3/30/09

# Physics and Experiment Board Meeting

March 17, 2009  0600 GMT
Minutes (prepared by J. Brau)

**Present:** Akiya Miyamoto, Catherine Clerc, G.P. Yeh, Harry Weerts, Hitoshi Yamamoto, Francois Richard, Jim Brau, John Jaros, Karsten Buesser, Marcel Demarteau, Sakue Yamada, Yasuhiro Sugimoto.

**Excused:** Michael Peskin, John Hauptman, Ties Behnke.

## LoI Documents

Sakue said he had heard the LoI drafts were getting long. He emphasized the importance of keeping the lengths down. The call for LoIs specifies the limit is 100 pages, but it has been agreed that this is not an absolute limit and some extension is acceptable. Sakue said this should not be more than 25-30 % over, or at the absolute maximum, 150 pages. GP said 4$^{th}$ would stick to 100 pages, and Harry said SiD would also try to keep the document close to 100 pages, with a set of accompanying in-depth documents.

## Physics and Experiment Board Minutes

It was agreed that the PEBoard minutes should be open. They will be posted on the linearcollider.org web page.
(This has happened, see http://www.linearcollider.org/cms/?pid=1000621, or go to the Physics and Detector organization, and click on PEBoard in the org chart.)

## PAC meeting

The PAC will meet in Vancouver, May 9-10. The PAC wants Sakue to report submitted LoIs and updates on the progress of the LoI groups in his report, rather than individual reports from each LoI group. The IDAG will not make another report at this time; it did report at the last meeting in Paris. There will be a report from each of the common task groups. Sakue encourages the leaders, or their alternates, to come to Vancouver, if practical. Some reports may be made by teleconference, if necessary. Roy is looking into this possibility. For reference, the PAC membership (consisting of 6 accelerator experts and 3 detector experts) is listed in Barry's November 6 Director's Corner on the web, and on the ILCSC web page along with the mandate:
(http://www.fnal.gov/directorate/icfa/ICFA_ILC_PAC_final_mandate.pdf).

**MDI Common Task Working Group** (Karsten Buesser)

The formal final approval of the IR Interface Document is still pending. After working with the BDS group to complete the draft of the document, it was sent to the concept groups and Sakue for final comments. Only minor comments have been received. There will be a phone meeting next week to incorporate final comments, and then the document will be released. At this point, nothing appears to be controversial.

**Engineering Tools Common Task Working Group** (Catherine Clerc)

The detector groups find it difficult to converge on a common set of tools, due to the large number of participating institutions. It may be too early. Sakue noted that the ILC machine people have the same issue. The most critical initial need is to create a good interface between different tools, so that data files can be exchanged. Catherine will contact the machine people, as well as the detector groups, to discuss these matters.

**R&D Common Task Working Group** (Marcel Demarteau)

The full R&D Common Task Working Group met recently, and plans another meeting next Monday. The parameter space of detector R&D is very large, raising many issues. The working group decided to begin by revisiting the matrix of detector R&D versus detector concept. For the detector concepts, what R&D is required to bring the concept to an engineering design stage in 2012? They will also review the work of the detector R&D groups to see what is being done, and what is left out. The time scales of the R&D groups may not match the needs of the concepts. Do they have the needed resources? The R&D common task group will work on mapping this information out. For example, what is the impact of the failure of the Framework 7 proposal on the R&D goals? The common task group will request of the detector concepts and the R&D collaborations information on timeframes and resources. It was suggested that the detector concepts might be asked directly how they expect to achieve their R&D goals, rather than relying on getting this information from the R&D collaborations, and the R&D collaborations asked how their work specifically contributes to the individual concepts, rather than general R&D goals.

Marcel said he thought it would be desirable if R&D efforts applied seamlessly to the concepts, blurring the vertical boundaries. Can the different R&D collaborations work together? For example, the forward calorimetry is similar for all three concepts. It is useful to do this work together. It would be more effective if someone from 4$^{th}$ could join the effort.

