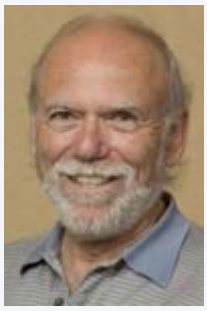
Director's Update

10 January 2008


Barry Barish

Happy New Year! This is my first column of the new year after the crippling turn of events at the end of 2007. As most of you know, we first received bad news from the UK in an STFC (Science and Technology Facilities Council) report that they intend to "cease investment in the International Linear Collider." Just before Christmas we received the news of a last-minute compromise fiscal year 2008 budget bill in the US, with large reductions for science funding, including a drastically reduced the level of funding for ILC R&D (in numbers: the expected 60 million dollars were reduced to 15 million dollars, plus cuts in other areas). Following these developments, the question on all of our minds is whether and how we can move forward with our global efforts toward the ILC.

I will systematically address aspects of this question and our evolving plans over the coming weeks. Today, I want to emphasise that both the UK and US actions are programmatic budget cuts and not rejections of the scientific goals and priorities that have motivated our work toward a linear collider. What the ILC is all about is developing a new accelerator to address new fundamental physics like uncovering and studying new symmetries in nature, probing dark matter and energy, seeking extra dimensions and uncovering the origins of our universe. In the end, I firmly believe these science priorities will prevail. For these reasons, we must find a practical path forward with our globally coordinated programme of R&D and design work for the ILC. It is not clear yet what this path will look like. A series of meetings and discussions in the coming weeks will paint a clearer picture, so keep checking *NewsLine* for updates.

As this is the first column of 2008, I want to begin by reflecting a little on what we actually achieved in 2007 and how that sets the stage for the future. By any measure, our accomplishments in 2007 were very impressive and they have built the solid foundation to continue to pursue an ILC. Just as importantly, the work we have done is providing us with the guidance we need for planning our future work with reduced support.

In the beginning of 2007, we presented a *Reference Design Report* that established a detailed design for the ILC and that also had enough detail to make estimates and perform cost studies. Through this process, we were able to change the design through selective trade-offs and reduced the costs by about 25 percent relative to the baseline configuration we had established one year earlier. The ILC Reference Design was extensively reviewed and then finalised last summer into a four-volume set (executive summary, physics, detectors and accelerator), not to forget its companion volume for broader audiences.

Over the last few months, we have concentrated internal discussions on establishing the goals and organisation for the next steps toward an ILC construction project. We created a new organisation for the Engineering Design Phase in a project management plan that centres around a project management team led by Marc Ross (Fermilab), Nick Walker (DESY) and Akira Yamamoto (KEK).

We established the goals for the engineering design phase and presented them to the Funding Agencies for Large Colliders (FALC) Resource Group in mid-December. These plans were broadly based on inputs from both the *Reference Design Report* and the GDE R&D Board, with our stated overall goal to validate design choices and to devise design updates that reduce cost and mitigate the identified risks. We outlined a detailed plan, including timescales and required resources for establishing a set of work packages for the Engineering Design phase. This plan will now need revision to take into account the developments in the US and UK. We are in dialogue with both UK and US government officials to find out how we can manage to keep key people, especially in areas where their contributions are unique.

What are we doing to develop a new plan for the future? The GDE Executive Committee will be meeting face to face next Sunday at DESY and we hope to come up with a revised plan at that meeting. Our general approach will be to prioritise our work very strictly, concentrating on the highest priority R&D goals, such as establishing the accelerating gradient, mitigating electron cloud effects as well as undertaking a value engineering process in areas where we believe we can make significant cost savings. The timescale for completing the *Engineering Design Report* will need to be stretched out to accommodate the loss of funding, but we intend to maintain an aggressive schedule for our highest priority R&D demonstrations that are needed to establish the validity of our design.

The physics motivation for a future linear collider remains as strong as ever. The combination of the Large Hadron Collider and the ILC will be needed to fully harvest the science that we expect to find at this new energy frontier. Of course, we want and need validation of this science potential from early LHC results. It is our firm intention to keep moving forward in anticipation of the exciting physics that should soon begin to emerge.

-- Barry Barish

All hands meetings were held at Fermilab and SLAC.

Read a message from Dennis Kovar on the budget situation.