

## Director's Corner

6 November 2008



Barry Barish

### The first Project Advisory Committee review

An integral part of process of carrying out a project is the review system. It takes a lot of effort (we commonly feel that is it too much effort) to prepare for, present and respond to review committees. However, the other side of that coin is that fresh eyes can stimulate hard and careful thinking on the part of those being reviewed, can sometimes anticipate problems and can even insert good new ideas. As we move forward in the Technical Design Phase, a new review process is being developed with two principle elements: a primarily "internal" review process for ongoing in-depth technical reviews and an "external" review process for accountability and high-level reviewing. Our external reviewers who report to the International Linear Collider Steering Committee (ILCSC), the Project Advisory Committee (PAC) chaired by Jean-Eudes Augustin, held their first meeting in Paris in early October and have now released their first [report](#).

The Project Advisory Committee will review both the accelerator and the experiment/detector aspects of the ILC work. It is a relatively small committee whose members are Jean-Eudes Augustin (CNRS/IN2P3) - Chair, Lyn Evans (CERN), Gunther Geschonke (CERN), Don Hartill (Cornell), Steve Holmes (Fermilab), Enzo Iarocci (ILCSC Chair; ex-officio), Akira Msaiké (Kyoto), Robert Orr (Toronto), Raj Pillay (TIFR) and Masakazu Yoshioka (KEK). Roy Rubinstein serves as Secretary.

The [mandate](#) for the PAC has been formalised by the ILCSC. Probably the most relevant items for the reviews are:

- *PAC will review the GDE accelerator activities and, in addition, the ILC detector activities.*
- *In its review activity, PAC will examine the overall consistency and realism of the project, in relation to physics, technical design, cost, and schedule.*

In the first PAC meeting in Paris, we presented the status and plans for our R&D programme, concentrating on the key goals for our Technical Design Phase 1 (TDP-1) to be completed in summer of 2010. The experimentalists also presented the detector programme, concentrating on the philosophy and goals of the Letter-of-Intent process and on the more general detector R&D programme.

The recommendations for the accelerator part of the review are the following:

1. *The PAC believes that the appointment of the three Project Managers, and the formation of the Accelerator Advisory Panel (AAP) for internal advice to the GDE Director, significantly strengthen the GDE organization as it moves into the Technical Design Phase.*
2. *The current TDP schedule, with reporting dates of 2010 and 2012, is fixed by outside constraints, and the PAC concurs with the result.*
3. *The GDE is to be commended for its efforts to bring about worldwide collaboration among labs on SCRF, BDS, DR, etc. The ILCSC should support the international use of test facilities such as CESR/TA, TTF/FLASH, ATF2, STF, ILCTA\_NML, and others.*
4. *The PAC is very positive about the GDE concept of plug compatibility, especially for SC cavities. It notes that GDE will need to monitor the large flexibility that this concept could allow.*
5. *The S1 test organization appears to be a success, and the PAC looks forward to hearing of progress and a schedule for S2.*
6. *The PAC endorses research on SC cavity processing, and also notes the importance of obtaining good statistical data; this will be helped by the experience which will be obtained on the XFEL project construction.*



Jean-Eudes Augustin, CNRS/IN2P3,  
chair of the PAC



PAC Members Akira Msaiké (Kyoto,  
Japan) and Raj Pillay (TIFR, India).

7. *The flow of information on SC cavity processing and tests between labs is strongly encouraged. The same is true for information from industry, although the PAC acknowledges the difficulties that may arise in this case.*
8. *The PAC notes with interest the recent GDE efforts on a "Minimum Machine" and cost-reduction; it welcomes the study of the single-tunnel concept, and other studies on simplifications to the accelerator facility. While cost reduction is important, the PAC notes that this may not necessarily be desirable if it leads to more risk, or precludes some future options such as eventually achieving the beam current specification or 1 TeV operation.*



The PAC closeout giving preliminary recommendations

The review was constructive and will be providing important inputs for us as we progress through the Technical Design Phase. More in-depth technical reviews are being conducted by our internal [Accelerator Advisory Panel](#), co-chaired by Bill Willis and Eckhard Elsen. I am optimistic that the combination will provide the insightful technical reviews that we desire, as well as higher level guidance and accountability for us, our collaborating institutions and the ILCSC. The Paris meeting got this process off to a very good start!

As for the specific recommendations from this first meeting, the recommendations validated our general approach and organisation. The PAC's final recommendation regarding our emerging Minimum Machine design approach supports the study, but comments on the emphasis. I should note that this study, called "Minimum Machine," is an optimisation study carried out for major project designs so that it meets the science goals, while being cost effective to construct and reliable to operate. In other words, it is an optimisation study and not proposed changes to the scope of the ILC.

These comments are timely and useful and we will take them fully into account as we move forward.

-- *Barry Barish*