

7 GeV PROTON SYNCHROTRON

CON/HAR/3A/3377

Provision of general mechanical
engineering day-work labour and supervision
to assist in the construction and commissioning
of the 7 GeV Proton Synchrotron

1. Introduction

It is necessary to provide a Mechanical Contractor to install those items of mechanical plant which are covered by a "supply only" contract. In some cases it is uneconomic to ask the manufacturer to install their own plant, and in many cases manufacturers have no construction department.

The novelty of the project and the non-repetitive nature of much of the work render it extremely difficult at present to compile a "fixed price" or a "schedule rate" contract for the work envisaged without the probability of an excessive number of costly variation orders being invoked by the Contractor as the work proceeds. The tender documents safeguard the future by reserving to the Superintending Officer the right to decide whether any particular work required shall be ordered under this contract or shall be performed by Authority workpeople or by other contractors. This permits the Superintending Officer to request tenders on a "fixed price" or "schedule rate" basis to be submitted whenever a suitable economic occasion presents itself.

The Director of Contracts has approved the form of invitation to tender.

2. Approach to Industry

Fourteen contractors were approached initially of which twelve indicated interest and the desire to be invited to tender.

Each interested contractor was requested to offer for inspection a project recently constructed by themselves which had installation features akin to those to be experienced during the construction of the 7 GeV Proton Synchrotron.

Based on these inspections, study of the various contractor's organisation, and contracts previously awarded to them both by the U.K.A.E.A. and industry, eight contractors were selected and invited to tender.

3. Tenders

The invitation to tender required the contractor to submit standard and overtime man hour prices for the services of a General Foreman, Foremen and various grades of skilled and unskilled labour based on a normal working week of 44 hours, 48 hours and 52 hours. In addition the tender required the mechanical daywork contractor to appoint an approved Site Engineer for whose services a monthly fee had to be submitted.

To assist the tenderers in assessing the commitment being undertaken an estimate was given of the varying period complement for each grade of labour to be employed over the duration of the contract. Also included in the invitation to tender was an estimated value of the contract, viz: £60,000 during 1959, £105,000 during 1960 and £25,000 during 1961.

In order to compare the tenders the varying period complement for each grade of labour was evaluated for the duration of the contract (1st January, 1959 to 31st December, 1961) using the man-hour prices based on a 44 hour normal working week as submitted by each Contractor. The value of the Site Engineer for the same period was also included in the evaluation.

The evaluations thus obtained are:-

1 - Messrs. Matthew Hall & Co., Ltd.	...	...	...	£179,586
2 - Messrs. Mitchell Engineering, Ltd.	...	...	...	£183,699
3 - Messrs. Constructors-John Brown, Ltd.	...	...	...	£189,255
4 - Messrs. Wm. Press, Ltd.	...	...	...	£212,580
5 - Messrs. Boucher & Co., Ltd.	...	...	...	£234,968
6 - Messrs. Thos. Wards, Ltd.	...	...	...	£238,195
7 - Messrs. Woodall-Duckham Construction	...	...	...	£274,134
8 - Messrs. Vickers-Armstrong (Aircraft) Ltd.	...	...	...	£435,413

Although submitting the lowest tender, Messrs. Matthew Hall's rates for the supervisory grades, i.e. Site Engineer, General Foreman and Foremen are approximately 20% higher than those of Messrs. Mitchell Engineering, Ltd. and compare favourably with the remaining tenderers. Messrs. Matthew Hall's rates for craftsmen are slightly higher than the similar rates submitted by Messrs. Mitchell Engineering. The minimum tender figure has been achieved by Messrs. Matthew Hall due to the low rates submitted for unskilled labour, this is probably because of their intimate knowledge of local conditions. These figures indicate that Messrs. Matthew Hall & Co., Ltd., apart from endeavouring to obtain the contract in close competition have fully appreciated the requirement put to all the tenderers that the supervision and craft skill needed for the construction of the 7 GeV Proton Synchrotron will be a high standard.

Messrs. Matthew Hall's quotation for the man-hour price based on a normal 44 hour working week extends unaltered to include a normal 52 hour working week whereas the remaining tenderers require overtime rates to be invoked for all time worked in excess of 44 hours each week.

A small committee have interviewed a senior representative of Messrs. Matthew Hall, and we are satisfied that they appreciate the nature of the work and can supply competent supervision, and the appropriate craftsmen.

4. Recommendation

It is submitted that the Project Committee recommend:-

1. The acceptance of Messrs. Matthew Hall's tender to supply daywork labour and supervision for the installation of mechanical plant associated with the 7 GeV Proton Synchrotron as directed by the Superintending Officer.

2. Financial authority be given for up to £200,000 to cover the work to be undertaken by Messrs. Matthew Hall, Ltd. including any "fixed price" or "schedule rate" work placed by the Superintending Officer on Messrs. Matthew Hall, Ltd. or elsewhere. Current approved estimates allow approximately £220,000 for this commitment.

P. Bowles

Building 4.12.10.

4th November, 1958.