

CLIC

Compact Linear Collider Study

Meeting Minutes

CLIC CEIS WORKING GROUP

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Participants

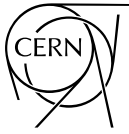
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Contents

1	AGENDA	3
2	PRESENTATIONS.....	3
2.1	INTRODUCTION & ACTION LOG	3
2.2	SAFETY – O.WILLIAMS & F.CORSANEGO.....	4
2.3	ELECTRICAL INFRASTRUCTURE.....	4
2.4	PIP AND PBS UPDATE.....	4
3	TASKS	4
4	NEWS.....	6
5	AOB.....	6
6	PLANNED MEETINGS.....	7
6.1	TENTATIVE AGENDA FOR NEXT MEETING: 22 ND JUNE 2018	7

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1 AGENDA

- 09:05 – 09:20: Meeting begins, John Osborne goes through the minutes from the last meeting.
- 09:20 – 09:40: Owain Williams and Fabio Corsanego gave an update on the general safety aspect of CLIC as well as Fire Safety.
- 09:40 – 11:00: Davide Bozzini provided an update of the current status of the Electrical Infrastructure for CLIC.
- 11:00 – 11:20: Matthew Stuart presented an update on the status of the CEIS PiP and PBS.

2 PRESENTATIONS

2.1 INTRODUCTION & ACTION LOG

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

John Osborne went through the minutes from the last meeting in particular the outstanding actions.

Key points:

- Drive Beam Building length could change, to be discussed with S.Doebert and D.Schulte, the requirement for the “fold” is also under consideration.
- Two water pipes are required for the refrigeration units within the Klystron service Gallery, the water pipes will enter the refrigeration units through the UTRC’s or service/machine caverns.
- It is expected that the organization of the train of work for installation of CV services in the CLIC tunnel will be different to that of FCC and therefore should be discussed once a complete design is produced.
- CV are designing for 28 degrees during beam operation, when there is no access, 28 degrees is recommended for manual work within the tunnels. This temperature differential during cool-down has been accepted by Helene Mainaud. The ambient temperature during operation/access has been accepted by EN-CV following the previous request made by the project in April to HSE to confirm on this (discussion HSE/EN-CV on 12th April 2018). (See *email FW CLIC ambient temperature query*).

2.2 SAFETY – O.WILLIAMS & F.CORSANEGO

Owain Williams and Fabio Corsanego presented an update on the CLIC hazard register and fire safety requirements

Key points:

- CLIC 380 GeV remains within regions that have been politically navigated previously and therefore doesn't require the same engagement as FCC at this early stage.
- The fire safety EDMS document can be found here >>> [EDMS](#) <<<
- Access between the two sides of the klystron tunnel requires further discussion, it would help provide a safe passageway in the event of a fire, however, the complexity of CV may prevent this from being a possibility. The AS and klystron modules may also prevent this being possible.
- Fire safety during the installation period still needs to be considered.

2.3 ELECTRICAL INFRASTRUCTURE

Davide Bozzini presented an update on the CLIC Electrical Infrastructure.

Key points:

- An update of the breakdown for the PBS has been proposed by CV.
- Transmission line through the tunnel to be included in the tunnel cross-sections – this can be located within one of the existing cable trays.
- Diesel powered generators to be included on the surface drawings.

2.4 PIP AND PBS UPDATE

Matthew Stuart presented an update on the Civil Engineering, the PBS and the PiP CE first draft.

Key points:

- PBS Internal Review upcoming on the 26th of June 2018
- Complete first draft of the PiP to be provided by the 15th of June 2018.
- Possible access between the two sides of the klystron tunnel option requires further study.
- Service cavern to be kept at 60m, no further study to be done at this 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
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1	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 . Update: <u>Cable Heat Loads required</u>	25/08/2017 Update: 09/03/2018	01/12/2017 13/04/2018	Ongoing	P.Cabral CLIC Team
2	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. Update: S.Stapnes/D.Schulte to hold a meeting with radiation team and access team.	05/05/2017 01/12/2017	01/12/2017 22/01/2017	Ongoing Ongoing	S.Doebert & C.Rossi S.Stapnes & D.Schulte O.Rey Orozco
3	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	Ongoing	R.Corsini, S.Doebert, G.McMonagle & M,Stuart
4	Services within the Tunnel to be updated in a new cross-section for the DB and Klystron options	16/07/2017	21/07/2017	Ongoing	M.Stuart M.Nonis & S.Marsh
5	Hazard Register and procedure guidelines on how to populate the register to be produced by safety	21/07/2017	22/01/2017	Ongoing	S.Marsh O.Williams
6	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	Ongoing	S.Marsh
7	Study to be undertaken for the Schedule for the surface buildings	01/12/2017	09/03/2017	Ongoing	M.Stuart
8	Information on Installation rates to be provided for CV and electrical equipment and Marzia t hold meetings with all disciplines that have input into the schedule.	01/12/2017	09/03/2017	Ongoing	M.Bernardini

9	New Footprint for the Modulator to be provided by G.McMonagle (Update: available in two weeks from the 06.04.2018)	09/03/2018	23/03/2018	Complete	G.McMonagle
10	CV and H&S to discuss ambient temperature to allow a decision to be made on what to design to. 33 Celsius preferred. 28 degrees during operation (no access) and 28 degrees during access agreed (see minutes).	06/04/2018	30/04/2018	Complete	P.Cabral, S.Marsh, F.Corsanego, O.Williams
11	Cable heat loads require a better understanding DBQ's MBQ's and Davide's numbers	06/04/2018	30/04/2018	ongoing	P.Cabral, C.Rossi, D.Bozzini
12	AHU dimensions to be provided to CE from CV Provided but subject to change.	06/04/2018	30/04/2018	Complete	P.Cabral, M.Nonis
13	Integration of the CV solution, beam lines and caverns.	06/04/2018	18/05/2018	New	M.Stuart, D.Schulte, P.Cabral
14	Service cavern layout requires input from other disciplines – Konrad stated no space was needed for detector services therefore Cavern size reduced. No further study of the layout at this stage.	06/04/2018	18/05/2018	Complete	M.Stuart, K.Elsener
15	DB Building dimensions to be discussed with D.Schulte and S.Doebert	25/05/2018	26/06/2018	New	M.Stuart, D.Schulte, S.Doebert
16	Access between the two sides of the Klystron tunnel needs to be established and understood	25/05/2018	26/06/2018	New	M.Stuart, M.Czech, F.Corsanego

4 NEWS

- PBS Internal Review on the 26th of June
- Complete first draft of the PiP required by the 15th of June

5 AOB

No other business.

6 PLANNED MEETINGS

This section contains planned meetings.

Title	Date	Location	Convener
CLIC Civil Engineering & Infrastructure Working Group Meeting	22 nd June 2018	6/2-004	J.Osborne
PBS Internal Review	26 th June 2018	160/1-009	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	27 th July 2018	6/2-004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	31 st August 2018	6/2-004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	05 th October 2018	6/2-004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	09th November 2018	6/2-004	J.Osborne
CLIC Civil Engineering & Infrastructure Working Group Meeting	14th December 2018	6/2-004	J.Osborne

6.1 TENTATIVE AGENDA FOR NEXT MEETING: 22ND JUNE 2018

Note: Formal agenda to follow once finalised.