

PROTON SYNCHROTRON PROJECT.

(Building Progress).

Notes of a Meeting held in Mr. Bowles office on Wednesday, 21st May, 1958.

Present: Mr. P. Bowles - Chairman
Mr. A. O. Beatty
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. G. E. Simmonds
Mr. F. M. Telling - Secretary.

1. SHIELDING BLOCKS.

The following sizes were agreed for the concrete shielding blocks; Nominal size - 9' 11" with a maximum size of 9' 11 $\frac{1}{8}$ " and a minimum size of 9' 10 $\frac{7}{8}$ ". The tolerance of $\pm \frac{1}{8}$ " was the overall tolerance acceptable to the Group, the Contractor would however be asked to cast these blocks with a tolerance of $\pm 1/16$ ".

Messrs. Chivers have been instructed to cast a prototype block and are proceeding with the construction of the mould. It was considered that the structure of this mould should be subjected to a joint examination to assess its mechanical strength and suitability for the tolerances specified. Mr. Bowles asked Merz & McLellan to let him have a copy of the drawings showing the shuttering arrangements and notify him of the time when an inspection of this mould could be made. Merz & McLellan outlined their proposals for lining up the trolley block. This consisted of a flat steel plate cast into the side of the block with a line scribed down the centre of the plate. The reference on the floor being the edge of the trolley rail. Once the trolley block was aligned then subsequent layers of shielding blocks would be lined up with the aid of a builders level. This proposal was accepted and Merz & McLellan were asked to provide the necessary datum plates for the blocks.

The prevent possible damage to the corner of the concrete blocks it was agreed to extend the chamfer on the corners to form a 6" equilateral triangle.

2. SHIELD WALL MOVEMENT.

A drawing was tabled by the Project Group indicating the various positions of the shielding wall. A copy of this drawing will be issued by Merz & McLellan to enable them to investigate the loading of the shielding bridge monolith and advise Group whether the floor will meet these proposed loading conditions.

Sufficient information on floor construction should also be placed on record to enable a structural engineer to assess the floor loading conditions when assemblies are required in these areas at some future date.

3. MECHANICAL STACKER.

Details of the fork lift truck for lifting shielding blocks were given to Merz & McLellan who were asked to order this stacker. Battery chargers

will be required at points to be specified later. The type of battery will also be specified by the Group. Single tender action to be taken to ensure manufacturer is the one currently used at A.E.R.E.

4. GENERATOR ROOM.

Merz & McLellan said that they were unable to support the ventilation ducting for the generator room in the Preparation Area from the wall due to proximity of building steel work. They therefore proposed supporting the ducting at high level. On the basis that support is not possible from the wall the Group accepted a ducting simply supported by brackets from the roof of the acoustic room. Merz & McLellan to submit details of this scheme to Mr. Harbert.

5. DRAWINGS FOR PHOTO-REPRODUCTION.

Merz & McLellan asked for guidance on the scale to be used for drawings they were preparing for a report on ground shielding in the neighbourhood of the beam flight path. The report called for natural scales and this caused some concern since the free space from the end of the concrete beam pipe could extend for a considerable distance. The Group agreed that the drawing need only show the beam path up to 2000 ft. beyond the end of the pipe.

6. BLOCK TURNING GEAR.

A letter from the Eagle Star Insurance Co., was tabled in which they commented on the design of the block turning gear. Merz & McLellan tabled their reply to this criticism and stated that they were satisfied that the stressing allowed was adequate. It was generally agreed that Merz & McLellan should forward this letter to the Eagle Star and if this Insurance Company cannot give complete clearance, then agreement should be reached at an early meeting of all concerned.

7. COOLING TOWERS.

Merz & McLellan were asked to make an economic appraisal of cooling systems for 95°F and 90°F Cooling water as received from the magnet coils.

8. MAGNET COOLING.

It was generally agreed that the temperature of the air leaving the magnet room should be maintained at 80°F.

9. CRANES.

The Group asked that the control pendant for the crane in the Preparation Area should be supplied with a long length of cable and then fixed in position to suit site conditions.

It was noted that the hook height of the crane in the Alternator Room should be 22 ft. from the floor.

10. Mr. Simmonds asked for the installation of the ventilation system to the magnet room to be brought forward. Merz & McLellan agreed to look into this.

Merz & McLellan were also asked if the completion date for the pipework and lighting in the magnet room could be improved upon. Mr. Entwistle promised to see if this part of the contract could be completed early in 1959.

F. M. Telling.

Building 412T.
June 11th, 1958.

Circulation: All present.
Dr. T. G. Pickavance.
Mr. A. L. Guthbert.