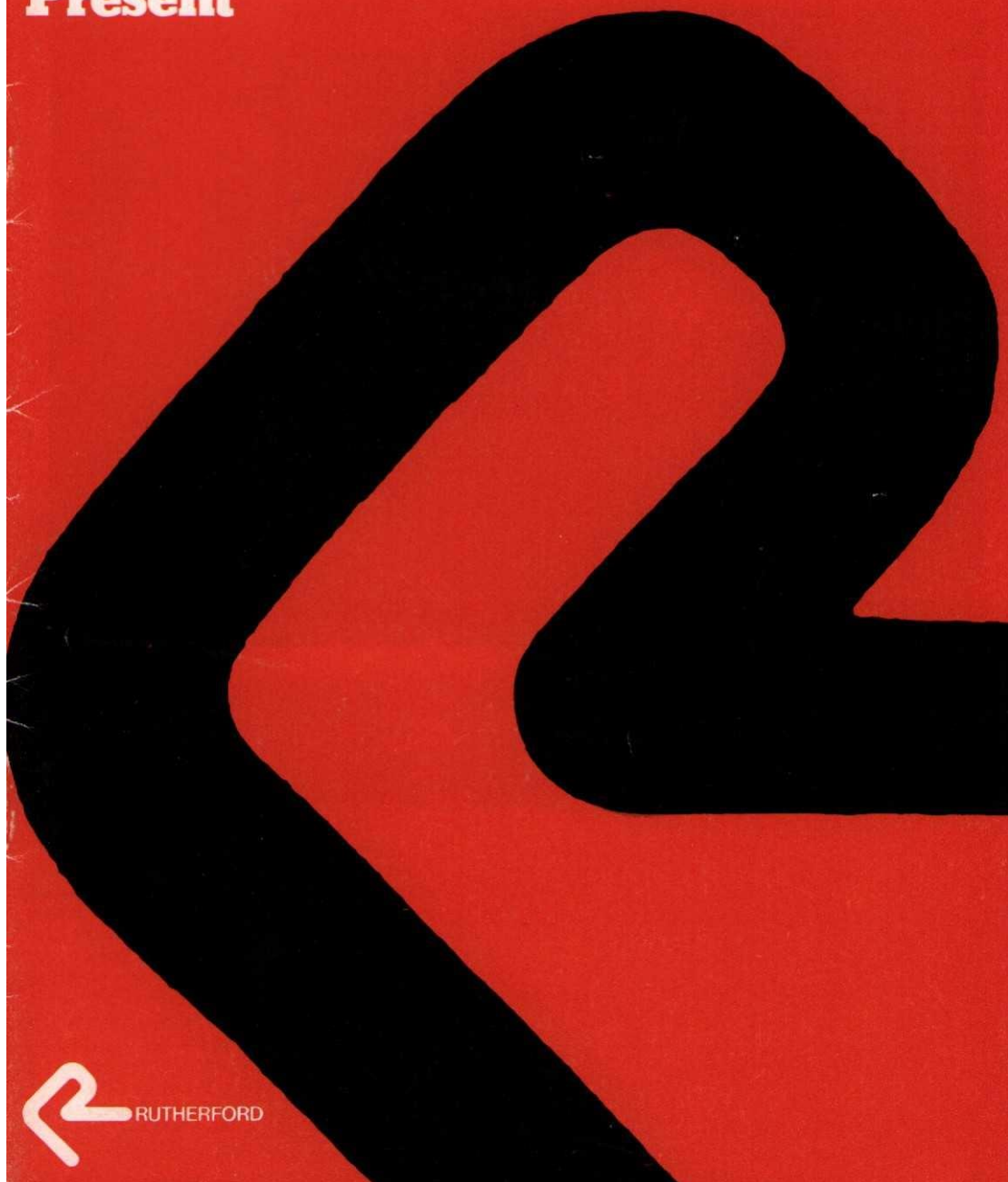
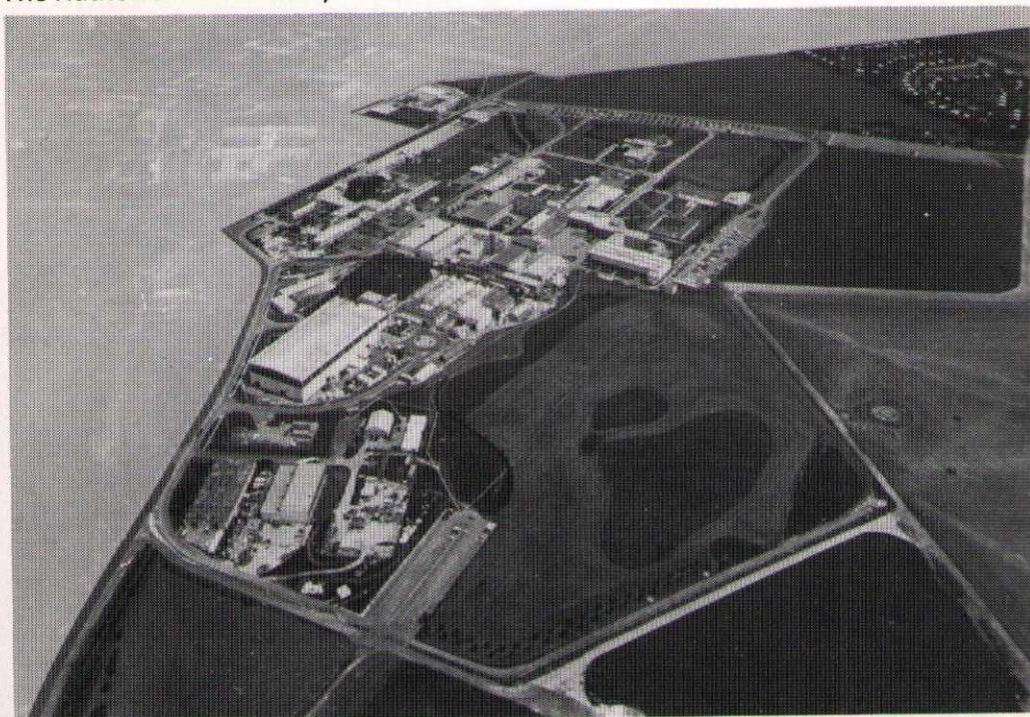


