Scope Selection Meeting Summary   
(Nov. 6, 2012)

Eric Prebys

Present: Eric Prebys, Marc Kaducak, Stuart Henderson, Tom Markiewicz, GianLuca Sabbi, Bruce Strauss, Oliver Brüning, Lucio Rossi

# Summary

Pursuant to the plan put forth in the LARP down selection document [[1](#Eri12)], we held the first meeting of the LARP Scope Selection Committee [[2](#EPr12)]. We did not have all the costs and schedules quite in the consistent form we had hoped for, it’s sufficient to start laying out the big choices. The costs of the individual projects are described in Marc Kaducak’s talk at from the meeting, and the totals are shown in Table 1. This should be compared to the DOE budget guidelines of flat-flat LARP finding at $12.3M/year for four years plus a total project cost of $200M (≈$250M), in addition to as yet non-quantified contributions from the General Accelerator Development (GAD) funds. We see that significant scope reduction is necessary. In addition, the spending profile requires money beyond the LARP budget in the years before FY17.

Table 1 *Preliminary* Summary of all costs, including R&D and Management.



We will continue to refine these numbers, but some things are immediately clear:

* The original plan to build half of the cold masses for the IR quads will consume the vast majority of the proposed budget, leaving little room for additional scope. On the other hand, reducing the US contribution to one quarter of the cold mass could allow for significant additional scope from the other potential projects. *This is the single most important question that the committee must decide.*
* The guidance from the DOE specifies that the funding $200M total project cost is based on obtaining CD-3 at roughly the beginning of FY17; however, it’s clear that some fraction of the money will be necessary before that to do the necessary R&D and preparatory work. A realistic budget profile for the years before FY17 is an important question for us to discuss with the DOE.
* Both the Nb3Sn quad project and 11 T dipole project rely on significant contributions from GAD funds. It’s very important that these funds be quantified and committed. This is a discussion to have with the relevant lab management at the individual labs.

Action items:

* Oliver and Lucio will discuss the prioritization of the projects with the appropriate people at CERN, with particular emphasis on the question of 25% vs 50% of the cold masses for the Nb3Sn quads.
* Stuart and I will discuss possible funding profiles with Bruce and the DOE.
* We will also work with lab management to quantify the GAD contribution.
* Marc and I will continue to work with the project representatives to refine and complete the cost estimates.

# Bibliography

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| [1] | T. Markiewicz, M. Kaducak, G. Sabbi, S. Henderson E. Prebys. (2012, September) LARP Document Database. [Online]. <http://larpdocs.fnal.gov//LARP-public/DocDB/ShowDocument?docid=1069> |
| [2] | M. Kaducak, S. Henderson, T. Markiewicz, G. Sabbi, B. Strauss, L. Rossi, O. Bruning E. Prebys. (2012, November) Scope Selection Meeting. [Online]. <https://indico.fnal.gov/conferenceDisplay.py?confId=6111> |

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