

MORE COMMENTS ON THE PROJECT
OF EJECTION BUILDING

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In ref. 1 a series of comments on the project of the ejection building was presented, together with many suggestions of improvements and alternative solutions.

We try here to compare the proposed solutions with the relevant points contained in ref. 2 on the subject of the building and to the list of questions quoted in ref. 2 and 3, submitted by IHEP to CERN in October 1968.

Sections 5.1 to 5.15 of ref. 2 contain specific questions concerning the ejection building. Answers to such questions are given below, following the same numbering and order of ref. 2.

- 5.1 Accepted by CERN
- 5.2 Accepted by CERN, with the exception of sec. 2.2.a) of ref. 1
- 5.3 Accepted by CERN
- 5.4 Answer to this question is contained in ref. 1, sec. 2.2.d)
The counterproposals made known by IHEP to Mr. Bakker are being examined at CERN. An answer will be given in January 1969.
- 5.5 Accepted by CERN. However some local reinforcement or alternative solution should be considered, in particular with respect to the problem of the height of the equipment rooms and lifting facilities.
- 5.6 Comments on this point are contained in ref. 1, sec. 4.3.
The counterproposals made known by IHEP to Mr. Bakker are being examined at CERN. An answer will be given in January 1969.
- 5.7 Accepted by CERN
- 5.8 Accepted by CERN
- 5.9 Accepted by CERN (see ref. 1, sec. 3)
- 5.10 Accepted by CERN with the requirement of proper ventilation in both equipment rooms and auxiliary rooms.
- 5.11 Accepted by CERN. However, attention of IHEP is drawn to the problem of evacuating the heat produced in the equipment room. (see ref. 1, sec. 4.5).
- 5.12 Accepted by CERN with the understanding that IHEP will deliver the power distribution cupboards in the rooms mentioned.

- 5.13 The information necessary to start the building is contained in ref. 1, sec. 2 and sec. 4.
- 5.14 Confirmed by CERN
- 5.15 Accepted by CERN. However, we would like to call to the attention of IHEP that currents of the same magnitude of the phase current may be carried by the neutral.

In sec. 5.16 of ref. 2, and sec. 1.2 of ref. 3, a list of questions is mentioned as annexe. We answer here to such questions by following the same numbering and order.

- I.A.1 CERN will transmit to IHEP a list of rates of flow and pipe diameters for water supply to some central points (equipment rooms, auxiliary rooms, pumping station, some points in ring, etc.) in April 69. More details on the equipment will be supplied by end 1969.
- I.A.2 This layout will be known by end 1969.
- I.A.3a) This information will be available by end 1969.
- I.A.3b) This information will be available by end 1969.
- I.A.3c The values given to Mr. Bakker in Dec. 1968 are being studied. An answer will be given in Jan. 69.
- I.A.3d This information will be transmitted by end 1969.
- I.A.3e The values given to Mr. Bakker in Dec. 1968 are being studied. An answer will be given in Jan. 69.
- I.A.3f This information will be transmitted by end 1969.
- I.A.3g This information will be available by end 1969.
- I.A.3h The values given to Mr. Bakker in Dec. 1968 are being studied. An answer will be given in Jan. 69.
- I.A.3i Copper
- I.A.3j This information will be available by mid 1969.
- I.A.3k Could you please quote a value representative for the water used at present?
- I.A.3l Does your present system contain such a facility? If so, how?
- I.A.3m This information will be available by end 1969.

- I.B.1 This list will be available by end 1969.
- I.B.2 Rate of flow at some central points will be defined in April 69. Pressure of 6 to 8 kg/cm² is acceptable. Concerning humidity and impurities we would like to know what are the standard values in the present installation around the accelerator, since we feel that such a quality of compressed air may possibly be acceptable to us.
- I.B.3 A precise estimate of consumption of air as a function of time may become available by end 1969.

- II.1 The emergency oil tank should be 5'000 l or larger.
- II.2 Mineral oil for hydraulic installation having high lubricating power and containing additives to prevent oxidization and foaming. Engler viscosity: 11° E at 20° C, 3° E at 50° C and 1.4° E at 100° C (typical). Could you please advise us on Soviet standards and Soviet suppliers.
- II.3 We agreed on a 25 cm reinforced concrete floor. Since CERN takes care of all the equipment in the pumping station, the only information needed is the position and size of flanges of connection to the ring. This will be specified in April 69.
- III.1 This information will be specified in part in April 1969; more complete information will be supplied at the end of 1969.
- III.2 }
 III.3 }
 III.4 } Complete information will be given before the end of 1969.
 III.5 }
- III.6 Some information was contained in the note of H.E.Th. Bakker PS/FES/TN - 12 of April 1968. More details will be specified in January 1969.
- IV.1 See ref. 1, sec. 2.2.a) and 2.2.g). We feel that 2.5 mW × 3.5 m D × 2.2 m H with a door width of 2 m is acceptable. However attention is drawn to the fact that equipment higher than 2.2m has to be installed on the first floor : Therefore a means of lifting such equipment to the first floor has to be devised.

REFERENCES

1. Some comments on the project of ejection building by H.E. Th. Bakker PS/FES/TN - 46 of 6th December 1968.
2. Minutes of the 9th Joint Meeting of Experts on the Fast Ejection system and Proton Beam Transport System. Serpukhov, 21-25 October, 1968.
3. Protocol of the Joint Scientific Committee CERN-IHEP. Serpukhov 21-25 October, 1968.