**The
Rutherford
Laboratory
Past and
Present**

A Rutherford Laboratory Monograph



The Rutherford Laboratory in 1977.



**RUTHERFORD LABORATORY
MONOGRAPHS**

**A series of short texts covering areas of
science and technology in
which the Rutherford Laboratory takes
an active part**

The Rutherford Laboratory promotes university research and development work by providing facilities which are beyond the means of individual universities. As well as offering its own extensive resources, the Laboratory also provides access to important facilities at other research centres in the UK and overseas. This results in a significant level of co-operation and collaboration in a wide range of projects at both national and international levels. Set up in 1957 as the first establishment of the National Institute for Research in Nuclear Science, in 1965 the Laboratory became part of the Science Research Council.

THE RUTHERFORD LABORATORY PAST & PRESENT

by J. M. Valentine
Secretary, Rutherford
Laboratory

This text is an edited version
of a paper presented to the
first meeting of the
Rutherford Laboratory
Establishment Committee,
held at the Rutherford
Laboratory, April 1977.

THE RUTHERFORD LABORATORY

Genesis *"In the beginning"* (Gen 1 v1)

On 14 February 1957 the Government announced in the House of Commons its decision to set up the National Institute for Research in Nuclear Science. The main object of the Institute was "to provide for common use by universities and others, facilities and equipment which are beyond the scope of individual universities and institutions carrying out research in the nuclear field". The Rutherford High Energy Laboratory (as it was then named) was the Institute's first Laboratory.

The new laboratory was established next to the Atomic Energy Research Establishment and inherited from the Atomic Energy Authority a 50 MeV proton linear accelerator in an advanced stage of construction and a design for a 7 GeV proton synchrotron. The immediate future was destined to be dominated by nuclear physics but the following paragraph in the first annual report of NIRNS (reproduced in full on page 12), contained two references of great significance.

