CLIC

Compact Linear Collider Study

Meeting Minutes

CLIC CEIS WORKING GROUP

Date and Time:	2017-10-13, from 09:00 to 11:00
Place:	6/2/004
Work package/Domain:	CLIC CEIS Working Group Meeting 6
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Participants

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Links to Indico: https://indico.cern.ch/event/650777/

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1 AGENDA

- 09:00 – 09:35: Meeting begins, John Osborne goes through the minutes from the last meeting and all outstanding tasks. Steinar Stapnes introduces the PiP chapters.
- 09:40 – 10:00: Michal Czech presented on the transport requirements and changes for the 380 GeV CLIC CDR Design and the drive beam building.
- 10:00 – 10:20: Matthew Stuart presented an update on CLIC Civil Engineering.
- 10:20 – 10:35: Any other business discussed.

2 PRESENTATIONS

2.1 INTRODUCTION & ACTION LOG DISCUSSION

John Osborne opened the CLIC CEIS working group Meeting 6 at 09:05.

John Osborne went through the minutes from the last meeting and went through the outstanding actions from all previous meetings. Steinar Stapnes gave an update on the PiP chapters and the assumed deadlines.

Key points:

- Mauro Nonis is to interview someone for the PJAS during the week starting the 16th October 2017.
- Stefan Doebert and Carlo Rossi to provide the access requirements during beam operation for the Klystron design.
- Andrea to provide the lattice files for the 1.5 and 3 TeV machine, meeting to discuss the requirements to be held on the 16th October 2017.
- The main beam dump will remain the same from an infrastructure point of view and therefore this action can be closed for the CEIS working group.
- The current power network and distribution system should be sufficient for the 380 GeV machine, an upgrade will only be required for the higher energy stages and therefore there is no plan to initiate talks with the local authorities, this task can be closed. (S.Stapnes).
- Civil Engineering to acquire some rough dimensions for the drive beam complex from Roberto Corsini, Stefan Doebert and Gerard McMonagle, an initial layout drawing should then be produced.

- Within the drive beam building a required height of 5.6m from the bottom of a crane hook to the ground would be necessary if a crane transport system were to be used.
- The constraint for removal of the solenoid within the tunnel needs to be assessed, G.McMonagle can provide information on this.
- Simon Marsh to provide a short update on the status of the Hazard register by the 1st of December.
- Environmental studies to be included within the Safety chapter of the PiP.
- The chapter that is to contain the radiation studies on the beam dump is still to be decided.
- A final distribution of the PiP pages to be given in the next meeting on the 01st of December.
- A first draft of the PiP chapters is to be written by the end of March 2018.
- Final text should be completed by the end of summer 2018.

2.2 TRANSPORT

Michal Czech gave a presentation on the requirements for the transportation studies, this focussed on what is needed to complete the studies and determine the best way to transport the items through the tunnel and in the surface buildings during construction.

Key points:

- Michal Czech will upload the transport tables on to sharepoint, this will allow anyone with access to update them if required.
- A rail is currently shown on the CDR cross-section, this is not correct and is to be removed.
- In the CDR design, access requirements to both sides of the machine needs to be considered.
- A plan view of the CDR design is to be produced and provided to transport.
- Transportation vehicles will be a guided transport system and therefore rails will need to be provided. M.Czech to discuss with M.Nonis the possibility of locating rails above the cooling pipes that are located in the floor.
- M.Czech to meet with A.Latina to discuss any equipment list that may be used to produce the lattice files.
- M.czech to speak to K.Foraz to understand what is required from the transport team to allow the scheduling to be done.

2.3 CIVIL ENGINEERIG UPDATE.

Matthew Stuart presented an update on the Civil Engineering.

Key points:

- The CLIC Tunnel Optimisation Tool (TOT) has now been completed and initial feedback given to the contractor. The tool will now be used to optimise the position of the 380 GeV, 1.5 TeV and 3 TeV machine.
- Geological data is to be downloaded and distributed to Daniel Schulte and the safety team.
- The depth of the optimised tunnel is to be downloaded and sent out to the CEIS working group once available.
- The cost of all surface buildings will be included in the cost estimate produced by Civil Engineering, this includes the civil infrastructure required to house any electrical infrastructure. This will avoid any duplication of the costs in the PBS.
- The length of the 2.5km drive beam building could potentially change for the 380 GeV energy stage.

