

14th October, 1959

PSPC/P47

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GENERAL PURPOSES COMMITTEE

ADDITIONAL WORK ON HIMROD MAGNET SECTORS

Note by the Chairman of the Project Committee

1. INTRODUCTION

In September 1957 the General Purposes Committee approved the placing of the Magnet Contract with Messrs. Joseph Sankey & Son Ltd., at a cost of £1,329,400. At the same time, approval was given for a further £100,000 to be retained in the estimate to cover the cost of possible modifications.

The addition of coil brackets to the sectors increased the cost by £64,600 to £1,394,000. This reduced the retention in the estimate for further modifications to £35,400.

2. DISCUSSION

During the pre-production stage, it became apparent to both the contractor and the Project Group that satisfactory sectors could not be made to our specification on a production basis. Great difficulty was experienced in achieving insulation between the laminations and in machining the throat without producing "short-circuiting" burrs.

Paper insulation was introduced to supplement the silica-flour originally used with a consequent reduction of the amount of steel in each sector. To preserve insulation and to restore some of the steel it became necessary to ensure the removal of all mill scale from the plate and to obtain a much higher standard of surface finish.

The manufacture of the first sectors showed that additional stiffening was required round the outer edge of the sectors to maintain stability of dimensions of the magnet throat during machining and subsequent handling.

The re-design of the main vacuum chamber has placed a greater load on the coil brackets which have therefore required stiffening.

The temperature of the sectors must be maintained within 1°C during final machining of the throat to achieve the required accuracy. To guarantee this condition throughout the winter the Project Committee approved the building of an enclosure around the boring machines.

In addition to the above extra items, there has been an Engineering Labour award since the placing of the Contract.

3. FINANCIAL IMPLICATIONS

Negotiations with the contractor have been in progress for some time and the claim now made by Sankey's for these extra items is considered by the Project Group to be fair and reasonable.

The additional costs on the Sankey Contract are as follows:-

	£
Additional Insulation	37,570
Improved Surface finish on plates	19,461
Additional stiffening of sectors	17,825
Additional stiffening of coil brackets	2,380
Enclosure for boring machines	3,200
Engineering Labour Award	14,093
TOTAL	£94,529

This will increase the value of Sankey's contract to £1,488,529 based as previously, on a notional price of £70 per ton for steel.

4. RECOMMENDATION

It is recommended that approval be given to increase the value of the Contract with Joseph Sankey & Sons, Ltd. from £1,394,000 to £1,488,529.

D. W. FRY

Chairman, Nimrod Project Committee

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