"The Institute held their first meeting on 12 March, 1957, and have met at approximately two-monthly intervals since then. They have set up a Physics Committee, a Research Reactor Committee and a Visiting Committee, each including some members of the Institute and additional senior scientists. They have also set up a General Purposes Committee including only members of the Institute."

Mention of Research Reactors — a subject reported on in every NIRNS annual report — recognized from the outset that the Institute might be required to construct a new high-powered research reactor on a central site for common use by universities. In the event NIRNS built a number of particle accelerators but no reactors although the High Flux Beam Reactor was discussed at various levels for more than a decade.

University Relationships *“And they shall be one flesh” (Gen 2 v24)*

The second reference of significance in that first NIRNS annual report is to the setting up of a Visiting Committee. This was a committee mainly composed of senior university scientists set up to monitor and guide the development of the Rutherford Laboratory. From the outset the Laboratory was conceived as an extension of university laboratories where the university people would participate as of right and not as visitors to an old-style government establishment. It has meant the reconciling of the responsibilities of the Director of a Laboratory for the spending of public funds and the careers of staff employed in the

The first turf: Sir John Cockcroft, OM, KCB, CBE, FRS.



Laboratory with the need to give university staff a real say in running the Laboratory particularly as it affected the research programme.

The university involvement was strengthened by the policy — set up in the early days and still in operation — for financing the experimental work in nuclear physics. Final approval for an experiment by any team is given by the Experiments Selection Panel, which is composed not only of physicists from within the Laboratory, but also, and predominantly, from the universities. Once an experiment is on its programme, the Rutherford Laboratory accepts the responsibility to provide the necessary funds to carry out the experiment. Funds are made available in several ways. For work which the university wishes to carry out at home, an agreement is drawn up whereby the Laboratory refunds the expenses of the university on that particular work. In addition, the team is given an allocation of money from the High Energy Physics Division budget for use at the Rutherford Laboratory. The resources of the Laboratory are fully at the university scientist's disposal on exact parity with members of the Rutherford Laboratory staff. These arrangements have stood the test of time and more recently have been adopted and adapted to other disciplines (neutron beams, lasers) and for use in international centres

(CERN, ILL). The success in pioneering this new form of organisation and relationship with universities is at least as great as the success in prosecuting the physics itself.

Building *"Like Nimrod a mighty hunter" (Gen 10 v9)*

The period from the beginning of the 1960's was a period of intense activity for NIRNS. The Proton Linear Accelerator (PLA) had to be completed and commissioned for experiments — an ambition realised on 20 April 1960. The experience gained by university and Rutherford Laboratory physicists on how to mount experiments on a national machine was to prove of great value for the Nimrod era.

However it was the construction of Nimrod itself which was the main preoccupation of the Laboratory. Protons were first injected into the complete machine on 6 August 1963 and acceleration to 7 GeV was attained about two weeks later. The requirement for a 7 GeV proton synchrotron accelerating 10^{12} protons per pulse with 20 or more pulses per minute had been decided on after full discussion among British physicists. The construction took six years; on the way some major technical difficulties — particularly those concerning the fabrication of the vacuum vessel — had to be overcome.

The inauguration of Nimrod.
Photo Oxford Mail.

The Rutherford Laboratory —
a green field situation.





The Rt Hon. The Lord Bridges,
GCB, GCVO, MC, FRS,
picture reproduced by courtesy
of Reading University.

In parallel with the construction of the accelerator a major programme was launched to build equipment for particle physics research. Included were three bubble chambers — the British National 1.5m hydrogen bubble chamber, the 1.5m heavy liquid bubble chamber and the 80 cm helium bubble chamber. All were funded by NIRNS and built as collaborative ventures between universities and the Rutherford Laboratory.

During this period the interest in research using neutron beams was maintained. The use of the Harwell reactors (from 1960) and the Herald reactor at AWRE Aldermaston (from 1963) was funded by NIRNS, the initial major research programmes being proposed by the Universities of Birmingham, Cambridge and Reading.

