRB on technical, managerial, financial and administrative matters, as well as status and progress of the DUNE Collaboration.

September 2019

19 Sep - 20 Sep DUNE Resources Review Board (RRB) Meeting (protected)

March 2019

13 Mar - 15 Mar DUNE Resources Review Board (RRB) Meeting (protected)

September 2018

13 Sep - 14 Sep DUNE Resources Review Board (RRB) Meeting (protected)

- US DUNE review Oct 29-31ish
 - Letter sent from LBNC/NCG chair to keep reviewers informed on international process

Chair is inattentive?

HL-LHC CMS Detector Upgrade CD-1 Review

chaired by Kurt Fisher (DOE)

from Tuesday, 22 October 2019 at **08:00** to Thursday, 24 October 2019 at **16:00** (US/Central)

- Day job got a bit less intense yesterday
 - Needed to worry more about my own \$162M
- Will try to get proactive about scheduling important dates etc with sufficient lead time
 - Eg should pick December or January in the next week, and also plan for something in March
- Could also suggest new chair (with no argument from current chair)