

## ***Notes from All-Authors Webex Meeting on 13<sup>th</sup> April***

### **Participants**

John Carwardine (chair), Akira Yamamoto, Andrei Seryi, Benno List, Eckhard Elsen, Ewan Paterson, Gerry Dugan, Hitoshi Hayano, Jim Kerby, John Osborne, Martin Gastal, Caroline Waaijer, Lee Hammond, Marc Ross, Maura Barone, Mike Harrison, Nan Phinney, Rongli Geng, Shigeki Fukuda, Tom Lackowski,

### **Agenda**

1. Preparations for KILC joint sessions with TDR Editors
2. Status reports from authors
3. Guidance on including Technical Systems in the Area Systems chapters (not covered during meeting, but see slides on Indico)

Slides are available on Indico, here:

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=5601>

### **Preparations for KILC joint sessions with TDR Editors (Carwardine)**

- Fixed dates for PAC (review). Report finished one month before (mid Nov.)
- EC submission mid October (basically Arlington).
- Session plans for KILC.
  - Review available material and/or flesh out still to-do sections
  - Important to have lists of figures and tables
  - Dealing with Part I (what results to include). Cross-references from Part II.
  - Establish delivery dates for remaining draft sections

**Authors will be emailed account information for accessing the TDR Forge portal, which contains RDR and Interim Report source files, guidance for authors, and will be the repository for TDR files. The (public) start page for Forge is here:**

<http://forge.linearcollider.org/tdr>

### **Status reports from authors (TDR Part-2 – Baseline Design)**

*Items identified as requiring follow-up at KILC are identified in red italics*

#### **1. Introduction (Paterson)**

- Text is submitted and complete. New top-level figures are needed.

- Vic: top-level should be made available for all authors to avoid duplication of the same information.
- *There was some discussion on the isometric machine layout cartoon. The US/KCS version exists, but an equivalent drawing is also needed for the Asian site. Vic will send the native file (produced using Google Sketch Up) to Atsushi to use as a template for an equivalent drawing for the Asian site*
- The isometric drawing for the Americas/European site is already available from EDMS. Tomski says US/KCS drawing will be updated next week.
- Maura is planning to provide in the Forge repository a light-box view for figures and graphics, so authors can easily see what is already available

## 2. *General Parameters and Layout (Walker)*

- There will be a finished draft available before the start of the KILC meeting. Nick plans to work with Ewan on the Introduction to coordinate the two chapters
- This chapter will first introduce the two variants for the linac. The approach to clearly dealing with the two variants needs to be discussed at KILC.
- Nick will be generating requests for 'overview' graphics.

## 3. *SCR Main Linacs (Yamamoto)*

- A draft of the Overview section will be finished before KILC
- The HLRF section needs discussion at KILC
- Cryomodule and cryogenics (from Paulo via email): Paulo and Tom Peterson propose merging the cryomodule and cryogenics chapters (w.r.t. RDR). They will have a webex meeting to discuss the structure/material next week on Monday, with the aim of making the structure available at KILC12.

## 4. *Electron Source (Sheppard)*

(Per Nick and Nan)

- Not much has changed since the RDR – component counts should be reviewed
- The draft is expected by KILC

## 5. *Positron Source (Gai)*

(Per email report from Wei)

- We have most of the TDR draft done for part II, more or less followed the RDR format but with revised parameters and updated information.

## 6. *Damping Rings (Guiducci)*

*(Susanna's slides are posted on ilcagenda)*

- TDR work for the Damping Rings is quite late and there won't be any text available by KILC
- There have been a lot of changes to the DR design since the RDR
- John C: will there be TDR material to discuss at KILC? Mark P thinks not
- Most of the design work will be completed by KILC
- *Nick: the DR design must be frozen ASAP and effort directed at writing the TDR*

Draft (April 19, 2012)

- Ewan: where is 10Hz in the outline? Susanna said this will be covered in the RF system section and in the Introduction

#### 7. RTML (Solyak)

(No report)

#### 8. Beam Delivery System and MDI (Seryi)

- Some progress has been made on the writing. Not on the BDS chapter itself, but for an article on the beam dumps, which has been accepted for publication at NIM (by now already published).
- Design work has resumed on the lattice, aiming to finalize the remaining minor pending changes, and writing will have to wait till summer
- Final doublet write-up also won't come until the summer
- John C: we will need to discuss the writing schedule (summer is very late)
- *MDI: should be discussed at a joint session at KILC for Editors and MDI working group.* Both Tom Markiewicz and Phil Burrows will be at KILC
- Gerry: there are still costing decisions to be made on MDI

#### 9. Commissioning, Operations, and Availability (Ross)

- Will come later. Most of this chapter will be generated from the RDR and the SB2009 document, which is where the bulk of the work has been done on Availability
- *Nan requested a discussion with the editors on the content of this chapter. Marc will prepare a discussion accordingly*

#### 10. CFS (Kuchler, Enomoto, Osborne)

Vic: the priority for CFS at the moment is to get the costs nailed down before KILC. The bulk of the TDR writing will come after KILC.

