

Myself

D^r Rickman

PROTON SYNCHROTRON PROJECT

(Building Progress)

Notes of a meeting held in Mr. Bowles Office on Thursday 17th April, 1958.

Present:

Mr. G. E. Simmonds - Chairman
Mr. G. W. Dixon
Mr. A. G. Entwistle
Mr. G. M. Harbert
Mr. A. G. Hewitt
Mr. H. Kerr
Mr. L. B. Mullett
Mr. J. B. Marsh
Mr. A. J. Rennie
Mr. P. St. C. Webber
Mr. J. B. Worts
Mr. F. M. Telling - Secretary

1. INDUSTRIAL STAFF ACCOMMODATION

It was agreed to locate this proposed building between the Arcon Building (470.8) and the Office Block (470.1). The building would consist of two stories, the ground floor comprising change-rooms, ablutions, mess-rooms etc., and the first floor office accommodation. The building would be rectangular in shape with the minor axis abutting the south wall of the Arcon. Direct access from the Arcon would be provided.

Mr. Dixon proposed to develop this scheme. The building would be required by the end of 1960. It was noted that no financial authority had yet been given for this building.

2. SWITCH GEAR AND DISTRIBUTION BUILDING

It was agreed that the 3.3 KV switchgear and transformers would be located adjacent to the Water Plant Room. Mr. Dixon will provide layout sketches.

An extension of sub-station No. 10 will be provided to accommodate the 11 KV switchgear.

(Since the meeting, which Mr. Marchbanks and Mr. Hadley were unable to attend, it has become clear that there are serious technical objections to placing the 11 KV switchgear at Sub 10 and further consideration is being given to this matter.)

3. COMMENTS ON ALTERNATOR HOUSE DRAWINGS

Drawing 470.3/HAK/11

- (1) Interior partition walls in Control Room at south end of building are provisional only.
- (2) Cable trenches and tunnels are provisional only.
- (3) Switch house in transformer yard is provisional.
- (4) Magnet cable trench in Converter House will almost certainly have to be altered. Provisional only now.
- (5) Will probably need 2 doors in the South wall opposite the transformer cubicles.

- (6) If floor level of Transformer House between Water Plant Room and Blower Room were 412 ft. and not 410 ft. then it would be possible to dispense with railing and ramp to the Water Plant Room.
- (7) There will not be much space to manoeuvre a long truck with the alternator rotor on it, to get into the Alternator House. If the grass plot at the east end of the Transformer Yard were paved over it would make this problem easier and also be a car park later.

Items (1) - (5) were noted and accepted.

Item (6) may require resiting a doorway. Mr. Werts to investigate floor levels.

Item (7). It was accepted that adequate space must be available to manoeuvre vehicles transporting heavy electrical plant. The road levels will also need investigating.

Drawing 470.3/HAK/13

Mr. Dixon could not accept the request for windows to be provided in the blank west wall.

Drawing 470.3/HAK/12

Mr. Dixon will ensure that the fence across the Transformer Yard is high enough to comply with statutory requirements. Attention was drawn to the proximity of a transformer to this fence.

4. ESTIMATES

It was noted that the civil estimates had increased by approximately £35,000. Mr. Dixon said that he was looking into this matter and would report to Dr. Pickavance within a few days.

5. FLOOR FINISH

The original specification called for floors with a finish similar to those in the P.L.A. Building. It was noted that difficulties in reproducing this particular type of floor existed and it was therefore agreed to accept a grano floor to specification laid down by Merz and McLellan with an approved type of dust proof finish. Floors that are to be covered with linoleum will be concrete with steel trowelled finish.

6. CONTROL ROOM LIGHTING

Discussion took place on the following lighting schemes:-

Scheme 1) This allowed for semi-diffused lighting consisting of fluorescent lamps with reflectors and louvres at an estimated cost of £632.

Scheme 2) This scheme is based on a suspended ceiling which will allow diffused lighting over the control area. The estimated cost is £1,326 which includes for 50 single 80 w fluorescent fittings, together with control gear, dimming units and a modulene ceiling.

