

# CFS & Global Systems Webex Meeting

10<sup>th</sup> October, 2008

## Agenda

PM Report (M. Ross)  
Outline of the Minimum Machine study (N. Walker)  
TTF/FLASH 9mA studies report (J. Carwardine)  
CFS Report: preparation for parallel sessions at CLIC and ILC08 (V. Kuchler, J. Osborne)  
Cost Management report (P. Garbincius)

## Attendees

M. Ross            J. Carwardine  
N. Walker        V. Kuchler  
J. Osborne       E. Atsushi  
P. Garbincius     E. Elsen  
E. Paterson      N. Toge

## Meeting Summary

### **PM Report**

Dubna/ JINR discussions were held between Bialowons and Shirkov and between Ross and Tubnikov at RuPAC and Linac08 respectively. Vassily Kojanov may be able to attend ILC08 but Delov will not attend. JINR will not be able to release any new cost estimate information other than a top-level roll-up. Geo-technical work is now underway, funded by the EU contract with GSPI, and we expect the initial results to be reported at ILC08.

There will be a 2-day CFS collaboration meeting with XFEL project members at DESY the week of December 1<sup>st</sup>. It is the intention to cover both linac civil works, utilities, and XFEL logistics, contract management, and QA. A written summary will be provided to XFEL management after the meeting. Another XFEL/GDE collaboration meeting will be planned prior to the GDE AAP review in April.

US Fiscal-Year 2009 funds for ILC/GDE activities have been released at a level of 87% of funds allocated under present US Continuing Resolution budget authorization. A budget plan has been developed by Mike Harrison in consultation with the US Institutional Leaders and GDE Project Managers.

### **Minimum Machine Update**

The 'Minimum Machine' now refers to a set of identified options (elements) to be studied, selected because of the possibility of reducing the cost of the machine. In a definable sense, this is not a 'minimum' machine per se. Both peak and integrated performance must be considered.

For the purposes of study, the options will be considered as alternative designs in a similar way to other ACD configurations. It will be important to restrict the scope of work to manageable levels given available resources.

The timeline for the Minimum Machine studies is consistent with the scheduled re-baselining of the machine in 2010 (a TDP Phase-1 goal).

A Minimum Machine studies document will be released before the end of the calendar year. It will be an important focus of the ILC08 parallel sessions in order to identify critical issues and to develop a studies plan for 2009.

### **TTF/FLASH 9mA studies report**

There were six 9mA related beam studies shifts during the September FLASH machine studies period. The main objectives were to set up the FLASH injector and linac to transport 3nC bunches with low losses; and to attempt to run long bunch trains.

Major accomplishments:

- Stable operation with 450 bunches @ 1MHz, with ~2.5nC/bunch transported through the bypass line to the dump (Charge at gun was ~3nC/bunch). Also ran 550 bunches for a short time. Beam energy was ~890MeV with an energy spread of ~10MeV over a 500-bunch pulse.
- Stable long-pulse operation with rep rates from 40kHz to 1MHz and ~2.5nC/bunch.
- All RF systems running with 800us flat tops and total energy gain of 1GeV.

Unfortunately the studies were cut short by a vacuum event in the beam dump line. It is believed the vacuum leak was a result of thermally cycling a vacuum flange close to the beam dump. The thermal cycling is assumed to have come from beam losses that were not detected during the several hours of long-pulse operation. Effort is now underway to decide how and when to repair the vacuum leak for FLASH FEL operation.

Data collected during the studies will be analyzed during the coming weeks.

### **CFS**

Planning is well underway for the CFS parallel sessions at ILC08 and the CLIC workshop. Major topics at ILC08 will be process cooling water and HVAC; CFS considerations for the Klystron Cluster RF proposal; collaborations with XFEL and CLIC; Minimum Machine with respect to CFS; and Alternate site configurations.

### **Cost Management**

Peter Garbincius met for several hours with the consulting company Triad for a kick-off meeting on developing a Cost Management Tool and to discuss requirements for the tool. Triad expects to finish the tool development within six months.

Peter Garbincius and John Carwardine met with Hans Braun (CLIC) last week during Hans' visit to Fermilab on other business. Discussion topics included a request from the CLIC team for access to costing information for the RFR beam delivery system.

The joint CLIC/ILC Cost & Schedule working group will meet next week during the CLIC workshop. Cost & Schedule is also a topic of the 'Technical Issues' parallel working group sessions.

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The next CFS & Global Systems meeting will be held on November 5<sup>th</sup>.

*John Carwardine*