3 TASKS

Tasks are ordered by completion status, new and ongoing tasks first. Status is one of {New, Ongoing, On hold, Completed, Postponed or Cancelled}.

No.	Description and Comments	Start Date	End Date	Status	Assigned
1	**PJAS or Fellow required to take on Cooling and Ventilation integration – Should be available from the summer. Interview to take place the week starting the 16/10/2017.**	31/03/2017		Ongoing	M. Nonis
2	**Tunnel Optimisation Tool – Costing and development study. – Final tool produced, testing is ongoing.**	31/03/2017	01/10/2017	Completed	M.Stuart/ J.Osborne
3	**Turnaround radii may be inadequate, the correct turnaround layout needs to be determined as this ill influence the Civil layout for the higher energy stages.**	31/03/2017	21/07/2017	Ongoing	A.Latina

4	**Edit: Update of heat loads is a requirement for the entire CLIC team, heat loading from all equipment should be calculated and sent through to M.Nonis. This will allow discussions/meetings to be undertaken and an appropriate solution to be chosen from those presented by M.Nonis.**	25/08/2017	01/12/2017	Ongoing	A.Grudiev
5	**Access requirements during beam operation in the Klystron design: it is to be determined when access to the modulators will be required, this will affect the layout and cross section of the tunnel/s. Look at examples from the ILC.**	05/05/2017	01/12/2017	Ongoing	S.Doebert & C.Rossi
6	**The main beam dump is to be reinvestigated to ensure the dimensions are adequate.**	16/06/2017		Completed	A.Yamamoto & M.Calviani
7	**Discuss with Steinar whether or not to initiate informal discussions with the French Power Transmissions System Operator on availability and feasibility of power supply from the existing grid.**	16/06/2017	21/07/2017	Completed	S.Stapnes & D.Bozzini
8	**Plan layouts of equipment that is to be provided in the 2.5km long drive beam building is to be produced**	16/06/2017	21/07/2017	New	R.Corsini, S.Doebert, G.McMonagle & M,Stuart
9	**Services within the Tunnel to be updated in a new cross-section**	16/07/2017	21/07/2017	New	M.Stuart M.Nonis & S.Marsh
10	**Hazard Register and procedure guidelines on how to populate the register to be produced by safety**	21/07/2017	25/08/2017	New	S.Marsh
11	**Electrical Alcove requirements are to be defined for the Klystron design, Civil drawings will then be updated to show this. This will be defined by the power distribution requirements.**	21/07/2017	25/08/2017	New	TBC (CLIC Team)

12	**Service requirements for the klystron design to be collated by Civil Engineering.**	21/07/2017	13/10/2017	New	SMB: M.Stuart & R.Fernandez
13	**Safety: propagation of smoke/gas cloud against escape time from the tunnel to be studied by safety. – Minimum fire design requirements to be provided instead of a full study.**	25/08/2017	22/01/2017	New	S.Marsh
14	**Transport: Continuously update the list of equipment including dimensions and weights, this is to be sent to transport as soon as available. Produce similar tables for the Klystron design.**	25/08/2017	01/12/2017	New	CLIC Team

4 NEWS

No other news.

5 AOB

- Daniel Schulte mentioned different cross-sections may be required for different methods of powering the machine. To be updated once the information is available.
- One presentation to be given at Strasbourg outlining the work done by the CEIS Working Group.
- A CLIC Workshop will be held at CERN from the 22nd to the 26th of January, each discipline is to give a status update at this workshop.

6 PLANNED MEETINGS

This section contains planned meetings.

Title	Date	Location	Convener
CLIC Civil Engineering & Infrastructure Working Group Meeting	01st December 2017	6/2/004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	26th January 2017	6/2/004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	09th March 2017	6/2/004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	06th April 2017	6/2/004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	11th May 2017	6/2/004	J.Osborne

CLIC Civil Engineering & Infrastructure Working Group Meeting	15th June 2017	6/2/004	J.Osborne

6.1 TENTATIVE AGENDA FOR NEXT MEETING: 01ST DECEMBER 2017

- Update on the heat loading – **Alexej Grudiev**
- Scheduling team to provide an update on the scheduling since the CDR – **TBC.**
- Civil Engineering Update – **M.Stuart**
- An update is to be given on the final layout of the PiP document – **Steinar Stapnes.**

Note: Formal agenda to follow once finalised.