In 1961, at the request of the government, the Institute agreed to manage "a very fast electronic digital computer" which was to be installed at the Rutherford Laboratory for use by universities. The machine was a Ferranti Atlas computer and the buildings erected to house it and the visiting users were called the Atlas Computer Laboratory. Dr. J. Howlett took up the post of Head of the Atlas Computer Laboratory on 1 December 1961. He reported directly to the Atlas Computer Committee but for administrative purposes the Atlas Laboratory was part of the Rutherford Laboratory.

Other things were also happening at this time. The Cosener's House was bought and converted for use by university visitors to the Rutherford Laboratory. NIRNS bought or built houses in Abingdon and Didcot to help house its growing staff. Negotiating machinery for the Institute — a Whitley Council and Joint Negotiating Committee — was established. Two accelerators were built for other customers, an 8 MeV vertical electrostatic generator for Oxford University as an injector for a purchased tandem machine and a variable energy cyclotron for Harwell. A well-equipped radiochemical laboratory was provided at the Rutherford Laboratory but sadly underused. Approval was given for the construction of the Daresbury Laboratory in 1962 and work was started that year.

By 1965 NIRNS had a Governing Body with 18 members, seven committees and approximately 1130 staff.

The Science Research Council

"Be fruitful and multiply" (Gen 1 v28)

The Science Research Council was established by Royal Charter (reproduced in full on pages 13-15) on 1 April 1965. It came into being as part of the reorganisation of the arrangements for the government support of civil scientific research. It

was composed of NIRNS, the part of the Department of Scientific and Industrial Research concerned with post-graduate training awards and university research grants, the Radio and Space Research Station (later the Appleton Laboratory), the Royal Greenwich Observatory and the Royal Observatory, Edinburgh. The Council set up three subject Boards each with its own staff division in a London Office. The Boards were, Astronomy, Space and Radio, Nuclear Physics and University Science and Technology.

The multidisciplinary nature of the Rutherford Laboratory was compromised by the removal of the neutron beams work (to the University Science and Technology Board) and by the establishment of the Atlas Computer Laboratory as a separate laboratory also under the University Science and Technology Board. The Rutherford Laboratory and Daresbury Laboratory were placed under the Nuclear Physics Board to concentrate solely on particle physics and nuclear physics with their associated technologies.

The initial organisation of the SRC was modified in 1969 to accommodate the growing importance of engineering in the Council's affairs. The University Science and Technology Board was split into a Science Board and an Engineering Board, the Atlas Computer Laboratory going to the Science Board.

Also in 1969 Dr. T. G. Pickavance, the Director of the Rutherford Laboratory since its inception, was appointed Director of the Nuclear Physics Division in London Office with responsibilities for all the Council's nuclear physics interests, including the Rutherford and Daresbury Laboratories. He was succeeded as Director of the Rutherford Laboratory by Dr. G. H. Stafford.

The final decision to proceed with construction of the 300 GeV accelerator at CERN was taken on 19 February 1971. Although not directly part of the history of the Rutherford Laboratory this decision was to be a crucial event in the development of the Laboratory as the level of funds devoted to research in particle physics came under attack. From that date the Nuclear Physics Board gave first priority to the support of research on the CERN accelerators.

Another interesting pointer for the future occurred in 1971. The Council decided to set up in the Rutherford Laboratory a Neutron Beam Research Unit to provide support for university teams in a manner similar to that for teams in nuclear physics. This

The Director,
Dr. G. H. Stafford (left)
with Professor E. Amaldi; at a
Laboratory exhibition to mark the
centenary of Lord Rutherford.



restored the rôle which the Rutherford Laboratory had played in this field in the NIRNS era and marked the start of further diversification into other activities of the Council.

Modern Times *"I saw the new Jerusalem" (Rev 21 v2)*

Since the beginning of the 1970's the Council's financial expectations have diminished as the economic prospect of the country has declined. Successive policy decisions by Council have put an ever increasing squeeze on the funds available for the support of the "big" sciences — astronomy, space and nuclear physics. This progressive squeeze taken together with the priority placed by the Nuclear Physics Board on the support of research on the CERN accelerators has had a profound impact on the shape of the Rutherford Laboratory.

