CLIC

Compact Linear Collider Study

Meeting Minutes

CLIC CEIS WORKING GROUP

Date and Time:	2017-03-31, from 09:00 to 11:00
Place:	6/2/004
Work package/Domain:	CLIC CEIS Kick-off meeting
Document status:	IN WORK
Type:	Kick-off meeting

Participants

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Links to Indico: https://indico.cern.ch/event/614927/

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1 AGENDA

- 09:00 – 09:05: Meeting begins, John Osborne introduced Agenda for the meeting.
- 09:05 – 09:30: Steinar Stapnes presented an Introduction to the CLIC project
- 09:30 – 10:30: John Osborne presented the CEIS working group mandate and Infrastructure studies reminder

2 PRESENTATIONS

2.1 INTRODUCTION

John Osborne opened the CLIC CEIS working group kick-off Meeting at 09:00.

Steinar Stapnes presented an introduction to the CLIC project, giving an overview of where the project currently stands and what is to be achieved before the end of 2018.

Key points:

- Project plan to be produced by the end of 2018.
- CLIC is to be on a similar level to FCC by the end of 2018, this includes but is not limited to: Civil Engineering Studies, Infrastructure, Cost and schedules, layouts and overall integration of services within the tunnel/shafts.
- A plan for the pre-construction preparation phase is, an important part of and is to be included in, the project plan.
- Drive beam proposal from the CDR is to be used as a baseline going forward.
- Klystron machine is to be studied in more detail to understand any changes required for Civil Engineering, Infrastructure, cost and scheduling and services.
- Main interface for the CEIS workgroup will be the main Linac hardware baselining working group.
- HVAC is to be included in CEIS working group.

2.2 WORKING GROUP MANDATE & INFRASTRUCTURE STUDIES REMINDER

John Osborne presented on the Civil Engineering and Infrastructure of CLIC, where we currently stand and what we should be aiming for by the end of 2018.

Key points:

- Layout of the IR has changed since the CDR, only one detector is now required but the push pull mechanism is still required for maintenance – Konrad to present the design to allow the Civil layout to be determined.
- Possibility to reduce the depth of CLIC bringing potential cost and schedule savings.
- Detailed integration not undertaken for CDR, it is not foreseen that this will be required for the 2018 project plan.
- The CDR concept of automatically closing barriers to be looked into in more detail, allowing a transversal ventilation system to be installed. Fire doors could close to allow safe passage either side of a fault.
- The current Interaction region layout only includes one shaft for both the machine and access – this should be looked at and reconsidered.
- Beam dump size and layout needs a detailed study, critical area for the layout of the machine and is likely to change. This is a potential area for collaboration with ILC.
- Only one lift included in the current layout – this is inadequate from a safety and maintenance standpoint. FCC study determined that two lifts will be required, however, both lifts don't necessarily need to be the same size.
- Tunnel Optimisation Tool (TOT) is to be considered for CLIC, specification to be sent to the Design Consultant.
- **Klystron:**
    - It is expected that the Klystron layout will remain directly adjacent to the BDS on both sides of the IR throughout any future upgrades.
    - Double tunnel or single larger tunnel to be considered.
    - What access will be required for the main Linac tunnel from the Klystron tunnel?
    - Length of waveguides should be minimised.
    - Under some pressure to give a cost for the Klystron machine – determining a layout for this machine is considered a priority (Steinar Stapnes).
- 1.5 times tunnel diameter between two tunnels to avoid geological interaction between the two.
- Civil Engineering Drawings are to be kept within the Civil Engineering group and should be relatively basic, not a full integration study.

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}.

Description and Comments	Start Date	End Date	Status	Assigned
Prepare a presentation on the detector for the IR cavern – this is to help determine the required Civil Engineering Layout and service requirements.	31/03/2017		New	K. Elsener
Prepare a presentation on the Klystron Module layouts – 3D layouts should give an understanding of the required integration with other disciplines and present a better understanding of the required Civil layouts.	31/03/2017		New	C. Rossi
Fellow required to take on Cooling and Ventilation integration – Should be available from the summer.	31/03/2017		Ongoing	M. Nonis
Shaft locations: What level of detail is required for the shaft locations, this is to be confirmed by the CLIC steering committee.	31/03/2017		New	S.Stapnes
Tunnel Optimisation Tool – Costing and development study.	31/03/2017		Ongoing	M.Stuart/ J.Osborne
Correspondent for general safety matters is required for the CLIC project.	31/03/2017		Ongoing	M.Andreini/ S.Baird
Beam dump layouts: Beam dump layouts are a critical element of the design as they are every 878m – correct layout to be confirmed.	31/03/2017		New	CLIC Team
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		New	CLIC Team
Draft Civil layouts to be produced by a CE draftsman – Especially Klystron layout. Draftsman to be confirmed	31/03/2017		New	TBC
Machine heat load calculations required to enable HVAC system requirements to be determined.	31/03/2017		New	S.Stapnes

4 NEWS

None.

5 AOB

The meeting was closed at 10:30.

6 PLANNED MEETINGS

This section contains planned meetings.

Title	Date	Location	Convener
CLIC Civil Engineering & Infrastructure Working Group Meeting	05th May 2017	6/2/004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	09th June 2017	6/2/004	J.Osborne

6.1 DISCUSSION POINTS

- Review of minutes and actions to be discussed and closed out where possible.
- IR Detector: presentation detailing the potential design, the impact this may have on the Cavern layout and what may change in the future.
- Klystron Module layouts to be presented – to include any potential future changes and what is currently being studied.
- An update on the level of detail required for the shaft locations.
- Machine heat load calculations to be presented if possible. To allow HVAC team to understand their system requirements.
- Update from Civil Engineering.
- Potential for a short visit to the “CLIC Test Bench” after the meeting.

Note: Formal agenda to follow once finalised.