

LBLN Proposed Milestones–FY07[†]

WBS[‡]	Task	Milestone	Date
2.1.1	Damping Ring R&D coordination	Participate with DR area systems leaders in writing and cost estimate for RDR	Nov. '06
2.1.2	LBLN coordination	Prepare FY06-Q4 financial report Prepare FY07-Q1 financial report Prepare FY07-Q2 financial report Prepare FY07-Q3 financial report Coord. LBNL TDR design effort	Nov. '06 Jan. '07 Apr. '07 Jul. '07 Sep. '07
2.5.1	Damping Ring inj./extr.	Optimize parameters for latest lattice Evaluate diagnostics needs and specs	Jun. '07 Sep. '07
2.5.2	Damping Ring dynamic aperture	Evaluate performance of baseline and alternative lattice(s) Complete tracking studies to optimize TDR DR lattice	Jun. '07 Sep. '07
2.5.3	Damping Ring collective effects	Evaluate adequacy of 2D ECI estimates in wiggler Complete 3D self-consistent estimate of head-tail instability Complete studies of microwave instability, IBS, space charge effects	Mar. '07 Sep. '07 Sep. '07
2.5.4	Damping Ring vacuum	Complete initial design studies of wiggler and magnet radiation heat loads, and specify design concepts for required antechambers and photon stops	Sep. '07
2.5.5	Damping Ring mech. design integration	Complete initial design of mechanical system, specifying layout of major magnet, vacuum and instrumentation components	Sep. '07
2.5.6	Multibunch impedance	Evaluate transient beam loading effects Report on effects of injection transients on stored beam	Mar. '07 Sep. 07
2.5.7	Transverse feedback	Develop system model to estimate noise, gain, phase margins Design prototype low noise receiver	Sep. '07 Sep. 07

[†]Milestones predicated on obtaining the full requested funding for the tasks listed.

[‡] Categories based on original proposal.

WBS[§]	Task	Milestone	Date
2.5.8	DR low-emittance tuning	Identify primary sources of emittance degradation and develop preliminary algorithms for coupling correction Develop dynamic model of DR, including diagnostics resolution and incorporating coupling correction Optimize coupling correction design and specify tolerances	Jan. '07 Mar. '07 Sep. '07
2.5.9	Injection/extraction transients	Characterize injection and extraction process and other sources of jitter; develop software tools for transient analysis Report on implications of transients for feedback design and their impact on DR performance	Jan. '07 Sep. '07
2.7.1	IR Superconducting Magnets	Design magnets for 2 mrad IR	Sep. '07
3.2.1	Universal parser	Release final version, with user manual	Sep. '07
3.4.1	Positron source undulator	Design high-performance prototype	Sep. '07
3.5.1	Beam diagnostics	Identify receiver frequencies for coherent signal detection Build prototype coherent signal monitor and betatron tune monitor	Mar. '07 Sep. '07
3.6.1	Low level RF	Develop model of RF control of multiple loads with single amplifier Assess laser requirements and capabilities Propose frequency reference and distribution Begin testing RF development hardware at FNAL and/or DESY Analyze test results and refine requirements Complete model of multiple-load RF controller Report on hardware testing and capabilities Propose ILC laser-based distribution system design Propose scalable hardware for low-cost high-performance system based on present technology	Jan. '07 Jan. '07 Apr. '07 Apr. '07 Jul. '07 Jul. '07 Sept. '07 Sep. '07 Sep. '07

[§] Categories based on original proposal.

WBS**	Task	Milestone	Date
5.5.1	ATF Kicker Development	Fabricate and bench test cold model of kicker	Mar. '07
5.5.2	ATF Beam Dynamics	Participate in experimental study of micro-bunching instability Characterize threshold with wiggler field Characterize growth in energy spread	Mar. '07 Mar. '07 Sep. '07
5.5.3	ALS Studies	Continue Fast Beam Ion Instability studies Measure FBII growth rate vs. emittance Study effects of mini-gaps in bunch train Test fast kicker prototype	Jan. '07 Mar. '07 Sep. '07 Sept. '07

** Categories based on original proposal.