

Mr. P. Dawkins.

NI/GP/60/27

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCEGENERAL PURPOSES COMMITTEEMain Pole Face Windings for NimrodNote by the Secretary

In the enclosed paper approved on behalf of the Nimrod Project Committee by their Chairman, it is recommended that a contract be placed with Marston Excelsior Ltd., for the main pole face windings at a cost of £57,200.

As will be seen, the choice of contractor is straightforward, but the provision for the pole-face windings, in the latest approved estimate, is now known to be inadequate, and in the latest estimate now awaiting Treasury approval it has been increased from £80,000 to £160,000. The proposal to place this contract now therefore requires some justification.

It will be seen from the paper that the contract would not over-commit either the whole present approval or the amount which was allowed for pole-face windings in calculating the estimate at present approved. It is considered highly desirable to place the contract at once, not only to avoid serious delay in the programme, but also because it is thought likely that if Messrs. Marston Excelsior's very favourable quotation is not accepted while it is still valid, their price will be sharply increased. The Committee's approval for placing the contract now with Marston Excelsior at a cost of £57,200 is therefore requested.

Since the main point at issue is one of finance, it has first been put to the Chairman and Mr. Drake, who have indicated that they have no objection, if the other Members are agreeable. I should be grateful therefore, if members of the G.P.C. would let me know by correspondence whether they approve.

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# TENDERS

● The information contained in the tenders enclosed in this file is strictly confidential and must not be disclosed to any unauthorised person.

NIMROD PROJECT COMMITTEE

Main Pole Face Windings

1. Introduction

The Pole Face Windings will be used to adjust the magnetic field distribution in the NIMROD magnet during commissioning and operation of the synchrotron. Such adjustment will be essential for many reasons, e.g. for remanent field compensation and for optimisation of beam injection and ejection conditions.

Each magnet octant will carry two Main Pole Face Windings, one attached to the upper pole pieces and one to the lower pole pieces. Each main winding consists of about 40 copper conductors, moulded into a flat sheet by means of epoxy resin, reinforced with glass cloth. Separate return windings and end connections will connect up the conductors into a number of independent electrical circuits.

This paper is concerned only with the main windings.

2. Tenders

Detailed discussions were held with several firms interested in the manufacture of the windings, but only three were found to have the technical resources and capacity needed. Tenders were invited with the following results (tenders received 16th May, 1960):-

|                                                      |          |
|------------------------------------------------------|----------|
| Miles Structural Plastics Ltd.<br>Shoreham-by-Sea    | £106,650 |
| D. Napier & Son Ltd.<br>Luton Airport                | £ 99,650 |
| Marston Excelsior Ltd.,<br>Fordhouses, Wolverhampton | £ 57,200 |

3. Marston Excelsior Tender

Marston Excelsior originally tendered a price of £52,600 based on a proposal to use certain moulding tools already developed for the manufacture of the Outer Vacuum Vessel. Subsequent discussions revealed technical deficiencies in this proposal and Marston's submitted a revised price of £57,200 on the basis of a new full length moulding bed, but still making use of some tools already developed for the Vacuum Vessels. The revised tender is technically acceptable.

The breakdown of this fixed price tender given by Marston's is as follows:-

|                            |                |
|----------------------------|----------------|
| Development work           | £3,500         |
| Tooling costs              | £10,800        |
| Model windings (prototype) | £1,300         |
| Main windings (16 off)     | £41,600        |
|                            | <u>£57,200</u> |

4. Provision in Approved Estimate

A sum of £80,000 was provided in the approved NIMROD Plant Estimate for Main Windings, Return Windings, End Connections and Special Handling Gear.

The balance of £22,800 which will remain if the contract for main windings is placed at £57,200, is not sufficient to cover the remaining items, but in the revised estimate awaiting Treasury approval the provision of £80,000 has been increased to £160,000 to cover all the items for the pole face windings.

If the contract for the Main Pole Face Windings is placed with Marston's the total commitment to date on NIMROD Plant will be £4,746,000, which is well within the Present Approved Estimate of £5,482,000.

If authority to place this contract is deferred until the Revised Estimate is approved by the Treasury, the opportunity of taking advantage of Marston's very favourable offer may be lost.

5. Recommendations

It is recommended that approval be sought from the General Purposes Committee for the placing of a contract with Marston Excelsior for the supply of the Main Pole Face Windings at a price of £57,200.

J.J. Wilkins

29th June, 1960.