Scheme 3) This was tabled by Mr. Harbert and allowed for Shallow Module fittings at an estimated cost of £800.

It was decided that Scheme 2 should be installed.

7. SHIELDING BLOCKS

Reference was made to a paper by Mr. Simmonds in which a nominal block ridge of 9'-11" $\pm \frac{1}{8}$ " was proposed. This reduced the chances of the blocks fouling but accepted the fact that the gap between blocks could increase to $1\frac{7}{8}$ ". Since this would involve the coincidence of a number of extreme chances it was considered unlikely in practice that the gap would exceed $1\frac{1}{2}$ ". Merz and McLellan asked for time to consider this new proposal and agreed to let the Group have their comments at an early date.

It was agreed that the Project Design Group will submit a diagram defining the various positions of the shielding wall to Merz and McLellan to enable them to investigate the loading of the Shielding Bridge Monolith.

It was confirmed that a mechanical stacker can be ordered for lifting 2 ton blocks to the Groups requirements. Mr. Marsh agreed to let Merz and McLellan have this information. The design of the shielding wall can then incorporate blocks suitable for handling by this mechanical stacker.

Instructions have been issued to Chivers to cast a prototype shielding block with a tolerance of $\pm 1/16$ ".

8. FLOOR LOADING

It was noted that under operating conditions the shielding of the rigs may entail concentrated loading of the experimental area floor, and the Group asked for guidance in this respect.

Merz and McLellan agreed to provide a drawing showing the floor loadings and outlining areas in which overloading would be undesirable.

9. SHIELD BLOCK TROLLEYS

The contract for the trolley system for moving the shielding wall will be placed with Robert Hudson Ltd. The scheme will consist of separate trolley units with an independent tractor. The cost per set being £7,000 or 2 sets at a cost of £13,000.

The following was decided:

- (1) The contract should include for 2 complete sets at a cost of £13,000.
- (2) Facilities for moving the trolleys sideways will be required. The Firm will be asked to submit proposals and a quotation for this work. This additional requirement will not delay the placing of the contract.
- (3) It was thought that the specified speed of 2 ft. per min. was too slow. The Group agreed to consider this point and confirm requirements by the end of April.
- (4) Limit stop switches will be required and it was recommended that indentations denoting the limit of travel could be set into the floor between the trolley rails which would actuate a spring loaded lever attached to the trolley. This was an extra requirement which Merz and McLellan agreed to examine.

10. HANDING OVER OF BUILDINGS AND PLANT

It was agreed that the Industrial Group would be responsible for handing over to the client department all Buildings and Plant associated with the Civil Engineering Contract.

Mr. Herbert pointed out that a set procedure exists at Harwell for

handovers and this could very well be implemented. If required Mr. Barrett of New Works could co-ordinate this and notify all interested parties.

11. SOLE PLATE SURVEY

At the last meeting it was accepted that a separate approach should be made to Merz and McLellan if the Group required them to carry out a survey check on the foundation bolts prior to concreting.

The Chairman said that he would endeavour to clear this point at the earliest opportunity with Mr. Bowles. Merz and McLellan would then be approached by means of a formal letter.

12. SOLE PLATE BOLTS

Mr. Marsh said that it was noticed that the anchoring of the sole plate bolts had been modified by the inclusion of tubing. This tubing was not required and its use may weaken the rigidity of the bolts in the concrete.

Merz and McLellan agreed to examine this point.

13. CHECKING OF DRAWINGS

The Group expressed concern about the mistakes occurring in drawings received from Merz and McLellan. The Chairman emphasised that the Groups specifications must be met and it was the responsibility of the Consultants to ensure that drawings are checked and approved by responsible officers and appropriately initialled before they are issued.

Mr. Entwistle said that these mistakes were regretted and Merz and McLellan will in future thoroughly check all drawings and see that drawings issued to site bear an approval signature. In circumstances when drawings are released without checking then the drawing will be clearly endorsed to this effect.

F. M. Telling

Building 412/T.
2nd May, 1958.

Circulation:- All present
Dr. T. G. Pickavance
Mr. P. Bowles
Mr. A. L. Cuthbert