

**Subject: Decisions pour genie civil CTF3**

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Chers collègues,

Veillez trouver ci-joint un fichier montrant les transparents que j'ai présenté dans le groupe de travail CTF3 cet après-midi.

Vous lirez dans les conclusions les décisions prises et qui vous concernent directement.

En résumé, André va recevoir un nouveau ensemble de paramètres (typiquement la puissance maximum du faisceau ne dépassera pas 5 kW dans tous les cas de figures). Il passera en revue la liste des 17 points établis précédemment pour 6 kW et fera les modifications appropriées. Ensuite Michael devra refaire une estimation du coût de l'ensemble sachant que maintenant, on ne touche plus le CTF2, on doit construire un mur extérieur entre EPA et CTF2, on doit estimer l'épaisseur du mur entre LIL et CEA (CLIC Experimental Area at 30 GHz) et enfin on doit estimer la possibilité de mettre une deuxième galerie klystron sur cette extension entre EPA et CTF2.


A très bientôt et encore merci pour votre collaboration.

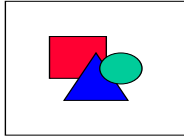
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22<sup>nd</sup> May 2001  
L.R.

## **CTF 3 Working group**

### **Civil engineering and shielding issues**

New Swiss regulations for ambient radiation levels ( $7.5 \mu\text{Sv/h}$  --->  $2.5 \mu\text{Sv/h}$ )

Studies made by TIS for CTF3 running at 5Hz and at 30 Hz.

MD's performed with LIL beam

Cost estimate done by ST based on 30 Hz shielding

## Discussion for $\gamma$ 's

(A. Muller / TIS)

$\gamma$		Calculated for CTF3	Scaled to LIL	Measured at LIL
Beam power	kW	6	0.8	0.8
Radiation level	$\mu\text{Sv/h}$	2100	280	10

A factor 28 of discrepancy between calculation and measurements !!!

A factor 4 comes from auto absorption from Cu target

A factor 1.5 comes from existing iron in the LIL roof

A factor 4.7 is unknown.

## Cost estimates from ST

(M. Gaidon and M. Poehler)

Cabling on EPA roof ( to be done in any case):	190 kFS
Wall extension between EPA and CTF2:	
Using 1557 LEP magnets for 30 Hz:	491 kFS
All EPA shielding for 30 Hz:	2031 kFS
All LIL shielding for 30 Hz:	417 kFS
Total CTF3 shielding for 30 Hz:	2939 kFS ~ 3 MFS

## Conclusion

### (Decisions)

1) CTF3 will run at 5 Hz and 3.5 A maximum with long pulses (1.54  $\mu$ s)

or 25 Hz and 0.7 A maximum with long pulses (1.54  $\mu$ s)

or 25 Hz and 3.5 A maximum with short pulses ( 200 ns)

Intermediate steps possible providing that the beam power does not exceed 5 kW.

2) Keep CTF2 as it is now (used for klystron tests, power supplies area, beam diagnostics, ...) First floor as it is now also.

3) Build a wall and a roof only between EPA and CTF2.

4) Wall thickness between DBA (Drive Beam Accelerator) and CEA (CLIC Experimental Area for 30 GHz) compatible with DBA running while people inside CEA.

5) Try to clarify the factor 5 with TIS people between calculations and experimental measurements made on LIL.

6) Ask ST to do study and cost estimation based on 5 kW beam (typically 5 Hz and 3.5 A). All safety margins could be used to increase the beam power in CTF3 Nominal phase.