

COMPTE RENDU REUNION INTEGRATION B.L.M.

Présents : Christophe Bault (TS-IC), Olivier Choisnet (TS-IC), [Jean-pierre Corso](#) (EST-IC), Bernd Dehning (AB-BI), Gianfranco Ferioli (AB-BI), Laurette Ponce (AB-BI),

Excusé : [Yvon Muttoni](#) (TS-IC)

1. Matter of the meeting

Integrate the Beam Loss Monitors (BLM) and Secondary Emission Monitors (SEM) into the LHC machine, in particular, in LSS8L & LSS8R for a first set.

Following previous meeting, it appeared that some rules and details were not clearly defined. In order to proceed in the good direction for the whole machine, this paper is resuming all these rules, values and specific assumptions to position correctly BLM and SEM in the LHC neighborhood around their assigned equipment.

2. General Assumptions

-BLM & SEM have to be placed as close as possible respect to the vacuum chamber, whatever internal or external Beam.

-BLM & SEM must be placed horizontally, their connection box at their left end looking from passage area. In case of clear impossibility, exceptions are allowed. Then, Monitors could be placed vertically.

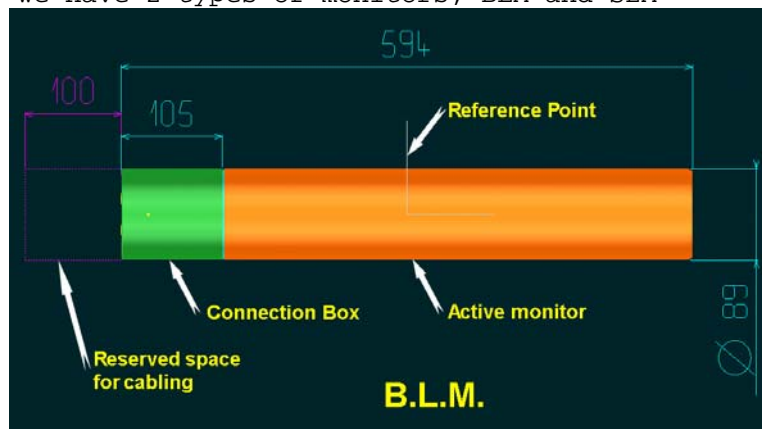
-In case both BLM & SEM are foreseen for one equipment, they will be placed one above the other, in that order.

-It is assumed that the DCUM value given is the middle of the assemblies, i.e. at 297mm for BLM and at 114.5mm for SEM (see next item).

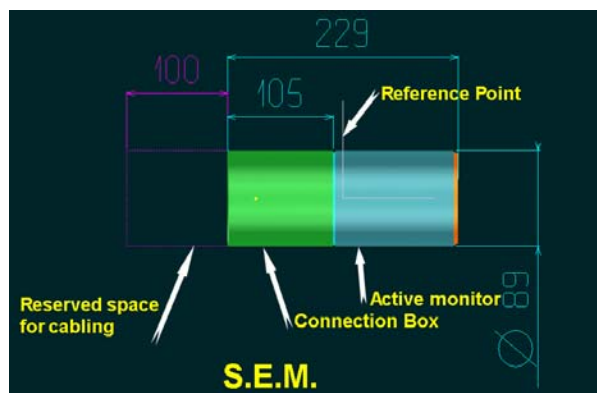
3. Description of Monitors

-As mentioned above, we have 2 types of monitors, BLM and SEM:

B.L.M.



S.E.M.



-It is requested 100mm of space reservation on the connection box end, for cabling facilities.

4. Rules of positioning for a Quadrupole Cryostat

-Cryostats generally have 6 BLM associated, 4 linked with the vacuum chambers and 2 linked with the magnets.

