The ILC in the Linear Collider Collaboration

Mike Harrison

ILC Technical Board – in LCC phase

LCC Directorate

ILC Collaboration

"Technical Organization"

Director – Mike Harrison (BNL)
Deputy Director – Hitoshi Hayano (KEK)

Technical Board
Nobuhiro Terunuma (KEK)
Yasuchika Yamamoto (KEK)
Nick Walker (DESY)
Olivier Napoli (CEA)
Marc Ross (SLAC)
Nikolay Solyak (Fermilab)

KEK LC Project Office
Organization at KEK
Head: Akira Yamamoto
Deputy: H. Hayano (Acc.)
K. Fujii (Phys/Det)
T. Shidara (General

Working Groups

Function of the KEK LC Project Office

- Domestic Program
  - ILC Accelerator Design, R&D, CFS design, Geological Survey
  - Support for the ILC to be hosted by Japan

- Co-ordination of International and domestic co-operation
  - Interface to global co-operation with LCC
  - Co-ordination of domestic co-operation
  - Linkage to International co-operation to/from the KEK internal co-ordination activities

Function of the TB & Working Groups

The Technical Board

- Determine the ILC work plan
- Maintain the baseline design

Working Groups

- Provide technical updates to the baseline
- Refine and extend the existing design at the sub-system level.

Program Considerations

Program Considerations

Cryomodules

- We need to review the current baseline design especially couplers, tuners, etc.. Again the XFEL experience will help greatly in this regard
- The quad package is not demonstrated yet.

Other Hardware

- The R&D program to validate the positron targeting and capture design was not completed.
- How do we continue the cavity R&D efforts ?
- Vibration in the beam delivery system lurks
- Still plenty of scope for value engineering (cost containment)
  - HLRF
  - Modulators
  - Cryogenics

Program Considerations

System tests

- We will plan to continue these activities – see Nick's talk

Baseline Design & Costs

- We will proceed using the TDR design and incremental changes under baseline control. For internal aspects of the machine this will mean the TB. For items that impact the high-level machine parameters then we need to figure something out in the context of the LCC. The concept is straightforward, quite often the reality less so.
- The TDR machine cost estimate and it's basis needs to be captured in more formal way. The TB needs to decide how to do this. There is lots of GDE work in this area to build on.

Program Issues

Resources

We are not scoped for a construction project at this time

- Japan is ~stable but KEK's Ops budget is trending down. Trying to compensate via accelerator technology R&D requests.
- US has to a large extent ceased work after the GDE R&D program ended with the TDR- a wait-and-see approach. The recent MEXT-DOE umbrella agreement on science and technology co-operation has possibly opened the door a little. I do not expect the US to return to the $35M/yr level before we press the launch button.
- Explicit ILC work in Europe remains at a low level. A small programme at DESY (1Meuro/yr) will continue principally aimed at cavities & industrialisation.
- CLIC-ILC synergies can obviously help. Ideally this should be a win-win situation.

Program Issues

Project Engineering

- Not much at this time. The two areas which can be legitimately described as engineering are the cryomodules and aspects of the MDI. We will plan to maintain this state of affairs.