Director's Corner

1 November 2007


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Critical decisions

Last week was an eventful week. The ALCPG07 and GDE meetings at Fermilab, attended by over 300 scientists and engineers, marked the completion of the ILC *Reference Design Report* and the beginning of the engineering design activities. The joint plenary session on the first day of the meeting featured a presentation (video and slides) by Dr. Raymond L. Orbach, Under Secretary for Science at the Department of Energy. He made a number of key points. He noted the importance of our recently released RDR in planning the future course of the ILC. He commented on the need to formalise the international ILC partnerships between interested governments. He issued a directive to proceed with the US funded ILC R&D through the DOE Critical Decision process. He stated the need for the Global Design Effort to take into account the constraints of obtaining government funding in our schedules for the ILC.

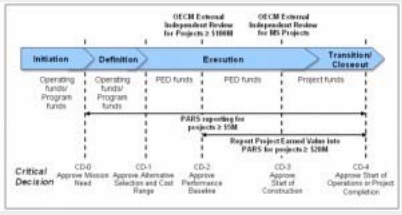
Ray applauded the RDR as a very important accomplishment. He recognised the RDR as something that is absolutely critical for planning the future ILC R&D and developing a plan toward a construction project. Ray remarked on the need for formalising international partnerships for our work and described his efforts in this regard. He stated his concern over the lack of progress on obtaining such international agreements and emphasised the need to demonstrate the international commitment to partner on ILC R&D. This message was for the entire ILC community and supporters.


Raymond Orbach, Under Secretary of Science for the DOE

We have been working actively toward such international agreements, both multilaterally through the Funding Agencies for Large Colliders (FALC) and in various bilateral discussions. This process, however, is slow and difficult, at least in part due to the large differences in how governments function, how they support R&D toward future projects, especially when no long range commitment has yet been made. All of us need to work together to bring such partnership agreements into being.

Part of Ray's message was more specifically directed at the GDE. He said that the US DOE support for ILC R&D must proceed through DOE Order 413.3. This order lays out a set of critical decision points used for large developing and implementing large DOE construction projects. It is a well established process and one with a good track record at the DOE. We have always kept the DOE well informed of all aspects of GDE process and plans. We have, however, been following a somewhat different process --- one that for the most part involves a very similar linear stepwise process. In the GDE, we felt we needed a system that was broadly accepted and could form the basis to prepare a project proposal for all our collaborating countries.

We developed our overall GDE process with the goal of being prepared when LHC results justify it to propose the ILC to our collaborating governments, based on a robust design concept, reliable costing and realistic implementation models. That remains our global goal, but we must immediately insure that the US funded ILC R&D complies fully with DOE Order 413.3. I am hopeful that this will not require us to make big changes in the US programme; however this will need to be worked out carefully with the DOE.



The DOE Critical Decision Process for Large Projects

The figure shows the steps in the DOE Critical Decision process. Not having passed any of the critical decisions, we are presently classified as in the middle of the "Initiation" or pre-conceptual planning stage. Note that the type of funding changes from operating or programme funds to project engineering design (PED) funds after CD-2. Our immediate task is to insure that our planned work in the US for the Engineering Design Report phase is consistent with what is allowed using operating funds. For the ILC, I expect that the transition to PED funds will occur once a site is selected, and we begin a site specific design. Before that point, our work will continue to focus on carrying out a preliminary design where the engineering involved aims to reduce costs through value engineering and trade studies. This process will also reduce both technical and cost risks and help optimise cost to performance. The heart of this work is a prioritised R&D programme with critical milestones. We will be going though our projected EDR work item by item and confirm that the US portion follows the DOE Critical

Decision process.

I have focused on what I believe are the two most important points in Ray's talk. We should all recognise that Ray holds a very high level position in the US government and is an extremely busy man, who is dealing with many issues that are on a much shorter timescale than the ILC. Ray has consistently been very supportive of high energy physics and of our long range goals for an ILC. He offers a perspective on realities of process, funding and timing that we may not want to hear, but we better listen if we want to succeed to navigate the long complicated road to an International Linear Collider.

-- Barry Barish