

MACHINES AND AREAS COMMITTEE

Summary of meeting No 13 (September 25, 1973)

Present : O. Barbalat (Secretary), D. Dekkers, M. Georgijevic, W. Hardt, H. Haseroth, L. Henny, L. Hoffmann, U. Jacob, H. Koziol, P. Lefèvre, J.H.B. Madsen, G.L. Munday (Chairman), G. Nassibian, G. Plass, J.P. Potier, K.H. Reich, C.E. Rufer, P.H. Standley, C.S. Taylor,

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PREPARATION FOR THE NEUTRINO EXPERIMENT USING A HIGH INTENSITY PSB BEAM

This meeting was a follow up of MAC No 10 (August 2, MPS/DL/Min. 73-19).

G.L. Munday expressed his congratulations to all those involved with the 3 machines who have contributed to the progress towards an operational intermediate intensity in 1973. In spite of all the remaining problems, the results of the last MD on September 13 (see MPS/DL/Note 73-17) made him much more confident that this goal could be achieved.

1. Physics Programme

G.L. Munday reported that the NPRC had agreed to the following programme.

In the November run, Gargamelle will start normally with the PS using the 50 MeV Linac beam.

On November 14 at 10.00 h. a.m., one will switch on the 800 MeV beam until the end of the run. The ISR has agreed to rearrange its programme so that Gargamelle can be the sole user of the PS.

In December, Gargamelle will again be on, as sole user, with an 800 MeV beam from December 13 to 20 with an interruption on December 17 for a joint PS-ISR* Machine Development session with the PSB beam.

In 1974, it will be necessary to accommodate other users (ISR and probably BEBC) together with Gargamelle. However this would not take place before early April.

* The spirit of this is : the PS will give the best it can, given that for the moment neutrino takes first place, and ISR will accept what is obtained (not said in meeting by G.L. Munday).

2. Status of the 3 machines

P. Lefèvre reported on the CRASH meeting No 4 where this subject was extensively discussed (see MPS/DL/Min. 73-23).

The most critical item appears to be the power supplies for the orbit deformation bumps which will be used to drive the beam on scrapers in the PSB in order to reduce if necessary its emittance and minimize the injection and ejection losses in the PS. Delivery by an external supplier might be uncomfortably late. Several suggestions of possible usable devices existing in the division were made and will be investigated by the BR group. As to the manufacture of the firing circuits, this can be done in the BR group and if necessary additional manpower (regie) could be used.

3. Analysis of experimental studies results

These results are detailed in a report (see MPS/DL/Note 73-17).

It was agreed that, for the studies in the coming weeks and for the neutrino run, the PSB would be set to deliver a stable beam to the PS.

It was mentioned that a possible cause of the loss at transition with 5 bunches could be cavity beam loading. If this is confirmed, W. Pirkl will be asked to look into this; but this has no urgency and is not critical for the coming neutrino experiment.

4. Future programme

- The programme proposed by P. Lefèvre for the joint PSB-PS run was discussed at the CRASH meeting (see CRASH report No 4, item III).
- As to the PSB, the main problem is to equalize the beam from the 4 rings and achieve a high quality recombination. H. Koziol said that the RIC gives to this item the top priority. The other point studied for the moment is the investigation of stop bands. This is needed to specify the necessary compensating multipoles as early as possible in view of their long construction time.
- Operational decisions in case of incidents during the neutrino run will be handled by the usual channel of the PS operation co-ordinator (D. Dekkers).
- The people in charge of the 74 beam line towards Gargamelle will be associated to the future MD where extraction is planned as was already done on September 13. L. Henny will ensure the liaison.
- In conclusion, the recommendation made by the CRASH at its 4th meeting (MPS/DL/Min. 73-23) were endorsed by the MAC. No further MAC meeting on this subject seems necessary unless a request is made by the CRASH.

5. Miscellaneous

An interference through the mains has been discovered between the PSB and the ISR when it operates at 31 GeV/c.

Little can be done by the PSB which has already filters on its mains but R. Gailloud will continue to try to improve things. An improvement is more likely to come by action from the ISR which have so far no filters. In the meantime, this should be kept in mind for scheduling.

6. Future meetings

Thursday October 11 at 14.30 h.

Agenda : - high power sextupoles
in the PS
- manipulator.

Thursday October 25 at 14.30 h.

Agenda : - different intensity on alternate pulses,
report by J.P. Potier.

O. Barbalat

Distribution

PS Scientific Staff

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