19 November 2003

Charge for the International Technology Recommendation Panel

General Considerations

The International Technology Recommendation Panel (the Panel) should recommend a Linear Collider (LC) technology to the International Linear Collider Steering Committee (ILCSC).

On the assumption that a linear collider construction commences before 2010 and given the assessment by the ITRC that both TESLA and JLC-X/NLC have rather mature conceptual designs, the choice should be between these two designs. If necessary, a solution incorporating C-band technology should be evaluated.

The recommendation should be based on all relevant scientific, technical, schedule and cost considerations. Major references for the Panel will be the recently issued "International Linear Collider Technical Review Committee Second Report 2003" (http://www.slac.stanford.edu/xorg/ilc-trc/2002/2002/report/03rep.htm) and the document outlining the case for the electron-positron linear collider "Understanding Matter, Energy, Space and Time" (http://sbhep1.physics.sunysb.edu/~grannis/lc_consensus.html)

To reach its recommendation the Panel will hear presentations from the design proponents addressing the above issues.

The agendas of the presentations will be approved by the Panel in advance to assure uniformity of coverage of the technologies put forward. The Panel may ask for expert advice on any of the considerations listed above, drawing first on the ILCSC and its expert subcommittees, then moving beyond the ILCSC as necessary and appropriate. Relevant input from the world particle physics community will be solicited.

Scientific Criteria

The technology recommended shall be capable of meeting the scope and parameters set forth by the ILCSC, in the document "Parameters for the Linear Collider", as accepted by the ILCSC on 19 November 2003.

Technical Criteria

Using the ICFA Technical Review Committee report and materials supplied by technical experts that may be called, the Panel will make its recommendation based on its judgment of the potential capabilities of each conceptual design for achieving the

energies and the peak and integrated luminosities needed to carry out the currently understood scientific program, as envisioned in the ILC Parameters Document.

Schedule Criteria

Aiming for timely completion of the project, the Panel should compare milestones relating to design, engineering and industrialization for each of the two technologies being considered.

Cost Criteria

The Panel will need to know if there is a significant cost differential between the two designs being examined for completing the 500 GeV project and possibly any upgrades set forth in the ILC Parameters Document. The cost information should be based on available estimates as well as on the Panel's judgments as to the reliability or completeness of the cost estimates. The Panel needs to decide what items are to be included in the cost estimates in arriving at its own comparative analyses.

Report of the Panel

Unanimity in the Panel's recommendation is highly desirable in order to establish the firmest foundation for this challenging global project.

The Panel is urged to report its recommendation as soon as possible, with a firm deadline by the end of 2004.

A full written report with the Panel's evaluation of each of the technologies considered should be available as soon as possible after the Panel's deliberations have been concluded.

The making of the technology choice is a key event in the world particle physics program and thus timeliness in the Panel's reporting is of prime importance. The science agencies need to see a demonstration of the particle physics community's determination and ability to collaborate and to unite around the technology chosen by the Panel, as a trigger for their efforts to collaborate in forming a global project.

Operation of the Panel

The ILCSC would like to make some suggestions regarding procedure.

The Accelerator Sub-committee of the ILCSC is prepared to give an extensive tutorial on the LC. This would inform the Panel about LC issues and acquaint it with the experts from whom they can solicit advice.

Following that, visits to the major LC technology sites, in as close a sequence as possible, would help to solidify understanding of the status and issues while allowing the Panel to receive input on each technology.

To afford the Panel access to expert advice when needed, the ILCSC Accelerator Sub-committee should be in session on site at the Panel meeting place during their meetings.

It is expected that the presentation sessions will be open to the scientific and funding agency communities.