##### Americas region (Kuchler)

- Plan to have a draft or at the very least a very detailed outline by KILC

##### Asian Region (Enomoto)

*(Atsushi's slides are posted on ilcagenda)*

- There are documents available for Civil, Electrical, and Mechanical design for the Asian mountain site, but they are Japanese. Atsushi will work on translating them before KILC.

##### European Region (Osborne)

*(John's slides are posted on ilcagenda)*

- What to do about the apparent conflict between the CFS section on Construction Schedule and the Cost & Schedule chapter? Gerry D: whatever Martin Gastal develops for the CFS chapter will go into cost and schedule chapter, so no conflict. Martin has been tasked with generating a construction schedule for all three regions, so these can go into the Cost/Schedule chapter.

- Martin will include a commissioning schedule in his section in CFS, which won't be included in the construction section of the Cost/Schedule chapter.
- John O: It's not clear who is supposed to do the installation section - Keith and/or Fred Asiri...? Needs discussion at KILC. *Per Marc (via email): it is known that both Keith and Fred contribute to the Installation section: Keith about cryomodule manipulation and Fred will review what was written for the RDR.*
- *Nick: at KILC we need to discuss how to structure the CFS chapter both in how we present the different siting variants and also to avoid duplication of a lot of text across three regional descriptions.*

#### 11. Upgrade options (Walker)

- Still working on scope and concept. Outline with keywords available for Korea but not a full draft. *Needs discussion at KILC*
- Next chapter to deal with after Chapters 1 and 2.

#### 12. Post-TDR Engineering and Risk Assessment (Ross)

- A key part of this chapter is Risk Assessment, and there is still a lot of work to do here before writing can begin. There is currently no agreement on the Risk Assessment process that should be followed.

#### 13. Project Implementation Planning (Harrison)

- The chapter in the TDR will be a subset of the stand-alone PIP document that has already been prepared and released.
- There is already a draft for TDR the chapter

#### 14. Cost & Schedule (Dugan)

- *Need to decide what should go in this chapter. To be discussed at KILC*

#### 15. Summary (Walker)

- This will be a wrap-up chapter of the main content of the document, so necessarily this is likely to be the last chapter to be finished.

### Status reports from authors (TDR Part-1 – R&D)

#### 1. Introduction (Walker)

- Won't be able to do anything on this till after KILC

#### 2. Evolution of the Design during TDP (Walker)

- Won't be able to do anything on this till after KILC

#### 3. SCRF Technology

##### a. Overview (Yamamoto)

*b. Development of worldwide SCRF R&D infrastructure (Kerby)*

- There is a 75% working draft, with text, and placeholders for figures (and in cases some figures).
- Additional support is needed on the coupler side

*c. High-gradient SCRF cavity R&D and yield evaluation (Geng)*

- Most of the text will be ready by KILC
- *Need to discuss what to do about describing the High gradient R&D program* in the light of the US budget

*d. Cavity Integration (Hayano)*

- Write-up will be based around Hitoshi's presentation at the KEK BTR in January. Tables and figures will be ready by KILC, writing will come later

*e. The S1-Global Experiment (Hayano)*

- This will be a condensed version of the S1-Global report

*f. Cryomodule, cryogenics, and quadrupole R&D (Pierini)*

(From Paulo via email)

- Plan is to provide a rough draft by KILC12 along the lines of the outline presented in February

*g. RF power generation and distribution (Fukuda)*

- The section will be split into KCS and RDR-like write-ups. Chris Nantista will do the write-up for the KCS.

*h. R&D towards mass-production and design for manufacture (Kerby)*

- Aim is to have an ~75% draft by KILC

*4. Beam Test Facilities*

*a. Introduction (Ross)*

- Will have this done by KILC

*b. FLASH 9mA Experiment (Carwardine)*

- Will have a draft by KILC

*c. ATF-2 (Tauchi)*

- Nan: this section is likely to come late because of the delayed ATF2 commissioning schedule

*d. Quantum Beam Experiment (Hayano)*

Draft (April 19, 2012)

- Text will come from another publication, but it's in Japanese, so will need to be translated. Should be ready by KILC

*e. NML*

- Per Sergei Nagaitsev via email, Mike Church will be the author for this chapter.

*5. Accelerator Systems R&D*

*a. Overview (Ross)*

- Will have it done by KILC

*b. Electron Source (Sheppard)*

- Nick: this section will likely be a cut/paste from the Interim Report

*c. Positron Source (Gai)*

(From Wei via email)

- A draft is being developed, and should be ready by KILC

*d. Damping Ring (Susanna)*

- This will mainly be the E-cloud R&D program, so will be largely the text from the Interim Report

*e. BDS / MDI (Seryi)*

- Mostly will be MDI related R&D. BDS will be reproduced from Interim Report, with possible update from NIM dump report

*6. CFS (Kuchler)*

- Chapter will include the various trade and siting studies

*7. Post-TDR R&D (Ross)*

- 10 pages will be available at KILC
- Eckhard: will there be time to discuss what goes into Part-I vs Part-II? How the text is split between the two parts will eventually be a judgment call for the TEB, and will have to play by ear based on what is received. *JC will add this to the agenda for discussion during the TEB sessions at KILC.*
- Ewan: we would expect some content from Part-I to be duplicated in Part-II (Baseline Design) since this is intended to be a stand-alone document,

JC/NJW