Project Managers' Report

September 2009

ILC Global Design Effort

With this issue of the Technical Design Phase Monthly Report, you will find summary notes for the Group's monthly meetings (Main Linac Technology -Superconducting RF, Conventional Facilities and Siting, and Accelerator Systems), and a report from the Cost and Schedule Group (Peter Garbincius). These meeting notes show progress made and plans for upcoming meetings and work. This monthly report complements the weekly ILC Newsline. Please see the 'Director's Corner' for important planning and policy communication.

The Project Managers: Marc Ross, Nick Walker and Akira Yamamoto
September 2009

Global Design Effort
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GDE Monthly Project Management Report for September 2009

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Project Manager's Report

A major milestone was achieved in September with the review and presentation of new GDE baseline, referred to as Strawman Baseline 2009 or 'SB2009' at the Linear Collider Workshop of the Americas 'LCWA09', which was a joint meeting of the American Linear Collider Physics Group (ALCPG) and the ILC Global Design Effort (GDE), in Albuquerque, New Mexico. The milestone marks the halfway point in the preparation process of the baseline proposal which started at DESY in late May and will finish in December with the submission of the proposal to the Project Director. One of the initial plenary sessions at LCWA09 was devoted to a presentation of SB2009 by the Project Managers to the Physics and Detector community. The feedback we received at the session was generally positive, and we will provide additional information to the Research Director concerning low power and low energy operational and beam parameters. The 'reduced beam parameter set', with half the number of bunches of that planned for the Reference Design, includes changes in the interaction region beam parameters and we described the exotic techniques needed to recover full luminosity. Low energy operation questions concern the production of positrons when the energy e- beam in the undulator is lower. The electron energy below which the undulator – produced positron yield becomes too low is around half of the linac energy ~ 130 GeV. Luminosity at energies below that point (~ 300 GeV CM) would be reduced and would require, for example, and 'odd/even' pulse scheme where positrons are produced and collisions are observed on alternate pulses.

In addition to reports on the Accelerator Design and Integration effort in support of the new baseline proposal, the workshop included reports covering ongoing R & D. Perhaps foremost were results from the beam test facilities, ATF, FLASH and CESR-TA. SCRF R & D reports, also heard at the 'SRF 2009' workshop held in Berlin, Germany, the week before, were also quite exciting.

Superconducting RF R & D

In September 2009, two weeks of FLASH (DESY) operation was devoted to the '9 mA' experiment, a part of the ILC 'S2' string test – with beam – program. The two-week machine study period ended September 21, just in time for the start of SRF2009 and only a week before the start of LCWA09. The DESY – ILC collaboration were able to operate FLASH stably for 15 hours at 790 MeV with 800 bunches (1 MHz) of 3 nC charge per bunch, (about 10 KW average beam power), and for a few thousand pulses, operated with 27 KW average power (about 20% below the nominal ILC beam current and train length). FLASH is now in shutdown and is expected to resume operation in March 2010. We are hopeful for a second high-

power machine study period in 2010. Many of the ILC 'S2' string test goals will be within reach during that study period.

The most exciting report from the superconducting RF team was the successful achievement of the ILC intermediate 'S1' goal by the DESY – based XFEL team (reported both at SRF2009 and LCWA09). The S1 goal (07.2006) is: "Achieve 31.5 MV/m average operational accelerating gradient in a single cryomodule as a proof-of- existence". The first XFEL prototype cryomodule 'PXFEL1' achieved an average peak gradient of about 32 MV/m. It is notable that the cold-mass and vacuum vessel of this cryomodule was made in China, in an effort managed by IHEP (Beijing) under technical supervision of DESY/INFN.. PXFEL1 will be installed in the FLASH linac during the present shutdown.

The most important SCRF ILC cavity vertical test result reported at LCWA09 was the excellent performance reported by the US team of a cavity fabricated by the New York company, Advanced Energy Systems (AES). The peak cavity gradient, processed and measured in the Jefferson Lab, was 41 MV/m with Q_0= 9e9. Since this report, the Jefferson Lab team reported an excellent result on a second AES ILC cavity.

