

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GOVERNING BOARD

Minutes of the meeting of the Governing Board held in the Board Room, Treasury Buildings, Whitehall, at 2.45 p.m. on Friday January 16th 1959.

PRESENT:-

Lord Bridges (in the Chair)  
Dr. R. Aitken  
Professor P.M.S. Blackett  
Mr. J.C. Gridley  
Professor H.S.W. Massey  
Professor N.F. Mott  
Professor R.E. Peierls  
Sir Donald Perrott  
Professor D.H. Wilkinson  
Dr. T.G. Pickavance  
Dr. J.A.V. Willis (Secretary)

1. APOLOGIES FOR ABSENCE

Apologies for absence were received from Sir John Cockcroft, Professor J. Diamond, Professor Hodge, Sir Harry Melville, Sir James Mountford, Dr. Schonland and Sir George Thomson.

2. MINUTES OF LAST MEETING

The Board approved the minutes of their fourth meeting of 1958.

3. PROGRESS WITH THE 7 GeV ACCELERATOR

Dr. Pickavance summarised the progress under the following headings:-

- 3.1. Magnet - The difficulties reported at the last meeting have been overcome. The pre-production batch of four blocks has now been delivered. It is now believed that Messrs. Sankeys may be able to make six blocks a week if necessary so as to catch up any delays. There is a threat of a strike at the Steel Company of Wales and attempts are being made to avoid some of the effect by arranging advance deliveries.
- 3.2. Magnet Power Supply - The contractual negotiations mentioned at the last meeting have been satisfactory concluded. Some difficulty over the exchange of information between the two firms has also been overcome.
- 3.3. Vacuum Vessel - The new design mentioned at the last meeting has now been brought to the point where a contract for development of techniques and subsequent manufacture of the vessel can be placed. The contract is to be discussed at a special meeting of the General Purposes Committee.
- 3.4. Injector - The design for the radio-frequency liner has been completed with help from Vickers Armstrongs Aircraft Ltd. and after competitive tender the contract for the liner has been awarded to the London Aluminium Company.
- 3.5. Buildings - The shuttering and some of the reinforcing steel for the roof of the magnet building has been erected, concreting of one third of the roof will start when the weather is fit. Owing to bad weather the building construction has fallen rather further behind schedule but the completion date for the machine is not necessarily affected since alternative arrangements for storing magnet blocks have been made.

The Chairman said that the vacuum vessel was the item on which the most serious difficulties had arisen so far but the position now reached as described in the paper to be considered by the General Purposes Committee seemed to be reasonably satisfactory.

4. PROGRESS WITH THE PROTON LINEAR ACCELERATOR

Dr. Pickavance reported that the first section of the proton linear accelerator is now operating satisfactorily at 10 MeV with a good beam current. Messrs. Metropolitan Vickers' contract is about to be concluded. The second and third sections of the accelerator are assembled and ready to pump down, adjustments having been completed.

In reply to Professor Blackett, Dr. Pickavance confirmed that operation of the completed accelerator was expected during the second half of 1959 and that there were a considerable number of University research workers ready to use it.

5. THE FINANCING OF UNIVERSITY EXPERIMENTS AT THE RUTHERFORD LABORATORY

The Chairman said that N.I. (58) 22 was the paper requested at the last meeting combining points from the two papers on the subject previously approved by the Board. He said that two points in para. 3 were perhaps not quite clear.

Para 3.1. Apparatus paid for by the Institute would of course be the property of the Institute and would mainly be used at the Rutherford Laboratory, but should not be rigidly limited to retention there at all times. The sentence should be "Apparatus to be constructed in the University but to be retained by the National Institute", rather than ".... retained at the National Institute".

Para 3.4. provides for the inclusion in agreements of provision for repaying to the University the cost of travelling and subsistence which the University may pay to scientists, technicians etc. going to the Rutherford Laboratory. Alternatively however, such people may claim travelling and subsistence expenses directly from the Rutherford Laboratory and in many cases this may be the more convenient arrangement.

ACTION 1.

Subject to the above points the Board approved paper N.I.(58) 22.

6. VISITS TO OVERSEAS LABORATORIES

The Board expressed approval of the recommendation in paper N.I.(P.C.)(58) 10, already endorsed by the Physics Committee, that one suitably qualified person from the staff or fellows of the Universities, the Authority or the Institute should be offered to Berkley and one to Brookhaven. The Board considered it important to ensure that the individual would return to work at the Rutherford Laboratory for a period but thought that the method of ensuring this should be decided in each case according to individual circumstances. Dr. Pickavance was also asked to investigate the desirability of sending a third man to Dubna.

ACTION 2.

The Board approved the recommendation in paragraph 4 of paper N.I. (P.C.)(58) 10.

