

## Combined Meeting of the LHC Collimation Working Group and the Collimation Project Team, September 5, 2003

*Present:* Ralph Assmann (chairman), Hans Braun, Brennan Goddard, Jean-Bernard Jeaneret, Verena Kain (scientific secretary), Helmut Burkhardt, Gianluca Guaglio, Peter Sievers, Oliver Aberle, Rüdiger Schmidt, Dobrin Kaltchev, Stefan Rösler, Alfredo Ferrari, Enrico Chiaveri, Bernd Dehning, Manfred Mayer, Daniel Schulte, Jean-Pierre Riinaud

### 1 Discussion on the Draft of Chapter 18 (Beam Cleaning and Collimation System) for the LHC Design Report (R. Assmann, round-table)

R. Assmann (RA) had distributed a draft of the chapter on beam cleaning and collimation for the LHC design report. The draft was discussed in the meeting. Comments and corrections were included in the new version, which is now available under:

<http://www.cern.ch/lhc-collimation-project/files/Chapter18b.pdf> .

### 2 AOB (round-table)

See slides at [http://www.cern.ch/lhc-collimation/files/RAssmann\\_5Sep03.pdf](http://www.cern.ch/lhc-collimation/files/RAssmann_5Sep03.pdf).

RA presents the organigramm (see slides) describing the agreement between Collimation Working Group, Collimation Project and EST. EST will be responsible for the prototyping and related engineering of the collimators including aspects such as technical specifications, space budget and mechanical integration, some thermo-mechanical calculations and tests, collimator mechanical design, prototype testing, prototype production and drawing for series production. The coordinator within EST is M. Mayer, A. Bertarelli is the lead engineer and R. Perret is the senior designer. R. Perret did the design of the LEP collimators. EST will closely work together with “Collimator engineering & Hardware support”, which is headed by O. Aberle (OA) (senior advice P. Sievers). Their responsibility is conceptual collimator design, ANSYS studies, hardware commissioning, support for beam tests, series production, installation, maintenance, repair, electronics & local control as well as phase 2 collimator R&D. Other working groups and work fields which are linked to collimation are also shown in the organigramm together with representatives.

**Less Resistivity for C-C materials:** OA reports on recent resistivity measurements of fiber-reinforced graphite (C-C) as well as conventional carbon. While carbon showed the expected  $\sim 14\mu\Omega/\text{m}$ , C-C gave  $6\mu\Omega/\text{m}$ , independently of orientation. The reason for this behavior might be a new treatment of graphitisation. If the results of the measurements proved to be reproducible, C-C materials would clearly mean an improvement in resistive impedance.

**Transfer Line Collimation:** RA points out the importance of having a formal report on the transfer line collimation as soon as possible. Transfer line collimation is not part of the collimation project but the collimation working group. R. Schmidt (RS) wants to know who the responsible persons are. The collimation layout with locations and number of collimators is based on H. Burkhardt’s calculations. B. Goddard (BG) adds that W. Weterings does the mechanical engineering and L. Bruno (LB) will build the collimators. He also mentions that LB’s foreseen budget is a factor 4 too small as has already been pointed out by himself. H. Burkhardt agrees to provide the functional specification with short delay.

**Beam Loss Monitors:** The functional specification for Beam Loss Monitors (BLMs) is approved. B. Dehning remarks that the tuning requirements for setting up the collimation system are not included. The functional specification is being extended according to this additional requirement.

**Electronics in IR7:** JBJ has received an email from C. Pignard reminding of checking requirements of Ethernet connections, machine time accessibility, . . . in IR7. Requirements on electronics in the collimation insertions must be given to Controls of Electronics Integration soon.

**Collimator Prototype Testing in the SPS:** BG reminds to check with the A. Spinks, the Vacuum Group, . . . as soon as possible in order to be able to do the prototype testing planned for September next year.

**The next meeting will be on September 19, 2003.**