

REVIEW OF LARP SEPARATION DIPOLE R&D –Charge to Review Committee
P. Wanderer + Mike Harrison – December 9, 2004 (rev.)

The Committee is asked to review:

- The concept of a dipole-first IR upgrade for the LHC that uses two dipoles (D1a and D1b), each with an open midplane. Does the concept address the basic performance requirements, including beam-induced heating at $\mathcal{L} = 10^{35}$, as they are currently understood? (An example of dipole-first optics is given in the PAC03 “LHC IR upgrade” paper of Strait et al.)
- General parameters of a D1a open midplane design, including length, peak field, central field, field uniformity, good field aperture, Lorentz forces, stored energy, quench protection, and temperature margin. Have the major issues been identified?.
- Near-term R&D on the open midplane concept, specifically the open midplane assembly of LBL subcoils in BNL fixtures, including instrumentation and test plans.
- Plans for an efficient R&D path that includes the steps necessary for validating the D1a concept and identifies the point at which LARP would move forward with the construction of a proof of principle cold mass.
- FY05 LARP task sheets for the above work.