A proposal to build a new higher energy accelerator, EPIC, at the Rutherford Laboratory to replace both Nimrod and Nina made a brief appearance on the stage only to be engulfed in the deepening economic gloom. It rapidly became apparent that not only would there be no new high energy physics accelerator but that in the very near future there would not be sufficient funds to run either Nimrod or Nina. It has been said that the knowledge that one is to be hanged concentrates the mind wonderfully, So it proved for the SRC and the Rutherford Laboratory. After about a decade of little change in the disposition of the Council's in-house activities a series

of events happened relatively quickly but not painlessly. The support of high energy physics was concentrated in the Rutherford Laboratory leaving the Daresbury Laboratory free to build the Nuclear Structure Facility and a new Synchrotron Radiation Source. The High Flux Beam Reactor was not built for the final time; instead the UK became a third partner in the Institute Laue-Langevin (ILL) in Grenoble. This event, important in itself, had even greater significance for the Rutherford Laboratory as it opened the door for the Spallation Neutron Source proposal. Another circle was closed when the Council decided to concentrate the major central computer resources in the Rutherford Laboratory with the Atlas Computer Laboratory becoming part of the Rutherford Laboratory as the Atlas Computing Division.

By 1976 the Science Research Council had a Council with 25 members, four Boards, 45 Committees and 2820 staff.

Postscript

Since this paper was written further changes of note have occurred at the Rutherford Laboratory. The SRC Central Laser Facility was set up and inaugurated in June 1977. At the same time formal approval was given for the construction of a new neutron source based on a high intensity proton accelerator. The construction of this source will follow the closure of Nimrod in early summer 1978.

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

Report for the Year Ending 31st March, 1958

1. The Government's decision to set up the National Institute for Research in Nuclear Science was announced in the House of Commons on 14 February, 1957, in a statement by the Financial Secretary to the Treasury from which the following is an extract:—

"The main object of the Institute will be to provide, for common use by universities and others, facilities and equipment which are beyond the scope of individual universities and institutions carrying out research in the nuclear field."

2. On 12 March, 1957, the Chancellor of the Exchequer announced that the Institute had been constituted with the following membership:—

Chairman:—The Rt. Hon. Lord Bridges, G.C.B., G.C.V.O., F.R.S.

Representing the Universities

Professor J. Diamond.

Professor H. S. W. Massey, F.R.S.

Sir Philip Morris, C.B.E.

Professor N. F. Mott, F.R.S.

Sir James Mountford.

Professor R. E. Peierls, C.B.E.

Dr. D. H. Wilkinson, F.R.S.*

Representing the University Grants Committee

Mr. J. C. Gridley, C.B.E.

Sir George Thomson, F.R.S.

Representing the Royal Society

Sir David Brunt, F.R.S.

Representing the Atomic Energy Authority

Sir John Cockcroft, O.M., K.C.B., C.B.E., F.R.S.

Sir Donald Perrott, K.B.E.

Dr. B. F. J. Schonland, C.B.E., F.R.S.

Representing the Department of Scientific and Industrial Research

Professor P. M. S. Blackett, F.R.S.

Dr. H. W. Melville, F.R.S.†

Sir David Brunt retired from Membership on 20 January, 1958, and was succeeded as the member representing the Royal Society by Professor W. V. D. Hodge, F.R.S., who had succeeded him as Physical Secretary of the Royal Society.

3. The Institute held their first meeting on 12 March, 1957, and have met at approximately two-monthly intervals since then. They have set up a Physics Committee, a Research Reactor Committee and a Visiting Committee, each including some members of the Institute and additional senior scientists. They have also set up a General Purposes Committee including only members of the Institute.

*Now Professor D. H. Wilkinson, F.R.S.

†Now Sir Harry Melville, K.C.B., F.R.S.