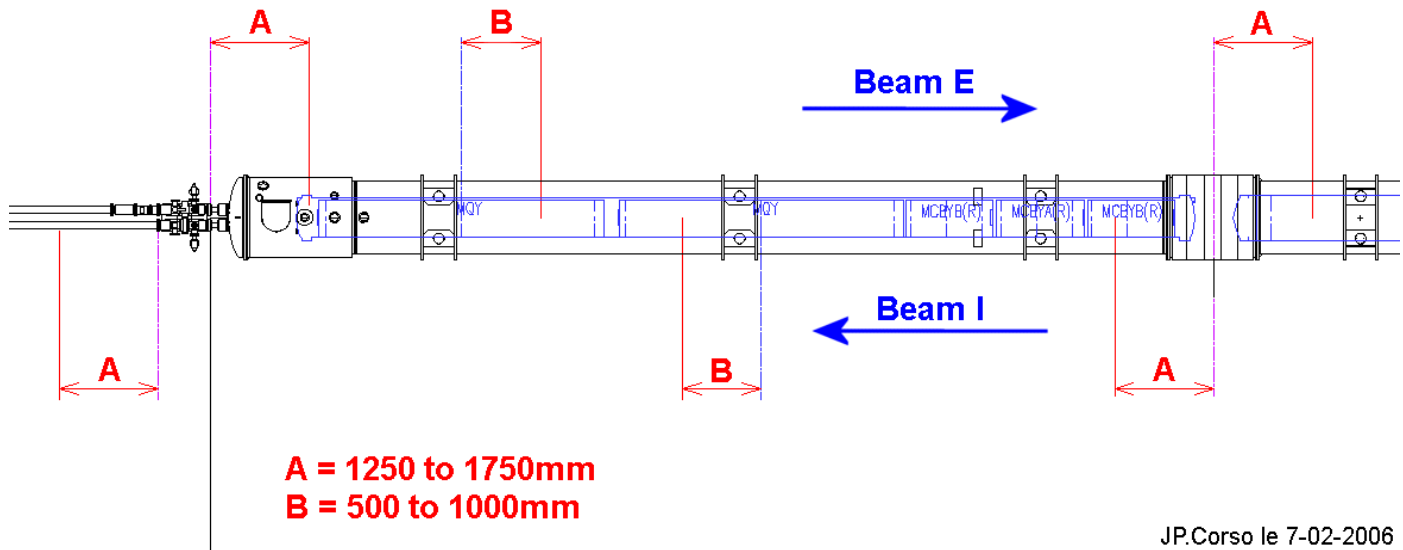
-For vacuum chambers, monitors have to be placed at a range distance "A":

- after the entrance flange
- after the entrance flange of the next equipment

following the direction of the Beam (see picture below).

-For magnets, monitors have to be placed at a range distance "B", on the direction of the Beam, after the first quadrupole magnet met. Correctors magnets are not concerned by this (see MCB on picture below).

-Dipoles in D.S. region follow the same rules.

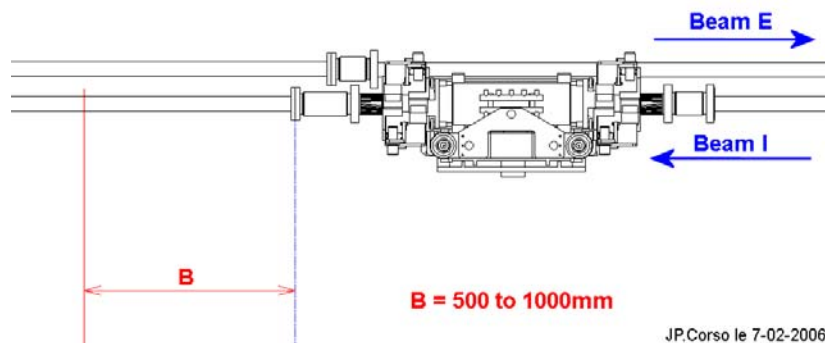


JP.Corso le 7-02-2006

5. Rules of positioning for other Equipments

-The others equipments which will have some monitors linked to are Beam Position equipments and Collimators.

-Generally, each equipment has one single set of monitors (BLM + SEM). In that case, the monitor has to be placed at a range distance "B" after the exit flange of the equipment in the Beam direction (see picture below).



6. *Special Rules*

-Some others equipments follow specific rules.

-TDI follow same rules as for Cryostats described in paragraph 4.

-For MSI magnets, on the injection chamber, it has 1 set of monitors at a range distance "A" after each entrance flange of all MSI magnets, plus 1 set after the exit flange of the last MSI, in the beam direction.

-For TCDD, 1 set of monitors has to be installed before the entrance flange on the injection beam direction.

-All cases are covered in this paper, but updates should appeared for the following Sectors.