Electron – Cloud R & D

The Cornell-based CESR-Test Accelerator also passed a milestone in late 2009 with a full complement of installed coated and instrumented vacuum chambers. With the bulk of the hardware installation program completed, plans for 2010 include extended operation and modeling efforts. The CESR-TA test vacuum chambers are installed in drifts, dipoles, and superconducting wigglers and are instrumented to study chamber surfaces of Aluminum, Copper, Titanium – Nitride coating, amorphous carbon coating, deep grooves and electrodes. We expect the program to shift gears in late 2010 with a shift in emphasis toward low emittance tuning and vacuum chamber coating durability studies.

Conventional Facilities

A primary goal of the Accelerator Design and Integration effort in 2009 is to reduce the estimated cost of the ILC through a reduction of the underground construction volume. The largest single reduction is the proposed elimination of the 30 km long main linac support tunnel. In order to support this proposal, studies of linac availability and life safety / egress have started and initial results were presented. Availability has been studied using the operations / maintenance simulation code 'Availsim'.

Minutes of ML-SCRF Technology Meeting (090916)

Date & Time:
13:00-14:00 GMT, 16 September 2009, via webex.

Participants:
A. Yamamoto, M. Ross, H. Hayano, J. Kerby, R. Geng, T. Shidara, W. Bialowons, T. Peterson, Z. Conway, S. Mishra, S. Fukuda, P. Garbincius, R. Rimmer, N. Toge

Presentation files are available at the following Indico site;
http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=4172

1) Report from ML Project Managers (M. Ross)

- Marc noted that the ALCPG 09 web site will be updated very shortly with talks & speakers, and there is a planning webex meeting this Friday. In particular he noted the AD&I planning sessions on Wednesday and Friday that will be used to frame and then collect the information from the rest of the week. We look forward to seeing everyone in Albuquerque.

2) GL Reports

Rongli Geng noted that beyond the Cavity Database effort (reported below) in preparation for ALCPG09 an important aspect will be to collect information on the future cavity plans for coordination of the overall effort. The Cavity ALCPG agenda is just about fixed with some minor changes to accommodate the local time for people participating via webex.

Hitoshi Hayano reported that at KEK there has been great progress on the High Pressure Vessel code front, which will be reported in detail at ALCPG. Marc noted how important this is for the ILC, and there is the hope that this progress can be duplicated in other countries.

Tom Peterson will communicate off line with Akira on the ODH analysis. Marc asked Tom and Akira to review the cryo availability numbers being used in the simulations, as this is one of the major drivers for the overall machine availability in the current studies being done by Tom Himel. Akira will use his current visit at CERN, and Tom his over the next couple of weeks, to discuss this issue with the CERN cryogenics group. Peter Garbincius asked if in light of the LHC incident of last year, access restrictions to the LHC tunnel or other areas had been changed. Tom will check on this as well.

3) Topics

- **Progress in Cavity Gradient Yield Evaluation (R. Geng, J. Kerby (for C. Ginsburg))**
  Rongli led an abbreviated discussion of the slides presented by Camille Ginsburg at the Monday 14 Sept S0 Cavity webex (slides posted). Rongli noted the progress made by the team so far, and the better understanding of the statistics associated with the generation of the first 'production yield' plots including error bars. There remains work to do as noted in the talk, including understanding details of each cavity, generation of new types of plots including those with 2nd pass processing results and time evolution of results. There remains discussion on inclusion of Production 4 which could increase the statistics some, and an important discussion on how new vendors are deemed 'qualified'.

  As a follow up, Rongli noted that the ALCPG agenda has been reworked in the cavity sessions to accommodate not only those webex-ing in to the meeting, but also to allow for discussion after the cavity database talk. Rongli also noted that in the American region Mark Champion, among others, was working with ARRA funding to have more cavities ordered that will become available in later 2010 for testing. Finally, Akira and Rongli will meet early during the SRF09 conference to arrange a cavity database team meeting at that conference.

