G.Geschonke, 28.8.2008

CTF3 Committee 21. August 2008 – Report on CTF3 status

Because of the holiday period the attendance was basically limited to people already at CERN anyway, which are very well informed about the progress. Since WebEx was not available, no external members could connect. The meeting therefore was very short, basically only the planning of the next weeks was discussed.

All presentations prepared for the meting are on Indico:
http://indico.cern.ch/conferenceDisplay.py?confId=38830
In the following you find a short résumé of CTF3 status and plans.

Operation in the last month

Frank Tecker's transparencies
http://indico.cern.ch/materialDisplay.py?contribId=11&materialId=slides&confId=38830
give an overview over the activities since the last meeting.
Operation suffered from many problems:

The control system still has many bugs, both hardware and software, which the CO group is trying to solve.
The electron gun is unstable, the reason for this are believed to be fluctuations of the 140 kV supply voltage. The CERN BT group is helping with solving these problems and contacts have been made with the manufacturer of the HV supply, who is very helpful in trying to pin-down the problem and come to a solution.

The modified precision BPM (built with support from EuroTeV) was tested. The apparent high beam losses in the previous tests were not present any more, they were likely from saturation due to the missing coating; results are encouraging.

The MAD model for the Combiner Ring is being improved, 4 turns are possible with low losses, however the vertical instability is still limiting the performance.
The beam was extracted from the Combiner Ring using the strip-line kicker into the transfer line TL2. Beam transport into CLEX is the next step in the programme

30 GHz work on CLIC accelerating structures was done during the first week, then mainly during weekends. Steffen Doebert has prepared a summary of the results:
http://indico.cern.ch/materialDisplay.py?contribId=3&sessionId=0&materialId=slides&confId=38830
The main goal was to test the performance of the new "speed-bump" scheme. His main conclusion is, that the performance is comparable to a previously tested structure without this feature.

Planning
Louis Rinolfi's slides
http://indico.cern.ch/materialDisplay.py?contribId=12&materialId=slides&confId=38830
give details about the CTF3 schedule. Continuous operation is planned until the technical stop in weeks 40 and 41. Until then machine commissioning will continue

during the week, at weekends 30 GHz work on accelerating structures is possible. On request, the rings and CLEX can be opened for installation work from Friday morning until Monday.
The installation work for the two-week stop is quite demanding, however the work can be fitted into about two weeks. The present planning foresees the possibility of a spill-over into the first two days of week 42. the planning is shown in the annex to this report.
During the meeting the availability of all material foreseen to be installed was discussed. The only open questions were the PETS for TBL and the status of the two new RF deflectors for the Combiner Ring. For the latter it becomes clear, that RF power testing at CERN implies that the RF deflectors be at CERN by the 25th of August. Since the meeting the possibility to install these deflectors without prior power testing has been considered. A decision has to be taken as soon as more details about the delivery schedule are known.
It is foreseen to start RF power testing of the Photo injector (PHIN) in the ex-CTF2 building will be started in these 2 weeks as well.
We have been asked to have CTF3 available for VIP visits during the LHC inauguration ceremonies, therefore there will be no operation from Saturday 18th until Tuesday 21st October evening.

Photo Injectors
Konrad Elsener's slides are here:
http://indico.cern.ch/materialDisplay.py?contribId=2&sessionId=0&materialId=slides&confId=38830
The next major activity on the Califes gun will take place in the October shut-down, with the installation of cathode preparation equipment and bake out. Everything is advancing according to plan.
On the PHIN laser he reported the visit of Marta Divall who had played a major role during the design phase of the laser. First results look positive.
Konrad mentioned the large temperature variations of up to 4 degrees in the CLEX building, which might cause a problem for frequency stability of the Califes gun. If these variations cause problems for other systems as well, an air conditioning system might have to be implemented. This possibility has been foreseen in the layout of the ventilation plant. Otherwise a local temperature stabilisation could be envisaged.

Two Beam Test Stand
Volker Ziemann and Roger Ruber announced, that the construction of the Two Beam Test Stand was now finished and they were ready for beam.

Ciemat
Fernando Toral had sent a brief status report:

TBL MOVERS:
- two new prototypes ordered to be delivered in the first half of September
- order for the rest of units (13) will be placed in October.

TAIL CLIPPER:
- fabrication ongoing. We are waiting for some feedthroughs which have not arrived. The supplier, Ceramaseal, has problems with leaks and is delayed.

PETS:
- we have received the tooling for bending the tubes for cooling, but it does not work as expected. Some modifications are necessary, which will be done before end of August.

- copper rod machining has been stopped because of high temperatures, as 5 degrees variation was measured in the workshop, in spite of air conditioning. They will start next Monday (25th August) with the last step of the machining.
- we have finished the design of the measuring bench for the eight rods and the vacuum tank. Next step are manufacturing drawings and fabrication. Commercial parts and raw materials have been already ordered and partially received.

UPC

Gabriel Montoro had sent the status of front-end electronics for Beam position monitoring:

Last work (related to our contribution: BPS+amplifier for TBL):
On July (21th -24th) me and Juanjo Garcia (from IFIC) were working at the Lars Soby lab. for tuning the BPS and the Amplifier. Finally the BPS (+Amplifier) was delivered and installed. After this, LAPP people did a BPS+Amplifier+Digitizer calibration: in September we must analyze the obtained results.

Next meeting: 18. of September

Annex: Planning for October stop