

LHC Collimation PHASE II

1st Design Meeting – 31/01/2008

Present: Gonzalo Arnau Izquierdo, Wihelmus Vollenberg, Ivo Wevers, Ramon Folch, Arnaud Pierre Bouzoud, Pierre Moyret, Ralph Assmann (R.A.), Oliver Aberle, Francesco Cerruti, Alessandro Bertarelli (chairman), Alessandro Dallocchio (scientific secretary).

1. Mechanical Design Team (A. Bertarelli)

A. Bertarelli started the meeting with an introduction on the members of the Mechanical Design Team. Please find on the web page [PhaseII Design Meeting](#) a list of the TS members involved in the Collimation Phase II project.

2. LHC Collimation Phase II: an introduction (R. Assmann)

R. Assmann (LHC Collimation project leader) made an introductory presentation on Collimator Phase II focusing on the *goals* that should be achieved by this project. It was pointed out that the collaboration between TS-MME and AB department it's of paramount importance in order to attain good results. The ambitious target is to increase the performances of the LHC collimation system by a factor 10. A strong R&D activity is strictly necessary. Please follow the link to see the full presentation [RWA Introductory Presentation](#).

3. Discussion

A discussion followed the presentation of R. Assmann.

Provisional time-schedule foresees three steps:

- **Late 2009** (End of the R&D activities, complete mechanical design)
- **2010** (prototyping and testing activities)
- **2011** (start of collimator manufacturing)

On these hypotheses *Assmann* proposed a first deadline (early summer) for a definitive identification of all the specifications and requirements so that the mechanical design activities could keep on with more defined objectives.

Bertarelli pointed out that the R&D activities should start immediately and proposed to create a MATERIAL R&D WORKING GROUP devoted to the identification of suitable materials for Phase II collimators (please find more details in the next paragraph "Material R&D WORKING GROUP").

Assmann remarked that the time-schedule can be, at this moment, only estimated because Phase II Collimation final requirements will strongly depend on the LHC performances. An important issue raised by *Assmann* is that the upgrade of Phase I collimators could be extended also to primary collimators and not only limited to the secondary ones.

Bertarelli asked what are the constraint of the project concerning plug-ins and connections. *Assmann* and *Aberle* explained that there are no constraints for electrical connections, hydraulic connections, plug-ins and supports.

4. Material R&D Working Group

The creation of a Material R&D Working Group has the aim of identifying suitable materials for Phase II collimators; this team will be made up of a small number of people from TS and AB departments sharing different competences.

Proposed Members:

- **Engineering and calculations:** A. Dallocchio; A. Bertarelli
- **Mechanical Design:** A.P. Bouzoud.
- **Vacuum, coatings and surface treatments:** W. Vollenberg; Ivo Wevers.
- **Materials:** G. A. Izquierdo.
- **Energy deposition:** F. Cerutti

5. Design meeting Scheduling

Phase II Design Meeting will be held every two weeks on Thursday at 14.30 (room 376-1-016).

Members of Material R&D Working Group have been asked to participate to a brainstorming discussion every week (same place and time) in order to quickly keep on the R&D activities on materials.

6. Action list

- Prepare an overview of suitable materials.
(Gonzalo)
- Preliminary discussion on energy deposition.
(F. Cerutti)
- Preliminary discussion on possible design solutions for collimator jaw assembly.
(Arnaud, Bertarelli, Dallocchio)

Next Phase II Design meeting will be on Thursday 14th, 2008. Room 376-1-016