

Minutes of
CERN-PS Staff Meeting

Nov. 18, 1953

(3)

Present: J.P. Blewett, M.H. Blewett, A. Citron, O. Dahl,
P. Denis, F.K. Goward, K. Johnsen, G. Lüders,
M.J. Leroux.

1. Denis' reports about a visit to Sécheron.

Sécheron has offered to make the Model 4 for about S.Frs. 50,000 and with a delivery time of about 4 months. Denis will issue a report with further details.

On Denis' recommendation the following decisions were taken:

To make the yoke out of 5 cm pieces of 3 mm lamination welded together (not of one solid block) in order to save time and money.

To make the windings of copper (not of aluminium) and of rectangular cross-section (not round) in spite of higher price, to get better space factor and rigidity.

To make the pole pieces out of vertical laminations arranged parallel to the orbit according to J.P. Blewett's proposal (not of a solid block, nor of laminations perpendicular to the orbit). This ensures maximum flexibility. Laminations are in stock at Sécheron and can be ground to give the necessary magnetic contact. Difficulties due to fanning of the laminations at the edge are realized. Special laminations (better tolerances) can perhaps be obtained in France; Regenstreif is going to find out about them.

A solid block pole piece could be ordered soon, to be machined only when sufficient information is available from the laminated one.

A competitive bid for the manufacturing of the pole piece will be obtained from Charmille.

Paying arrangements are discussed, in view of possible attitudes of the Interim Finance Committee.

2. J.P. Blewett speaks about the most economical n-value.

A report will be issued about it. A lower n-value gives a higher field at the equilibrium orbit. The change in aperture with n is comparatively slow. $n = 250$ seems more economical than $n = 400$. There followed some discussion about which quantities (energy, maximum field, radius, money) had to be considered as fixed by the Council decision.

It was also learnt that Wideröe is very sceptical about manufacturing high-n-magnets.

J.P. Blewett also gave an approach to the problem of the shape of the polefaces outside the hyperbola region.

3. Regenstreif will issue a report about the scaling down from 30 GeV to 25 GeV.

There are two ways of doing this without changing the working point in the stability diagram. First by simply scaling down geometrically; n is kept constant by increasing the field gradient by 20% (earlier saturation). Or the field gradient can be kept constant, which means changing n from 392 to 327. The ratio of the length of sectors to the radius has then to be altered as well. This means about 10% more magnet weight. The latter way seems preferable.

Finally the questions of insurance, salary etc. were discussed

A. Citron