## SHORT-TERM APPOINTMENTS AT THE RUTHERFORD LABORATORY

Dr. Pickavance said that the Physics Committee had deferred their recommendation about the Institute fellowships proposed in paper N.I.(PC) 58(59) 11 and he would be having discussions on this point with one or two members of the Physics Committee. The Physics Committee had however endorsed the recommendations in the paper about short-term appointments and he would like authorisation to engage a total of two or three people, for nuclear research with Dr. Stafford's resident team on the proton accelerator and for work on beam engineering with the 7 GeV accelerator project staff. The Board generally approved this proposal for two to five year appointments. Several members were inclined to think that five years would usually be the more appropriate period but wished it to be clear that while the staff would not be precluded from applying for other Institute vacancies at the end of that period, it must be clearly understood that there was no expectation of re-employment.

### ACTION 3.

The Board authorised the Director, Rutherford Laboratory to make up to three short term staff appointments for the duties indicated in para 10 of paper N.I. (P.C.)(58) 11.

## 8. THE SUMMER VISITOR PROGRAMME OF THE RUTHERFORD LABORATORY

Professor Wilkinson introduced paper N.I. (P.C.)(59) 9 which had been endorsed by the Physics Committee. In discussion of the paper the following points were made.

- (1) If possible a start should be made in the summer of 1959. A small summer school on beam engineering was suggested.
- (2) If theoreticians were to be attracted it would probably be necessary to arrange a small theoretical discussion so that several would attend.
- (3) There could be no question of providing extra housing for a summer peak load. Seasonably available local accommodation should be sought.
- (4) The Institute could pay consultants' fees and subsistence expenses to summer visitors who would contribute to the Laboratory programme. It would however be contrary to normal practice to pay consultants any expenses relating to their families.

### ACTION 4.

The Committee expressed the view that some beginning should be made in 1959 on the lines of the above points and asked Dr. Pickavance to submit proposals to the Physics Committee.

## 9. N.I.R.N.S. PROJECTS AT UNIVERSITIES

Dr. Pickavance introduced paper N.I. (59) 4 proposing Institute support for a project at Manchester University which would be particularly valuable to the Institute programme. In discussion the point was made that it was important for the Institute to have power to farm out projects to Universities and elsewhere. Other organisations such as CERN and Brookhaven do so on a large scale. This would of course be without prejudice to the general arrangement under which D.S.I.R. support particular projects. Although it would sometimes be difficult to determine what projects the Institute should support, rather than the D.S.I.R., a good test would be whether the Institute would have wished to undertake them if the Universities had not done so.

### ACTION 5.

The Board approved the recommendation in the second paragraph of paper N.I. (59) 4, that the Institute should support the project at Manchester University.

10. MINUTES OF THE VISITING COMMITTEE

The Board noted the minutes of the second meeting of the Visiting Committee. They discussed the proposal made in minute 8 that the Institute should be the body to support a 50 litre hydrogen bubble chamber proposed by Professor Moon. The following points were made in discussion.

(1) A hydrocarbon or heavy liquid bubble chamber proposed by University College as a national project for use mainly at the Rutherford Laboratory was a similar case.

(2) At the time when the large National hydrogen bubble chamber was under discussion it was right not to burden the newly-formed Institute with responsibility for it. However, it would clearly be inherited by the Institute sooner or later and at some stage the Institute should take on projects of the kind from the beginning.

(3) The Institute should insist on owning all the property at the Rutherford Laboratory and should therefore support those projects which were for the production of equipment to be installed there.

(4) The Institute did not expect to have a large sum of money available for projects of this kind in 1959-60 but would be able to support small scale development in that year and could put items in the estimates for the following year.

The Board took the general view that the Institute should be the body to support projects such as those discussed above, but considered that the point would require further definition and discussion at a later date.

11. TRANSFER OF THE RUTHERFORD LABORATORY SITE

The Chairman said that the proposal that the Rutherford Laboratory site should be handed over by the A.E.A. to the Institute at the beginning of April was adhered to although the legal documents might not be ready by then. The Secretary produced copies of a plan showing the site to be transferred. The area is 65.75 acres.

It was agreed not to arrange any ceremony on the occasion of the hand over.

12. MOSCOW CONFERENCE

Professor Peierls said that 18 or 19 people from the United Kingdom were being invited to the 1959 international high energy physics conference in Moscow. The cost would be about £200 each. Most of those invited would be applying to the Royal Society for support but it was not expected that the Royal Society would be able to finance them all. The Board agreed that the Institute could support a number of delegates of their own choice. The Secretary was instructed to get in touch with the Royal Society so that support by the two bodies could be co-ordinated.

NEXT MEETING

It was agreed that subject to confirmation after reference to the members not present, the next meeting would be held on April 21st.