- **ALCPG/ILC-GDE Meeting Agenda**
  Hitoshi presented the draft schedule for the ML sessions of ALCPG, to be discussed further at the Friday webex meeting. A couple of corrections were noted, including an update to the cavity sessions from Rongli, filling in of various speakers, and noting that a revised agenda from Chris Adolphsen needed to be incorporated. Rongli also noted that there has been a very recent request for time for a talk from

TRIUMF that he will accommodate, and Shekhar Mishra asked about the inclusion of a talk on progress in India (Shekhar will send a proposed title for the talk to Jim after the meeting).

At the next level up, Akira noted that he will need to participate in the late Wednesday afternoon beam delivery system session so Jim and Tetsuo will cover for him, and Shigeki is requesting a joint HLRF and CFS session that we will organize during the webex on Friday.

- **Preparation for AD&I Study and Document**
  Marc noted that the 2nd AD&I meeting has been fixed for 2-3 December, at DESY. He thanks DESY for agreeing to host the meeting and making rooms available, etc. He also notes that we have some possibility for side meetings both before and after the meeting, on the 1st and 4th of December, and that people should try to keep those dates clear as well for now. Writing assignments for the AD&I documents will be made at ALCPG, with the document being done by the end of December and then the focal point of the AAP review 6-8 January 2010 at Oxford.

- **Announcement for Industrialization Meeting**
  Akira noted that the initial announcement for the ILC Industrialization Meeting associated with IPAC has been sent, and hoped that everyone had received it. He noted that the initial distribution included just those companies that had been visited by the GDE over the past year, but if there were suggestions for companies to add to the list please let him know. There will not be a preliminary get together on the topic at SRF09 due to time constraints and the sensitivity of the XFEL industrial contracts at this time, but further planning for the Kyoto meeting will come in the next months.

4) Further Plans and Meetings

Next ML-SCRF webex meeting: 14 October, 13:00- GMT
The following ML-SCRF webex meetings are tentatively scheduled for 11 Nov, 9 Dec.

SRF09: Sept 21-25 (Berlin)
ALCPG09: Sept 29-Oct 3 (Albuquerque)
AD&I 2: Dec 2-3 (DESY)
AAP Review #2: Jan 6-8, 2010 (Oxford)
GDE meeting: March 26-30, 2010 (Beijing)
TTC: April, 2010 (FNAL)
IPAC: 24-28 May, 2010 (Kyoto)

CFS & Global Systems Monthly Webex Meeting

September 23, 2009

ATTENDING

M. Ross, E. Paterson, A, Yamomoto, V. Kuchler, W. Bialowons, J. Carwardine

AGENDA

1. PM Report (M. Ross)
2. CFS Report (V. Kuchler)

Presentation slides are available here:
http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=4187

MEETING NOTES

PM Report (Marc)

Albuquerque GDE Meeting

- The opening GDE session will set the tone of the meeting. The meeting is about not just AD&I, but also about R&D activities.
- Nick will speak at a special joint session on Tuesday
- An AD&I plenary session on Wednesday will the important topics of Life Safety and Availability – two important topics relating to the single tunnel option.
- On Friday, there will be another AD&I session where there will be opportunities to discuss further the single-tunnel issues.

SB2009 Proposal preparation

- A second AD&I workshop will be held at DESY on December 2-3.
- The timeframe is tight for preparation of the SB2009 proposal, which must be submitted to the EC before the Christmas break and will be subsequently submitted to the AAP Committee in time for the AAP review at the beginning of January.
- Nobu Toge has agreed to help with the editing and assembly process, since Nick will be on medical leave from early October until mid November. Nobu's help is very much appreciated.
- The proposal will form a key part of the AAP review in January. The final decision on the accepting the proposal will be made at LCWS10 in Beijing in March.
- It is hoped that the AAP committee will release guidance documents for the January review by the end of the Albuquerque meeting.

Dubna/JINR

- Marc reported that all the study documents for the Dubna site have been received.

CLIC Collaboration Meeting

- Planning is underway for the ILC participation in the October CLIC Collaboration meeting. Barry Barish will give the second talk in the opening plenary session.

Congratulations to the TTF/FLASH 9mA Studies Team

- The team has just completed two weeks of beam studies. These critical SRF operations tests went very well, going a long way towards demonstrating reliable operation under ILC-like beam conditions.