4. The Institute have decided to establish their first laboratory, to be called the Rutherford High Energy Laboratory, on a site made available by the Atomic Energy Authority adjacent to the Atomic Energy Research Establishment. The principal feature of the laboratory will be a 7 GeV proton synchrotron. The general design for this machine was approved by the Institute. The Atomic Energy Authority were then invited to assume responsibility for detailed design and supervision of construction on behalf of the Institute, subject to general oversight by the Institute's General Purposes Committee, to whom has been given the responsibility for the approval of all major contracts. The laboratory will also contain a 50 MeV proton linear accelerator, now at an advanced stage of construction, which the Atomic Energy Authority have offered to transfer to the Institute in April, 1959.

The Institute have appointed Dr. T. G. Pickavance as Director of the Rutherford High Energy Laboratory.

5. The 7 GeV proton synchrotron will consist of a ring-shaped magnet 150 feet in diameter and 7,000 tons in weight, into which protons will be injected from a subsidiary accelerator of 15 million volts. The protons will be accelerated in a vacuum chamber by radio-frequency equipment on each circulation around the magnet ring. During the acceleration the magnetic field will be steadily increased by increasing the current from the magnet power supply, in order to confine the proton orbits to the magnet ring. The whole machine will be housed in a heavily shielded building.

A major contract was placed in October, 1957, for the magnet yoke and another in November, 1957, for the buildings. Detailed design work is proceeding on the components of the accelerator. Further contracts have been placed and others are being negotiated.

6. The arrangements for operating the proton linear accelerator have been decided in broad outline. The Institute have appointed a Group Leader who will have full responsibility, under the Director of the Rutherford Laboratory, for the operation and maintenance of the proton linear accelerator including the determination of the programme of experiments to be done. The Institute's Visiting Committee will advise both on the general policy and on the details of the programme. The Group Leader will have a small research team of his own. Apart from their own work, their presence and experience should be very helpful to the visiting teams. The Group Leader will have a certain amount of experimental equipment available for general use but visiting teams will be expected to provide their own special equipment. Universities will also be responsible for the salaries of their teams. No charge will be made

to universities for the use of the machine or Institute laboratories. The actual operation and maintenance of the proton linear accelerator, to the requirements of the Group Leader, will be carried out by the Atomic Energy Research Establishment as a service to the Institute.

7. The Institute have only a very small staff at present. Besides the Director of the Rutherford Laboratory and the Group Leader for the linear accelerator, already mentioned, they have appointed a Secretary who is also accommodated at the Rutherford Laboratory.

8. The Institute is financed from the Treasury through the Atomic Energy Authority, under a separate sub-head of the Atomic Energy Vote. The full cost of services provided for the Institute by the Atomic Energy Authority, and expenditure incurred by the Authority on behalf of the Institute, are charged to this sub-head, so that it shall represent the true cost of the Institute.

9. Since they are not merely an advisory body but will own property and must make decisions for which legal liability must be accepted, the Institute are seeking incorporation.*

*The method of incorporation considered most appropriate was by Royal Charter, and by Order in Council dated 7th May, 1958, Her Majesty was graciously pleased to approve the grant of a Charter.

THE CHARTER OF THE SRC Elizabeth the Second

by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Our other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith:

To all to whom these presents shall come, greeting!

WHEREAS Our Secretary of State has appointed certain persons to be the Chairman and the other members of a Council for promoting and supporting research in science and technology and related matters to be known as the Science Research Council:

AND WHEREAS it has been represented unto Us that for the purpose of carrying out the objects of the said Council and with a view to facilitating the holding of and dealing with property and to encouraging the making of gifts and bequests in aid of the said objects it is expedient that the said Council should be incorporated:

NOW, THEREFORE, KNOW YE that We, by virtue of Our Prerogative Royal and of all other powers enabling Us in that behalf, of Our especial grace, certain knowledge and mere motion have granted and declared and do by these Presents for Us, Our Heirs and Successors, grant and declare as follows:

1. The persons now the Chairman and other members of the Science Research Council aforesaid (whose names are set out in the Schedule hereto), and all such other persons as may hereafter become the Chairman and other members of the body corporate hereby constituted, shall for ever hereafter (so long as they continue to be members of the Council) be one Body Corporate under the name of "The Science Research Council" (hereinafter referred to as "the Council"), and by the same name shall have perpetual succession and a Common Seal, with power to break, alter and make anew the said Seal from time to time at their will and pleasure and by the same name shall and may sue and be sued in all courts and in all manner of actions and suits, and shall have power to enter into contracts, to acquire, hold and dispose of property of any kind, to accept trusts and generally to do all matters and things incidental or appertaining to a Body Corporate.

