

CONTRACT CON/HAR/3A3495 (P.S. 1399)

This contract is for the supply of bought out parts, material and labour for the electrical installation of all component parts and control equipment of the 7 GeV Proton Synchrotron that are not covered on "Supply and Erect" contracts, such as the Magnet power supply. The major part of this contract will be of work costed to a Schedule of Rates and a Schedule has been produced for nearly 1,000 items. A certain amount of work, - possibly 25% of the total - will be of work not scheduled, which will be done on a Daywork basis.

The nature of the work requires a standard which is higher than that of the general run of the mill electrical contracting firms and, accordingly, the following firms, known to us or recommended, were invited to tender :

1. Messrs. F. H. Wheeler, Ltd.,
2. Messrs. Read and Partners,
3. Constructors John Brown,
4. Messrs. Drake & Gorham,
5. Messrs. Campbell and Isherwood,
6. Hartons' Installations, Ltd.,
7. Messrs. Hutcheon Duthie, Ltd.,
8. Messrs. W. J. Furze (Manchester) Ltd.,

All the above firms completed the Schedule and supplied all the hourly rates and costs requested in the tender documents.

The schedules of rates have been assessed by means of a sample of the total 1,000 items, using the items in frequent use and quantities in the correct proportion for the main job. These items and quantities were tabulated before receipt of tenders.

" No. 3 Messrs. Constructors John Brown
were 19% above firm No. 1

" No. 4 Messrs. Drake & Gorham were 57% above firm No. 1

The comparative figures, based on measured work of £41,000, Day-work labour of £4,000 and allowing £1,000 for Daywork material and standing time of £500 and allowing £2,000 for specialist sub-contractors work and £2,000 for nominated suppliers are shown overleaf :

	No. 1	No. 2	No. 3	No. 4
Sub-contractor and additional %	2,200	2,050	2,100	2,100
Nominated supplier and additional %	2,150	2,100	2,100	2,300
Daywork labour + £1,000 materials	5,000	4,950	5,500	5,900
Standing time	500	509	568	555
Scheduled Rate items	41,000	52,070	50,840	70,500
	50,850	61,679	61,108	81,355
Reduction on escalator clause	251	308	1,322	1,200
	£.50,596	61,371	59,886	79,455

Firm No. 5, Messrs. Campbell & Isherwood, were the highest tender without obvious errors, being 117% above Firm No. 1.

" No. 6, Messrs. Hartons' Installations Ltd., were 49% high when corrected for their major error which would have placed them 86% too high

" No. 7, Messrs. Hutcheon Duthie, Ltd., were 34% high but + 45% on the escalator clause makes this total 94% high

" No. 8, Messrs. W. J. Furze (Manchester) Ltd., were 34% high but, when corrected for major errors, were then 42% high.

The above percentages (firms 5 to 8) are based on measured work and these reduce slightly on including daywork, etc., as above, i.e., the % for firm No. 8 reduces from 34% high to 28% high.

The first four firms listed submitted rates which were competitive and calculated with care. Firm No. 5 asked for a guarantee of 16 hours overtime per week to attract labour to the site and, since this was not possible, their high price reflects their estimate of labour costs with a substantial "lead". Firm No. 6 makes a number of errors in its schedule, one which, a total of 3,000 times the scheduled rate each, makes the item £15,000 too high. Firm No. 7 appears to have made a mistake in the escalator clause in as much as an increase in the job total from £40,000 to £61,000 would increase all the rates payable by 75%. Firm No. 8 have also made many errors in the schedule, - for instance, the cost of terminating a sixty-one core cable with all conductor crimping and core identification sleeves is quoted as the same as for a single core cable; the cost at 5/5d. each is correct only for the single core cable.

Since the costs based on sampling the schedule make all these firms (Nos. 5 to 8) above the three cheapest, the above points need not be resolved. The variations in cost per item vary from a ratio of 54 high for firm No. 6 above firm No. 1 (item 366) and a ratio of 18 low for firm 8 below firm No. 1 (item 418)

2. Financial Implications

Acceptance of this tender would not involve any expen-

diture but, during the installation period until mid 1961, work would be placed and costed to line up with the delivery of plant and the programme of the work; costing would, therefore, be for small sums against various project numbers, which would total over £50,000 during this period. A sum of £117,000 is the total allowed for electrical installation work in the Plant estimates.

3. Recommendations

- (1) That a contract be placed with Messrs. F. H. Wheeler Ltd., as per the contract conditions and schedule of rates to CON/HAR/3A/3495
- (2) That financial authority be given for up to £100,000 to be spent on electrical installation work up to the period of mid 1961 unless this time is extended by programme consideration, i.e., progress of plant delivered, etc., This is within the total allowed in the estimates.
- (3) The Schedule of Rates from Messrs. F. H. Wheeler, Ltd., is not signed and this action must take place before any contract can be placed with them.

P. BOWLES

H. HADLEY

Engineering Division,

29th May, 1959