CFS Report (Vic)

Central Region layout

- CFS has concluded a comprehensive series of meetings with Area Group leaders.
- A complete machine layout has been developed. 2-D drawings will be distributed prior to the Albuquerque meeting.

Main Linac RF configurations

- All regions will adopt both the klystron cluster and the DRFS alternatives for the main linac RF system, and costs for both alternatives in all three regions will be completed in time for the Albuquerque meeting.

Main Linac tunnel configurations

- Tunnel cross sections are complete for the different main linac tunnel options. Detailed cost estimates for each alternative are complete (based on the Americas Region criteria)
- The European and Americas regions are continuing to utilize vertical shafts for tunnel access, and the Asian region is continuing with the horizontal shafts.
- RF Systems and life safety solutions will be the primary criteria that determine tunnel diameter.

Life Safety and Egress

- The team has reviewed regulatory requirements for egress and life-safety in a single-tunnel environment. Requirements in each region have different emphasis:
    - Americas Region requirements focus on protected enclosures and alcoves for safe transit to vertical egress to surface.
    - European Region requirements focus on compartmentalization for smoke control and to establish safe transit to vertical egress to surface
    - Asian region requirements also focus on compartmentalization for smoke control but may also require additional tunnel or protected enclosures for safe transit to horizontal egress to surface
- The conclusion is that a single-tunnel solution is feasible in all three regions, although each region will require distinctions to comply with local regulations

CFS EDMS Effort

- A CFS parallel session at the Albuquerque meeting will be dedicated to establishing CFS competence in using EDMS. Additional training will be arranged as needed.
- A filing system in EDMS will be established to organize CFS documentation and to provide security for sensitive information.

Next Meeting: 21 October 2009

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 simualtion effort – has sent out an email requresting 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 thecost 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).

Monthly Report (September 1-30, 2009) for Peter H. Garbincius PHG_monthly_report_30sept09.doc distributed on Oct 4 to: Marc Ross, Tetsuo Shidara, John Carwardine, Wilhelm Bialowons, Frank Lehner. This report will actually include activities through the end of the ALCPG Workshop in Albuquerque, NM (Sept 28 – Oct 3).

Accelerator Design and Integration (AD&I) activities:

We requested updated cost estimating information from the CFS groups from the three regions and from the Area System Leaders for the SB2009 scenario elements formulated at DESY in May 2009 for assessment by GDE management at the Albuquerque.

Received SB2009 cost estimating information from Americas CFS; Europe CFS for 3.2 km DR and Central Region; and for technical components from Damping Rings and Klystron Cluster (actually August 2008). The technical elements for Electron Source do not change from RDR.

Did not receive Americas CFS for DRFS and for Low Power; any Asian CFS; European CFS for DRFS, Low Power, and single stage Bunch Compressor for RTML; Positron Source, RTML, and BDS. Note that with the reconfiguration of the Central Region, BDS assumes responsibility for the dogleg around the positron production target, collection, and acceleration stations, and for the machine protection abort line at the end of the e- ML just upstream of the undulator and for a similar abort system at the end of the e+ ML. There was a request for a little bit of time to finalize and update the preliminary configuration, quantities, and estimates for the DRFS and its specific LLRF system.

We have promised dates within October (just-in-time for the Pohang PAC meeting on November 1-2) for most of the outstanding estimates.

We prepared cost impact studies for the SB2009 scenarios as much as possible with the available estimating information. Although preliminary cost differential impacts were presented and discussed at the Albuquerque, the GDE Project Managers decided not to post the cost impact numbers on the workshop website.

Triad's ILC Cost Estimating Tool (ICET):

J. Carwardine, T. Himel, T. Shidara, P. Garbincius, Maura Barone,
David Seigle (summer student still participating as he has time), and
Kevin Flannery started at Fermilab on 21sept and immediately began exercising ICET.
Triad: S. Curtis, L. Lew, and K. Long, and
DESY-EDMS: Daniel Szepielak (& Jasper Dammann working on a technical file transfer solution)

Triad-EDMS-ILC webex meetings were held on (with agendas & meeting notes posted on EDMS): Sept 1 (EDMS *894125), Sept 8 (EDMS *894165), Sept 15 (EDMS *894205), and Sept 22 (EDMS *849245). On account of the Albuquerque meeting, at which Spencer Curtis also participated, we decided to cancel the Sept 29 meeting although an agenda was distributed (EDMS *849285).