2. (1) The objects for which the Council are established and incorporated are as follows:

- (a) To carry out research and development in science and technology.
- (b) To encourage and support by any means research and development in science and technology by any other person or body.
- (c) Without prejudice to the foregoing paragraph, to provide and operate equipment or other facilities for common use in research and development in science and technology by universities, technical colleges or other institutions or persons engaged in research.
- (d) To make grants for post graduate instruction in science and technology.
- (e) To disseminate knowledge concerning science and technology.

(2) The Council may pursue their objects in Our United Kingdom of Great Britain and Northern Ireland or elsewhere.

3. All moneys and property howsoever received by the Council, including any moneys voted by Parliament, shall be applied solely towards the promotion of the objects of the Council and no portion thereof (except as otherwise provided in this Our Charter) shall be paid or transferred directly or indirectly to the members thereof.

4. (1) The Council shall consist of a Chairman and not less than fourteen nor more than eighteen other members.

(2) The Chairman and other members shall be appointed, and the terms of their appointment shall be determined, by Our Secretary of State, who shall appoint not less than two-thirds of the members for the time being other than those appointed under Article 4 (2a) hereof on account of their qualifications in science or technology.

(2a) Not more than four members shall be appointed by Our Secretary of State on the nomination of such Ministers of Our Government as Our Secretary of State shall determine.

(3) Before appointing any member on account of his qualifications in science or technology Our Secretary of State shall consult the President for the time being of the Royal Society.

(4) Every member shall hold and vacate his office in accordance with the terms of his appointment and shall, on ceasing to be a member, be eligible for re-appointment but

(a) a member shall not be appointed for a term of more than four years;

(b) a member, other than the Chairman, who at any time serves for eight consecutive years shall not be eligible for re-appointment before the expiration of one year from the end of that period; and

(c) a member may at any time by notice in writing to Our Secretary of State resign his office.

(5) Except as provided in paragraph (7) of this Article, the Council shall, in the case of any such member as Our Secretary of State, with the approval of Our Minister for the Civil Service, may determine

(a) pay to him such remuneration and allowances as may be so determined in his case; and

(b) pay to or in respect of him, such pension, allowance or gratuity on his retirement or death, or make such payments towards provision for such a pension, allowance or gratuity, as may be so determined in his case.

(6) If a person ceases to be a member of the Council otherwise than on the expiration of his term of office, and it appears to Our Secretary of State that there are special circumstances which make it right that that person should receive compensation, the Council shall make to that person a payment of such amount as Our Secretary of State may, with the approval of Our Minister for the Civil Service, determine.

(7) The Council shall not in any circumstances or at any time make to or in respect of any person in his capacity as a member of the Council any payment of any kind whatsoever for or in respect of any period when he is also a member of Our Commons House of Parliament, other than a payment by way of reimbursement to him of actual out of pocket expenses previously and necessarily incurred by him in the performance of his duties as such member of the Council.

(8) The provisions of sub-paragraphs (4) (a), (b) and (c) and paragraphs (5) and (6) of this Article shall not apply to any member of the Council

appointed under the provisions of paragraph (2a) hereof who is an officer of a Department of Our Government.

5. (1) The Council may act notwithstanding a vacancy among the members thereof and the validity of any proceedings of the Council shall not be affected by any defect in the appointment of a member thereof.

(2) The quorum of the Council shall be seven members personally present or such greater number as the Council may from time to time determine.

6. Subject to the provisions of this Our Charter, the Council may regulate their own procedure.

7. (1) The Council may appoint committees to exercise, or advise them on the exercise of, any of their functions and may

(a) appoint to any such committee persons who are not members of the Council; and

(b) at any time revoke the appointment of any member of any such committee.

