

22nd February, 1961

NI/61/5

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GOVERNING BOARD

ATLAS COMPUTER PROPOSAL

Note by the Secretary

Copies are enclosed of two letters dated 14/2/61 from the Minister for Science's Office to the Treasury concerning the Atlas Computer proposal. Replies are awaited.

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Rutherford High Energy Laboratory,  
Harwell.



Copy of letter from Mr. R. A. Thompson,  
The Office of the Minister for Science,  
2, Richmond Terrace,  
Whitehall, S.W.1.

FIN/23  
Pt.IV

14th February, 1961

Dear Fogarty,

At the meeting at the Treasury on 13th January, the Authority undertook (para 6(c) of the Minutes) to start tentative discussions with Ferranti about the price of the ATLAS with a view to a detailed submission for Treasury financial authority.

The Authority have now reported to this Office in the following terms:

"We have not yet opened contractual negotiations with Ferranti, but I have gone over the information already in the hands of our scientists, who of course have had considerable technical contacts with Ferranti for some time. We have been given particulars of Ferranti costings and they have also given us an informal estimate for the central computer itself, with a sum included therein for development costs. On our own assessments of the necessary capacity we have thus been able to work out the probable cost of the ancillary items which go around the central computer.

On this basis we reached the following estimate:-

	£m
Central Computer	1.5
(including Development Charge £.75m.)	
Core Store (48,000 words)	.684
Drum Store (100,000 words)	.040
Magnetic Tape Units (16)	.2
Card input and output	.012
Printer	.014
Second Printer	.014
Fixed store	.035
I.B.M. Tape Unit (for interchange)	.050
Contingencies and buildings, say	.451
	<u>£3.000m</u>

I think this figure is as good a one as we can hope to reach for some time. Clearly there will be negotiations on all the items, and especially on the appropriate loading of development costs. But I have deliberately put the item for contingencies and buildings on the high side, and I would hope that the £3m. figure is an outside maximum - I am sure it is better to do this at this stage rather than to try and forecast a lower and closer figure. I shall be grateful if you and the Treasury can now let us have approval in principle to the acquisition of an ATLAS computer from Ferranti at a cost within £3m. so that we can at least get ahead with contractual negotiations with the firm.

When we have got further with detailed negotiations we would propose putting to you a revised figure for full approval.

I cannot, at this stage, give any forecast of the years in which expenditure would fall. Ferranti may well press us for payments on account, and it may well be to our advantage to make some such payments as an alternative to having to accept any costs and interest loading at a higher rate than that which we would assume for internal Government finance. I would hope, however, - although, of course, I cannot guarantee - that we should not be committed to any payments in 1961/62 of such a magnitude that they could not be found within the approved estimates."



The estimate given above is, of course, substantially in excess of the £1<sup>1</sup>/<sub>2</sub> - 2m. figure mentioned earlier; but it has been pitched high in an attempt to cover the maximum cost and it may be possible to arrive at a lower price when the Authority get to grips with Ferranti in contractual negotiations. That would clearly be the Authority's aim.

You may think that this submission and the letters that have been sent on the other matters discussed on 13th January make it desirable to hold a further meeting of the same group.

I am copying this letter to Hudspith and Willis.

Yours sincerely,

(signed) R. A. Thompson.

Copy of Mr. R. A. Thompson's second letter to Mr. Fogarty.

FIN/23  
Pt.IV.

14th February, 1961.

Dear Fogarty,

N.I.R.N.S. - Atlas Computer

I undertook to write to you on the subject of charges for use of the ATLAS computer. I am writing separately to give the Authority's assessment of cost of the computer and to ask for approval in principle to the purchase of an ATLAS.

The legal opinion already sent to you (my letter of 25th January) about the powers of the Institute in relation to the ATLAS proposal concludes that the Institute would not be departing from the terms of its Charter if it made no charge for use of the computer, including use by non-nuclear scientific users. The opinion did not, however, exclude the possibility that it might be argued that Article 5 of the Charter indicated that some charge ought to be made for use by non-nuclear scientists.

The Board of the Nuclear Institute, in accepting a commitment to control and manage an ATLAS computer at the Rutherford Laboratory, if acquisition is authorised, have made it clear that they consider that universities should not be charged for use of the computer, whether the use is on behalf of nuclear science or for some other purpose. In coming to this conclusion they were influenced by the consideration that, wherever possible, the proper place for a computer for university use would always be at the university. They recognised that there were special considerations in the present case and they had particular regard to the assumptions made by the C.U.R.E. Working Party (a) that computers such as "KDF.9" will be made available to certain universities notwithstanding provision of the ATLAS; and (b) that one or more universities may be able to make a case for an ATLAS situated in the university, in the review contemplated towards the end of 1962.

The universities themselves (Cambridge and London being mainly concerned) do not, of course, regard the proposal to instal the ATLAS at Harwell as the ideal arrangement. The Atomic Energy Authority, in their turn, would have liked to exercise management and control of the computer rather than to be dependent on arrangements made by the Institute. The management proposals represent, in fact, a compromise which is not completely to the liking of any of the parties involved. Nevertheless, it is the compromise that gives the best promise of being workable. No alternative solution would have been



more acceptable or, indeed, as acceptable. If the experiment is to be a success, however, practically everyone concerned considers that it will be essential to avoid any discrimination between users. For that reason, and though we recognise that there are arguments which would support other conclusions, we consider that arrangements should, if possible, be made to avoid charges to any research user accepted by the Institute. It would, I understand, be the Institute's intention to set up an appropriately constituted body to allocate time on the ATLAS to approved users. Such allocation should, we think, be made on the scientific merits, and not be complicated by any such discrimination between users as would be introduced by a need to charge in some instances but not in others. Quite apart from the intrinsic validity of this criterion, any system of charging according to definition of the type of work would be sure to give rise to doubt in borderline cases and to lead to unnecessary ill-feeling.

We very much hope, therefore, that the Treasury will be willing to approve a system of allocation of computer time by the Institute, as managers of the project, which will not involve charges to universities.

I am copying this letter to Hudspith and Willis.

Yours sincerely,

(signed) R. A. Thompson.

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Rutherford High Energy Laboratory,  
Harwell.