

Mr. Bowles
for information
B 200

16th August, 1960.

NI/GP/60/31

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GENERAL PURPOSES COMMITTEE

Pipes and valves for Hydrogen Bubble Chamber
Services

Covering note by the Secretary

The enclosed paper has been submitted in draft to the Chairman and also to Mr. Drake, since the issues involved are ones of contract policy and of financial control.

Mr. Drake has asked a number of questions, notably

- (a) how soon will a full estimate of the total increased cost of the hydrogen bubble chamber services be available?
- (b) what can we say now about its probable total.

I have replied

- (a) the revised estimate is expected to be completed by mid-September.
- (b) whilst the review is still in its early stage, it is apparent that the total increase will be appreciably less than £100,000.

Mr. Drake has indicated his willingness to agree subject to the opinion of other members. The Chairman has approved the reference of the matter to the Committee by correspondence in view of the urgency.

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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29th July, 1960

NI(GP)(60)31

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GENERAL PURPOSES COMMITTEE

Hydrogen Bubble Chamber Facilities

Supply and Installation of Pipes, Valves and Fittings for
Refrigeration and Expansion Circuits

Note by Chairman of Nuclear Equipment Project Committee

1. The Design Group has now prepared the flow diagram and basic layouts of the refrigeration and expansion systems for the Hydrogen Bubble Chamber and it is desirable to place a Contract for supply and installation of the required pipes, valves and fittings without delay. A high standard of workmanship is necessary and the contractor will be required to test his completed installation and rectify all leaks and other faults.
2. A single tender was requested from I.V. Pressure Controllers Ltd. for the following reasons:-
 - 2.1 Trouble due to leaks is experienced when using conventional high pressure valves and couplings with hydrogen at high pressure. American engineers and physicists have recommended the use of special high pressure valves with nylon seats which have proved trouble-free.

Toroidal joint ring couplings have been developed for the Admiralty and shown to be satisfactory on comparable high pressure gas systems.

I.V. Pressure Controllers Ltd. are the only firm which manufactures both the required valves and couplings.
 - 2.2 It is preferable that these valves and couplings together with the associated pipe work and pressure gauges should be supplied and installed by the same contractor who can ensure and be responsible for satisfactory operation.
 - 2.3 It is essential that the contractor should have previous experience of high pressure installations. Discussions have been held with five firms known to be manufacturers of control valves and similar equipment. I.V. Pressure Controllers Ltd. is the only firm with previous installation experience.
3. I.V. Pressure Controllers Ltd. have now quoted £23,000 for the supply and installation of the above equipment. Provision for this item in the approved estimate is £15,000 and the tender exceeds this by £8,000. If the contract is placed at the price of £23,000 the total commitment on plant for the Hydrogen Bubble Chamber services will then amount to approximately £150,000 which is within the approved sum of £200,000. It is clear, however, that the remaining items for which contracts have not yet been placed, cannot be obtained for the balance of £50,000 and a further paper will be presented to the Committee shortly seeking authority to ask the Treasury for an increase in the overall estimate.
4. IT IS RECOMMENDED that authority be given to place a contract with I.V. Pressure Controllers Ltd. for the supply and installation of the equipment specified above at a sum of approximately £23,000.