

DR PICKAVANCEE. 7

7 GeV PROTON SYNCHROTRON

Notes of a meeting held in Mr. Bowles' Office, Building 412 on Wednesday, 30th July, 1958.

Present: Mr. P. Bowles - Chairman
 Mr. A.L. Cuthbert
 Mr. P.B. Dunthorne
 Mr. A.G. Entwistle
 Mr. A.H. Fryer
 Mr. G.M. Harbert
 Mr. A.R. Lang
 Mr. G.E. Simmonds
 Mr. J.N. Sagar
 Mr. F.M. Telling - Secretary

1. Introduction

This meeting was called to review the programme for the civil construction and M. & E. work, with particular attention to salient dates in relation to the available information on the plant programme.

2. Assembly and Testing Building

The following dates were discussed and accepted:-

Building completion	15. 8.58
8 ton crane available	15.10.58
Cooling system	31. 1.59

Mr. Cuthbert pointed out that whilst every effort would be made to complete by mid-August it was possible that some low level painting and electrical installation may extend a little beyond that date, but this should not prevent occupation. This was accepted.

The installation of the 2½ ton crane would be completed by 31.12.58. The steelwork being erected during early December.

Mr. Simmonds agreed to let Mr. Harbert have information on the cooling system by noon on Friday 1st August, if possible.

3. Injector Room

The following dates were accepted:-

Completion up to 1st step (western end)	1.10.58
Partition to be erected	1.10.58
Remaining part of Injector Room	1. 4.59

The following services required by 1.10.58 were agreed:-

- I. Crane (1 only)
- II. Fixed lighting.
- III. Power for small tools.
- IV. Clean conditions, with linoleum laid down. Consistent with suitable floor conditions. Position to be reviewed in September.
- V. Main water and compressed air.
- VI. Heating and Ventilation. Mr. Harbert to provide early information to Mr. Cuthbert regarding heating unit and ventilation grills for partition.
- VII. Removable screen to be provided across temporary access with small wicket gate. Mr. Cuthbert to arrange this.
- VIII. Access Road to temporary door to be available until tunnel and permanent access to road No. 2 is completed.

4. Control Building

The following dates were agreed:-

Partial occupation by	30.11.58
Building completion	31.12.58

The Group pointed out that since plant installation would not commence until early 1959 the suspended ceiling in the Control Room could be programmed for December. Mr. Cuthbert said that every effort would be made to complete building work by 30.11.58 with a certain amount of paintwork completed during December.

5. Magnet Room

It was noted that the construction of the Magnet Room is at present running 6 weeks behind programme.

The available information from Sankeys indicated that the main production of magnet sectors will commence arriving on site as from 1.2.59. If this date is kept then storage of the magnet blocks will be required in the magnet room area as from that date.

Mr. Cuthbert said that he could not say at this stage whether or not we could catch up on the building programme completion date of 1. 2.59. A more realistic assessment could be made when the scheme for the roof is examined.

The following points were agreed:-

- I. Occupation or part occupation of magnet building by 1. 2.59 if possible. At present the Group to assume that the building programme will be 7 weeks late by 1. 2.59, and therefore plan for storage of about 30 sectors. The position to be reviewed in 3 months time when the construction programme for the roof is known and a closer assessment can be made of sector production.
- II. Merz and McLellan to provide information to Group regarding the maximum sector storage on one quadrant in Area 'A' without balance diametrically opposite.

Services required on occupation of building by Group:-

- I. Lighting.
- II. Heating and Ventilation.
- III. 30 Ton crane. The 5 ton radial crane if available although this is not critical.
- IV. Access road.
- V. Screen across Experimental Area (It was accepted that due to roof constructional work it may not be possible to provide this on time, therefore Group to make arrangements for covering the sectors.)

With regard to the period after occupation of the building by the Group it was noted that survey work will be carried out for 21 days before 1. 6.59. The actual dates will be discussed and agreed with the Resident Engineer.

