

# GDE EC agreed upon course of action on SB2009

Caltech EC meeting 8-9<sup>th</sup> February 2010

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*After approximate one-year of study and preliminary design work, the ILC Accelerator Design and Integration (ADI) team submitted the SB2009 proposal to the GDE Director in December 2009. The Director's Accelerator Advisory Panel (AAP) subsequently reviewed the proposal in a face-to-face meeting held in Oxford 6-8th January 2010. The AAP's findings and recommendations were later submitted in a written report to the Director. The GDE Executive Committee has since discussed the AAP recommendations and has taken them into consideration in planning the next steps for the ADI/SB2009 design work. The following briefly summarises the course of action agreed-upon by the Director and EC.*

*Exact technical details and planning for the future ADI work remain to be finalised, and we expect this to be complete by the end of ILC10 workshop in Beijing. However, these plans will be consistent with the overall strategy outlined below.*

After review and subsequent discussion of the AAP SB2009 Review Report, the GDE EC agreed and confirmed:

- 1) That containment of the capital cost (VALUE) estimate at the RDR level is a primary TD Phase 2 goal. Our design activity is now aimed at making the project more robust against possible (expected) unit cost increases.
- 2) To move forward with studies aimed at the possible adoption of the themes in SB2009 proposal, but not necessarily the exact details.
- 3) To establish a formal process to make these changes to the baseline in an open and transparent fashion, and where necessary after due process and consultation with all stakeholders.
- 4) To pursue and introduce the baseline modifications in a stepwise fashion, as individual and independent<sup>1</sup> change requests, via the above mentioned process (point 3).
- 5) To present a schedule for the phased changes to the baseline via the formal change control process, beginning in October 2010 and to be completed no later than mid 2011.

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<sup>1</sup> As far as possible.

The GDE EC believes the above are consistent with the recommendations of the AAP. The GDE EC also believes that the time scale for controlled change to the baseline is consistent with the published goals for the TDR due to be complete at the end of 2012.

Major changes to the baseline are not contemplated for the TDR after mid 2011.

From the seven components of the SB2009, three primary themes are deemed mandatory for top-level/high-level change control:

- 1) Single-tunnel solution for the Main Linac, based on one of the two proposed HLRF solutions (KCS, DRFS).
- 2) A luminosity parameter set with a reduced beam power, which is consistent with the final agreed-upon physics and detector requirements.
- 3) The location and specification of the undulator-based positron source.

All other aspects of SB2009 (single-stage compressor, central region integration *etc.*) are considered to have a lesser impact on cost and schedule, and will not require the top-level formal change control discussed above. These design elements will continue to be evolved over the next 12-18 months.

The exact form of the top-level formal change control process has yet to be defined, but there is time to do so before we enter the re-baseline phase starting in 10.2010. There is agreement that the process should:

- Be open and transparent to the whole community.
- Be chaired by the senior GDE management (Director and/or EC, PMs *etc.*).
- Allow a mechanism to accept comment/input from all affected stakeholders (most notably the physics and detector groups).

The GDE EC recognized the specific need for closer communication and cooperation with the physics and detector groups in general and specifically in accomplishing the above stated change requests (notably 2 and 3). With this in mind, the GDE EC will endeavor to improve close communications with the detector concepts by proposing:

- 1) To build on the current existing ad hoc groups formed by both the GDE and the Research Director for the SB2009 discussions. These groups should – after suitable review of the membership – be amalgamated and formalized into a ‘Physics-Accelerator Performance Group’ (PAPG), which would meet regularly to discuss and review studies on the impact of proposed machine parameters that affect the physics scope.
- 2) The PAPG would report both to the GDE Director/EC and to the Research Director.
- 3) Broader strategic and policy questions on overall physics scope, running scenarios *etc.* require improved and higher-level interactions between the GDE Director, the Research Director and the ILCSC. The activities of the lower-level PAPG are intended as input into these higher-level discussions.

Discussions should commence immediately with the Research Director and WWS leaders with a view to formalising the PAPG (including membership and charge) at LCWS10/ILC10.

The GDE EC considers it critical that the physics and detector groups acknowledge the need for TDR cost containment, and that they agree to work together with the GDE in achieving it.