Sakue supported the desire for the R&D groups to cooperate. While he respects their independence, it is critical that they contribute directly to the needs of the detector groups.

Marcel noted that Jean-Claude Brient had left the common task group, and Felix Sefkow has joined, maintaining the link to CALICE.

**Software Tools Common Task Working Group** (Akiya Miyamoto)

There is no change on the common software tools work since last month. Sakue asked that the Software Tools group investigate what is happening in collaboration with CLIC. An LC Software workshop is planned in May. John J. reported that there are nice results from successful CLIC work using the SiD framework.

**Physics Common Task Working Group** (Michael Peskin)

No report this month from the Physics group. But we know they are working hard.

**ILD LoI Report** (Yasuhiro Sugimoto)

The ILD LOI draft is now about 120 pages, without physics. It will grow to about 150 soon. ILD will make first versions of supporting documents available to the IDAG, but plan to revise them before making them public. It was proposed that the initial version of the LOI would not cite some documents, but the references would be added to the LOI as they were completed. Sakue indicated changing the LOI after submission was unacceptable. The IDAG must have a fix document to work with.

**SiD LoI Report** (John Jaros)

SiD held a meeting two weeks ago at SLAC to get all the LoI details together. It was a successful meeting, with much progress. Benchmarking, refined tracking and calorimetry, and the R&D plan are parts that benefited significantly from the meeting. This work is now being integrated into the final document. The natural length is growing, and some effort will need to be devoted to limiting the length. Extra material will need to be provided in appendices, and the quality of writing in the appendices will have to be lower. The SiD R&D plan should be useful to the R&D common task group. In the US, there is encouragement regarding US university detector R&D support from the funding agencies. However, the level of support may not be adequate to complete the work need by 2012, and this is a concern.

**4$^{th}$ LoI Report** (John Hauptman)

4th is working hard on the LoI. They plan a 100 page document, and have not considered anything more.

**LoI Due Date** (Sakue Yamada)

Sakue said the LoIs are due the last day of March, to be interpreted as the last day somewhere on the Earth.

**TILC09**

The natural rotation of the presentations of the LoI groups in Tsukuba would be 4th, ILD, and SiD, based on the orders in Warsaw and Chicago. It was agreed that this should be the order of the hour-long presentations.

The content of the presentations was discussed. Sakue reminded everyone that Michel, speaking for the IDAG, had asked that the first part of the presentation give an overview and describe the sub-detectors and associated R&D issues, while the second part should cover the benchmark studies. The first part should be a little over half (say 35 minutes with questions) and the second part a little less (say 25 minutes with questions). Two different speakers might present these two different parts, at the option of the LoI group.

It was agreed that Akiya should decide the order of the presentations in the joint plenary meeting with the GDE BDS.

**2010 Interim Report**

The PAC recommends that an interim report be prepared in 2010 on the progress of the detector efforts. Sakue envisions this report to be about 20-30 pages, a joint effort of all involved groups. It will follow on the IDAG decisions, with continuing R&D. The successful LoI groups will be asked to contribute to this report, but the required effort on the report will be minimized. The report will include the status of R&D activities, and plans for future. Sakue and the regional contacts will prepare an outline, request input. The report will be consistent with the document being prepared at the same time by the GDE, but independent. Serious planning for this document will begin right after the IDAG decisions.

**Detector Costs**

There was a meeting of the cost experts of the LoI group about two weeks ago. They discussed how to present costs in the LoIs, and the values of some of the critical items. It was agreed to present the costs without contingency or escalation, although this is problematic, since in Japan contingency is implicitly included in the costs.

**Next meeting**

The next meeting is planned during the ACFA Linear Collider Workshop in Tsukuba (TILC09), during lunch-time on April 20. A room has been reserved at 12:30, with a webex connection. Lunch will be served.