

A REMINDER OF IMPORTANT QUESTIONSAWAITING AN ANSWER

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Introduction.

We find that the visit of Mr. H. E. Th. Bakker to Serpukhov during the week of the 9th December, 1968 is a good opportunity to exchange information. The present note is therefore issued as a check-list for the convenience of interested IHEP Staff and of Mr. Bakker: It does not introduce any new fact in the discussion, but simply refers to items previously agreed upon. There is no claim for the list to be complete or exhaustive of the points treated.

This note does not contain information related to the proposed Ejection Building which is treated separately in ref. 1.

List of Points Requiring Attention.

1. IHEP will send to CERN during December 1968 a drawing of the target station, as stated in ref. 2, par. 2.
2. IHEP will send to CERN during December 1968 preliminary engineering drawings of all modified vacuum chambers and equipment layout in the relevant straight sections of the accelerator, as stated in ref. 2, par. 3.
3. A report on the external target shielding will be sent by IHEP to CERN in December 1968, as stated in ref. 2, par. 6.b.1.
4. As stated in ref. 2, par. 6.b.4, the following information will be transmitted by IHEP to CERN during December 1968:
 - 4.1 Written comments and suggestions concerning the report on the proposed vacuum system (ref. 4);

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- 4.2 A description of the existing vacuum system of the accelerator and its interlocks. Such a description should be complete on the present performance of the system and outline the proposed improvements, as automatic pump-down procedure etc.
5. A document describing the decisions reached by IHEP on the so called control philosophy will be sent to CERN in December 1968, as stated in ref. 2, par. 6.b.6.
6. Complete documentation concerning the TV system to be supplied by IHEP should be given to CERN, as stated in ref. 5, par. 11.
7. A complete magnetization curve for the steel of the synchrotron magnet will be given to CERN. This will allow an extrapolation to a possible behaviour at 85 GeV. (see ref. 5, par. 4). Following a suggestion of Dr. Myznikov, we have asked for such an information in Leningrad with no success up to now. Since we feel we have no means for pressing for such vital data, we urge IHEP to obtain them for us and transmit them to us without delay.
8. As stated in ref. 5, par. 5, a detailed section drawing of the magnet with indication of the position of poleface windings, complete of a list describing the function of each conductor, should be sent by IHEP to CERN.
9. The target position and external beam line, as fixed in ref. 2, par. 1, are:

$$X = 119.759 \text{ m}$$

$$Y = 46.94 \text{ m}$$

$$\phi = 0.23562 \text{ rad} \quad (\text{tg}\phi = 0.24008)$$

In ref. 6 we proposed an angle ϕ of which the tangent is:

$$m = \text{tg}\phi = 0.23883$$

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Such an angle was chosen in order to reach our proposed target position ($X = 119.730$ m, $Y = 46.888$ m) without using additional horizontal magnetic deflection. By accepting the data of ref. 2, par. 1, we feel that we have to introduce a horizontal deflection of approx. 2.5 mrad: This is possible, however it should be borne in mind that the horizontal deflectors are meant as a reserve. Therefore we find this added complication undesirable and we insist on going back to our proposed position, unless there are serious reasons for keeping the values quoted in ref. 2, par. 1. In the latter case we insist on receiving a document explaining the line of thinking which has led to the values quoted.

10. The problems of installation are by no means exhausted by the visit of Mr. Bakker mentioned in the introduction. It is therefore timely to remind IHEP of the necessity of sending an installation expert to CERN as soon as possible for discussions, as stated in ref. 5, par. 11, which indicated August 1968 as desirable date.
11. Last but not least, the necessity of permanent representatives of IHEP at CERN should be stressed, to work on ejection and beam transport systems (see ref. 3, par. I.3, ref. 5, par. 9, ref. 7, par. 12).

References.

1. Some Comments on the Proposed Ejection Building.
PS/FES/TN-46, 6th December, 1968, by H.E. Th. Bakker.
2. Minutes of the 9th Meeting of the Experts on Fast Ejection
and Proton Beam Transport Systems. Serpukhov, October 1968.
3. Protocol. Meeting of the Joint Scientific Committee IHEP-CERN.
Serpukhov, October 1968.
4. Preliminary Design of the Serpukhov Fast Ejection Vacuum
System, by P. Riboni. MPS/ML Note 68-20, PS/FES/TN-35,
17th October, 1968.
5. Working Programme, adopted at the Joint Ejection Meeting in
Serpukhov, 18th - 22nd March, 1968.
6. On the So-called Final Trajectory and Target Position, by
F. Fabiani and B. Kuiper. PS/FES/TN-23, 16th June, 1968.
7. Protocol on the 8th Joint Meeting of Experts on Fast Ejection
and Proton Beam Transport. CERN, 24th June, 1968.