ICET releases this month: ICET V1.5b (13sept) posted at EDMS *890445,1,1
ICET V1.5b (15sept) posted at EDMS *890445,1,3
ICET V1.5b (24sept) posted at EDMS *890445,1,4

We recently learned that multiple tags within the same tag hierarchy level are not troublesome, do not cause, errors, and can be handled post database by the users. For example, the first level Tag-1 is typically the Area System. The tags of the parents are inherited by their offspring (lower levels in the wbs). But if one assigns a tag to an offspring, it will be added to that of the parent. For example, if the parent is Electron Source, and one accidentally also assigned RTML to one of its offspring, the offspring would have the tag "Electron Source, RTML" and would be selected or sorted as such, neither Electron Source nor RTML. The user could then decide to use the "Electron Source, RTML" for sorting, or to include the item with either Electron Source or RTML by hand.

As mentioned months ago, the ICET STAGER using EDMS Generic Parts seemed to have problems with removed files. Adding files is OK. There needs to add an update query, not implemented yet, which prevents the display of removed files from the Stager selection list. Files will need to be checked into the EDMS team before showing-up on Stager selection list. This is claimed to have been fixed in ICET V1.5, but this has not been checked. KevinF is working on it.

We are trying to converge on a standard WBS structure through Level 3 for the ILC estimate before starting to load the existing RDR cost estimating information into ICET. Peter distributed a proposal to the people working with ICET and also to Wilhelm Bialowons for their comments and suggestions. At Albuquerque, Lars Hagge (DESY-EDMS) asked if we had such a scheme which might provide a standard template for general organization and reference for ILC items in EDMS. I sent this example to Lars.

ICET V1.5b provided Data Validation checks, warnings, and error reports at both the individual Cost Estimating Module (CEM) and Extraction to DB levels – nice!

Corrections for all known bugs in ICET have been implemented and checked, except for checking the error corrections implemented over a month ago for the STAGER – KevinF is working on this.
Peter had experienced some unexpected, unexplained, not reproducible, and intermittent run-time errors, which did not occur when the operation was immediately re-run successfully. These are further described in the agenda for the 28sept09 webex meeting. He also experienced an similarly unexplained occurrence where only his mysql database tags:Table was completely zeroed-out, without any similar loss of data to the other mysql Tables.

Warning: be sure to backup your mysql database frequently!

The last tasks aways include documentation. During September, Triad provided:

ILC Cost Estimating Tool (ICET) V1.5 Instructions for Installing and Setting UP,
ILC Cost Estimating Tool (ICET) Quick Reference,

and provided additional comments within their source code. These comments were reviewed and suggestions provided by Tom Himel and Kevin Flannery. David Seigle was requested to embed comments within the code that he provided for the DataCube/Pivot Table Report and ReportGenerator/Compare Two Cost Reports (next week after his exam week). Triad had intended to provide a more extensive USERs Manual by the end of September, but has not yet delivered as of Oct 3.

Peter still has to learn: REBUILDER (David's instructional notes), STAGER, and EDMS GENERIC PARTS.

There are two remaining interactions with EDMS:

1. We are waiting for Jasper Damman (DESY-EDMS) to complete a scheme for moving files or folders between EDMS teams – Peter responded that Jasper's first moves were OK and asked Jasper questions on how to optimize the overall effort for this task. This feature was requested because approximately 150 RDR cost estimate reference items were placed into EDMS confidentiality teams before it was realized that the plan for the structure of these teams would have to be modified. If this file transfer proves too labor intensive, the same files could simply be re-posted to the new and functional EDMS cost confidentiality teams. This would take one or two person-days of effort at most. We will need those reference files to be in their appropriate confidentiality teams before we start loading the RDR cost estimate into ICET by early November.
2. Since we are still exercising Stager and Generic Parts with ICET V1.5b, we would like to maintain the set of ***released*** test files used for testing of confidentiality teams and projects, until the tests are complete, before requesting DESY-EDMS to permanently remove these test files. There doesn't seem to be any pressing need for this removal from either the ICET or EDMS viewpoints.

