

Accelerator Systems WebEx Conference

2 September 2009, 13:00 GMT

Minutes (v1.0)

Attending: N.Walker, A.Yamamoto, F. Lehner, J.Urakawa, J.M.Paterson, P.Garbincius, A.Brachmann, J.Clarke, S.Guiducci, M.Palner, N.Toge, W.Bialowons, K.Yokoya, T.Omori, E.Elsen, K.Oide (AAP)

TAG leaders absent: K. Kubo, A. Seryi, N. Solyak

1. Opening (Walker)

Walker opened the meeting by stating that today he would like to cover (1) status reports from individual area groups, (2) quick walk-through of key preparations to make toward ALCPG meeting, and (3) costing issues to address at the ALCPG meeting.

2. Short status report by TAGLs

Electron (A.Brachmann):

- Technical issues that he is having at SLAC with the laser system for the electron source development. Likely that group will declare 'failure' and replace the laser.
- Progress made regarding the CLIC-type electron source demonstration in a single microbunch production setting.

Q: Is it expected that replacing the laser will solve the problems?

A: Yes. ART director (M. Harrison) has indicated that there are funds available to replace the current laser system. Overall delay to the original schedule is approximately one-year.

Positron (J.Clarke):

Clarke reported on the recent activities:

- Progress is being made to give inputs to the CFS on the updated positron system layout. This will be discussed at the CFS face-to-face meeting later this week (Sep.3-4).
- Agenda for the ALCPG meeting is being laid out in consultation with A.Brachmann. About a half dozen participants are expected.
- DESY May AD&I meeting Action Items have been assigned to individuals. Need to check on status. (Two specifically noted: reports on e- beam beam dynamics simulation and low-energy running scenarios; noted that AAP was very interested in the former.)
- e+ workshop is scheduled on Oct. 28-30 at IPPP, Darham.

Q: Is the keep-alive source still part of the system?

A: A reduced spec. conventional source using the same target/capture/injector system is included (referred to as the auxiliary e+ source).

Q: What are the working assumptions for the undulator length and the emittance diagnosis?

A: The undulator length is approximately 200m as per the current RDR. The emittance diagnostics downstream of the undulator section is done in the BDS.

Q: AAP has suggested "compiling the existing documentation on, the effect of the 150-200 m undulator on beam emittance, stability, and possibly implied constraints on, and requirements for, linac tuning." Any plans as to how to respond?

A: It will be addressed (May ADI meeting action item, see above).

C: Detecotr and Physics community would like to see a summary of expected SB2009 e+ parameters

such as energy spread, background etc for 500GeV and lower-energy operations.

A: Identified Action Item from May AD&I meeting.

C: Discussion and R&D status and plans should also take place at ALCPG, including the current KEK plans.

DR (S.Guiducci)

- No DR meeting took place in August, but the agenda planning is under way for ALCPG.
- New DR lattice for SB2009 has been created and the layout information has been communicated with CF/S who will have a meeting later this week (Sep. 3-4).
- A work-group on electron cloud issue has been formed for activities during TDP2.

Q: What are the prospects for making a statement on the expected current limit of the half-sized ILC DR from the standpoint of electron cloud issue?

A: Will try to address at ALCPG. The team will have to take some time, however, digesting the CesrTA results and extrapolating them into the ILC setting.

C. Note that Mauro Pivi (SLAC) – who is coordinating e-cloud simulation effort – has sent out an email requesting participation in the effort. Important to make sure this effort is well-integrated into the CesrTA programme, providing feedback and direction.

CesrTA (M.Palmer):

- Run #4 has been productive, although suffering from a couple of power failure conditions, and will be concluding on Sep. 8. Among others, a bunch-by-bunch single pass beam size measurement has become possible with an X-ray BSM. Amorphous carbon-coated vacuum chambers from CERN were tried and showed a substantially reduced (by approx 1/10) electron cloud current.
- CesrTA collaboration is scheduled (with webex) in the week of Sep. 8 and these results will be summarized then.
- Run #5 is scheduled in Nov.-Dec. this year, and Run #6 next year, pending details to be fixed later.

Q: How do we qualitatively and quantitatively characterize the results so far from CesrTA in terms of what we need to achieve as milestones toward TDR and ILC?

A: The CesrTA collaboration meeting will review the progress in Run #4, as part of efforts for making such a statement.

2. Preparation for the ALCPG Meeting

Walker stated that the parallel session conveners should have by now received the charges and directions for organizing the ALCPG sessions, and stated that comments and remarks, if any, are requested. Walker also stated that status reports for the “action items” laid out in the May AD/I DESY meeting are requested.

3. Costing Discussion at the ALCPG Meeting

Garbincius debriefed the participants on the plans for the costing discussion at the ALCPG meeting:

- Contents of the ongoing cost impact studies with SB2009 are outlined. Errors found in RDR costing are rectified and revisions foreseen with SB2009 are being implemented. Many of the area-specific revisions, however, are yet to be fully collected.
- Area leaders are requested to bring in their first cut at “unit cost estimates for new items”. Interactions between the area systems and CFS are much needed.

- C: CFS groups from all three regions will address the cost impacts of both the klystron cluster (KC) and distributed RF system (DRSF) scenarios, although the Asian HLRF team will be unable to provide the KC-related hardware cost estimate.
- C: Intention of the Daresbury CFS meeting this week is to strengthen the interaction between CFS and area groups.
- C: One of the goals of the ALCPG meeting is to refine the cost differentials associated with the SB2009 proposal, although it is not expected to be final one. Noted that the expected cost differentials will be based on RDR unit costs (i.e. no new cost estimates), except where new components/concepts mandate new cost information (e.g. DRFS or KCS).

Due to ALCPG, the next AS WebEx meeting is tentatively scheduled for 28.10.09 (TBC).