

Dear friends,

Please find below my own point of view of the problem of the target construction after the Board meeting of yesterday. I hope that this will be taken by all of you as a positive contribution to the search for a solution to the current crisis.

It was agreed at the Collaboration Board of 19/1/2005 to increase the target pitch of 10 mm and to provide an overall thickness of XX+xx to the brick wall, YY+yy to the TT wall and ZZ+zz to the BMS. It was also agreed that, for the time being, none of the three components fulfill the requirements with complete confidence. At least two lines of remedies, not contradictory in principle, have been proposed on how to improve one of the problems, the TT wall planarity or, at least on how to learn more on how to improve it. No consensus was obtained on this point which is emphasized further in an attempt to elaborate a possible alternative attitude. However, it was agreed that the search for technical solutions to problems are under the primary authority of the Project board and not of the Collaboration Board. To that extent, the decision of the board was unanimous.

There is a strong confrontation between two attitudes, and this confrontation puts the Collaboration at risk:

- The Project Leader is convinced that the current TT assembly procedure is adequate and can be amended in such a way that the requirements can be fulfilled or, at least, will be fulfilled given the increased pitch. To demonstrate this he wishes to install at least three pairs of brick and TT walls and measure, with the help of the survey, the relevant parameters. Consequently, in the mean time, and by lack of manpower, he does not want to consider studying more fundamental changes to the assembly procedure.
- The Spokesperson is convinced that the current TT assembly procedure is not adequate and cannot be amended in such a way that the requirements can be fulfilled. Consequently he considers testing it further a waste of time and presses to start immediately with the study of more fundamental changes to the assembly procedure.

Obviously, they cannot be both right. I am not able to decide who it is and, even if I would be able to do so, this would not help solving the crisis as it would just be an additional opinion. The intermediate attitude, which is mine, is simple:

- Allow the TT Project Leader to perform his test provided the brick wall Project Leader also agrees.
- Define a well constrained time scale within which the test must be completed.
- Define a set of well defined criteria that will establish without ambiguity that the present assembly method, after amendment, will strictly satisfy or not all the requirements provided the pitch is increased as foreseen.
- In the mean time, as the output of the test is not known, identify available manpower to immediately start the detailed study of more fundamental changes, as urged by the Spokesperson. The possibility to support horizontal modules at various points along their body and not just at both ends has been considered already sometime ago but was never seriously studied because it was thought not necessary at that time.

I also wish to elaborate further on the maximum occupancy attributed to each component. If no one denies the very strong imbrications between the brick and TT walls and the BMS, there are, however, two distinct natural levels in these imbrications. The walls constitute the empty target and the BMS is the instrument to load it. The BMS team will provide a complex instrument, which, ultimately, fixes the requirements of the properties of the empty target as a whole. The main requirements concern:

- The openings between the end-caps.
- The lateral match of these openings with the brick wall trays.
- The minimal size of all cells.
- The linearity of a row of cells, though not so critical
- The average angle of a row of cells, though not so critical.

There might be more which the BMS team is much more able than me to list and specify, but that is, I believe, irrelevant for what concerns the following. I wish to argue that, providing all these requirements are fulfilled and the overall thickness of a module made of one brick wall and one TT wall does not exceed  $XX+xx+YY+yy$ , the BMS cannot tell the difference. Therefore, and, given the very tight time schedule, I suggest adding more freedom in the search for solutions by relaxing the constraints on the individual components as this may be easier and fasten the finding of a solution. To make it clear, a solution where the standalone brick wall thickness exceeds  $XX+xx$  and/or the standalone TT wall thickness exceeds  $YY+yy$  is acceptable provided the overall thickness requirement and the entire BMS requirements are fulfilled. Of course, such solution can only emerge from a strict collaboration and in total agreement between the two teams and their Project Leaders under the control of the Project Board.

With my best regards,

Gaston