The GDE Executive Committee agreed to continue the Triad contract at the current level of support (~ 1 FTE) through the October 2009 to complete development of ICET, and at a reduced, level (25% FTE) for the rest of the Fiscal Year through September 2010, including paying a retainer to Triad to insure timely availability of the ICET experts Larry Lew and Kevin Long for intermittent ICET support. The GDE Executive Committee was not able to consider the timing, scope, and required commitment of GDE personnel for developing the ILC construction schedule. Therefore the EC decided to defer discussion on initiating Primavera scheduling activities for six months.

Shortly after Peter met with Jean-Pierre Delahaye and Tony Johnson, at the Albuquerque meeting, Maura and KevinF got access to, and started exercising the issue tracking software TRAC/SVN at CERN and JIRA via SLAC respectively. These will be evaluated for possible more extensive use by the ILC GDE beyond the ICET application.

CLIC-ILC Cost & Schedule Working Group:

G. Riddone, P. Lebrun, J. Carwardine, T. Shidara, and P. Garbincius

There was participation at ALCPG in Albuquerque by Philippe, Katy, Germana, Peter, Tetsuo, and John (by webex). We were also joined at one session by Jean-Pierre Delahaye.

Philippe discussed the CLIC Questionnaire or Template for Cost Estimating Information which had been sent to the Domain and Sub-Domain Coordinators with a return due date of September 30. This template included questions regarding analytic (bottom-up detailed, quotations) vs. synthetic (scaled or parameterized) estimating methodology, assumptions, critical cost drivers, cost reduction issues, cost risks, understanding of technical specifications, and resource/scheduling issues. Philippe gave some examples of the early information and feedback that he had received.

Katy will document her scheduling progress for CLIC. She will also include a short description of her application of LHC-CLIC scheduling methods to the conventional construction and installation for the ILC. Since the issue was raised at ALCPG, Kathy developed and discussed a preliminary schedule impact study for a single tunnel for ILC. This could reduce the number of Tunnel Boring Machines (TBMs) and tunnel installation crews required to maintain a reasonable schedule, or conversely, escalate the overall single tunnel schedule by maintaining the resources planned for the two tunnel configuration. A more detailed study for the actual ILC tunnel installation will be eventually needed.

Peter and Philippe discussed the common cost risk document. Although we have good intentions and an outline of topics and chapters, not much progress has been made recently. We asked Jean-Pierre how such cost risk estimates would be used by the CERN Council and by international funding agencies. Although he could not answer this, we all agreed that both CLIC and ILC (for TDR) would gather and analyze such information. It is important that the management of both projects understand these cost risks, but whether these risks would be included in the formal cost estimates could be determined later.

At least for the early stage of CLIC, technical risks are considered differently than for ILC. ILC has an impact ordered risk register including a mitigation plan (e.g. R&D, redundancy, more conservative fall-back alternatives, etc.) for each technical risk. CLIC has listed their technical risks under three categories: Feasibility, Cost, and Performance. All of the risks in the Feasibility list must be satisfactorily addressed before the CLIC project can proceed. CLIC will not work without their successful mitigation. Items on the Cost and Performance lists will not prohibit CLIC from operating, but successful project completion and operation could involve additional costs beyond the estimate, or have consequence of failing to reach the full machine parameters.

An important goal is to make sure there will be no public disagreement between CLIC and ILC when their cost estimates are made public. To this end, the CLIC-ILC Cost & Estimate Working Group is facilitating the understanding of each other's estimating procedures, utilizing similar methodologies, and understanding the any differences. In addition to keeping up with each other's estimate development, there was consideration of ILC participation in internal (reporting to Jean-Pierre) reviews of the CLIC estimate before it becomes public and subject to international review.

Peter