After a general discussion on the work required during early occupation of the building the Chairman asked for all cooling pipework and trial assembly of one octant to be completed by 1.10.58. Mr. Lang in consultation with the Group to prepare a programme based on the assumption that occupation of the magnet building will be delayed 7 weeks.

6. Parasitic Area

Occupation of this building can be linked with the occupation date for the Magnet Building. Group require this for use as a small workshop which should be operating by 1. 6.59.

The Group agreed to provide a sketch layout of the Workshop to Mr. Harbert.

7. Experimental Area

The date of 1.7.59 for access to Area 1 was agreed. The position to be generally reviewed during December 1958.

The Resident Engineer to provide a layout showing Area 1 which can be occupied by Group and Area 2 which can be used by the Contractor for block casting. New Works to provide an estimate for the temporary screen.

8. Hydrogen plant room & Bubble chamber

These rooms will be used initially as storage areas. No special services required apart from heating & lighting. Aim to make habitable as soon as possible.

9. Laboratory and Office Block

Agreed to aim at completion by 30.6.59.

10. Air Conditioning Plant

Completion required by 1.8.59.

It was noted that the Group wished this date to be maintained, but did not support any special measures such as overtime working.

11. Cooling Towers

The scheme under consideration proposes two cooling towers each with separable ponds. The main cooling tower will provide the cooling from the magnet, bubble chamber, experimental areas and the power supplies. The small cooling tower will cool circuits from the vacuum pumps, injector, R.F. unit and the air-conditioning plant.

The following dates were agreed:-

I. Small cooler complete with pumping auxiliaries, Heat exchangers etc. by 1.10.59 with aim to improve to 1.9.59 if possible.

II. Main cooler erection to commence by 1.4.60 completion with associated circuitry by 1.10.60.

12. Alternator and Ancillary Plant Buildings

A draft programme was submitted by Mr. Lang for discussion. The following points were agreed.

I. Switch-house. No temporary supplies required. Group to provide sufficient information on 3.3/11 KV switchgear by 31.1.58 to allow Merz and McLellan to prepare specifications. Completion date 1.1.60.

II. Water plant & Battery Rooms. Programme should be expanded beyond 1959. Group to assess requirements of room to suit requirements for standby supplies. Merz and McLellan to check on initial requirements. Completion date 1.1.60.

III. Connector House. Mr. Marchbanks to define the final position of the central cable duct and confirm outside dimensions with Mr. Harbert immediately after the meeting. Other internal details to be given by 15.8.58. Building ready for plant installation by 1.1.60.

IV. Service Tunnels. 3½ months construction period to be extended to 4½ months. Group to instruct Merz and McLellan before 1.9.58 regarding the installation of the multicore cables. Merz and McLellan were requested to place an early order for this cable to ensure payment during this financial year.

V. Transformer Yard. Merz and McLellan to undertake the design of the pebble-bed, oil sump etc. and forming of transformer pots through wall. Group to supply drawings of transformers by 15.8.58, and advance information on location of choke. All other information from Group by 31.12.58, or before if available. Ready for plant installation by 1.1.60.

VI. Alternator Building. Ready for plant installation by 1.1.60. Group to obtain size of hole in floor from English Electric by 31.8.58. Information on trenches and ducts to be supplied by Group not later than 1.12.58.

Final comments on this draft programme to be available to Mr. Lang by 5.8.58 at the latest.

F.H. Telling

A.E.R.E. Harwell,

1st August, 1958.

Distribution:-

All present
Dr. T.G. Pickavance
Mr. L.B. Mullett
Mr. H.J. Moore
Mr. G.W. Dixon
Mr. T.L. Viney
Mr. W. Davies
Mr. E.L. Ashley
Mr. J.A. Winters
Mr. J.H. McDonald
Mr. W.H. Chilton
Mr. J.J. Hughes
Mr. A.G. Hewitt
Mr. M.J. Marchbanks