(2) Where the Council appoint to any such committee any person who is not a member of the Council they shall, if Our Secretary of State, with the approval of Our Minister for the Civil Service, so determines, pay to that person such remuneration and allowances as may be so determined in his case, but Article 4(7) above shall apply as regards payment to any such person as though he were a member of the Council.

8. (1) The Council shall, with the approval of Our Secretary of State, appoint a Secretary and may appoint such other officers and take into their employment such other persons as the Council may determine subject, as to the number of such officers and other persons, to the approval of Our Secretary of State and Our Minister for the Civil Service.

(2) The Council may

(a) pay to their Secretary and to their other officers and to other persons employed by them such remuneration as the Council may, with the approval of Our Secretary of State and Our Minister for the Civil Service, from time to time determine; and

(b) as regards any officers or other persons employed in whose case it may be determined by the Council, with the approval of Our Secretary of State and Our Minister for the Civil Service, so to do, pay to or in respect of them such pensions and other benefits or compensation (including gratuities), or provide and maintain for them such pension, benefit or compensation schemes (whether contributory or not), as may be so determined.

(3) Where the holder of an office or employment with the Council, being a participant in any pension, benefit or compensation scheme applicable to the office or employment, is or becomes a member of the Council, he may be treated for the purposes of the pension, benefit or compensation scheme as if his services as a member of the Council were service in an office, or employment with the Council, and his rights under the scheme shall not be affected by any provision of this Our Charter which requires that pensions, allowances, gratuities, benefits, compensation or payment towards the provision of them payable in the case of members of the Council shall be determined by Our Secretary of State with the approval of Our Minister for the Civil Service.

9. The application of the Seal of the Council shall be authenticated by the signatures of the Chairman or of some other member of the Council authorised generally or specially by the Council to act for that purpose, and of one of such officers of the Council as may be so authorised by the Council so to act.

10. The Council may by resolution in that behalf passed at a meeting of the Council by a majority of not less than three-quarters of the members present and voting (being an absolute majority of the whole number of the members of the Council) add to or amend this Our Charter, and such addition or amendment, when allowed by Us, Our Heirs or Successors in Council, shall become effectual so that this Our Charter shall thenceforward continue and operate as though it had been originally granted and made accordingly: and this provision shall apply to this Our Charter, as added to or amended in manner aforesaid.

11. In this Our Charter "science" includes the social sciences and references to Our Secretary of State are to Our Secretary of State for Education and Science.

IN WITNESS whereof We have caused these Our Letters to be made Patent.

Witness Ourselves at Westminster the first day of April in the fourteenth year of Our Reign.

BY WARRANT UNDER THE QUEEN'S SIGN
MANUAL

SOME SIGNIFICANT DATES

- 1946 Unit of AERE set up at the Telecommunications Research Establishment at Malvern, Worcs., to study particle accelerators.
- early 1950's Unit moved to Harwell, commissioned to design and construct 600 MeV PLA.
- 1957 NIRNS set up and established the Rutherford High Energy Laboratory as their first Laboratory. Design and construction of Nimrod the 7 GeV proton synchrotron commissioned.
- 1958 NIRNS Charter granted.
- 1959 PLA at advanced stage of construction to revised energy of 50 MeV transferred to NIRNS from AERE. Order placed for Ferranti Orion computer.
- 1960 PLA commissioned to 50 MeV.
- 1961 Transfer of large number of AERE Accelerator Division staff to NIRNS. Decision taken to instal a Ferranti "Atlas" computer at the Rutherford Laboratory.
- 1962 Establishment of second high energy physics laboratory at Daresbury for the installation of a 4 MeV electron synchrotron. NIRNS commissioned design and construction of two further accelerators, one for Oxford University and one for AERE. NIRNS agreed to support several major university experiments in high flux reactors.
- 1963 First protons from Nimrod. Research reactor "Herald" at AWRE made available to universities with provision of facilities by NIRNS. Proposal for a European 300 GeV proton accelerator.
- 1964 RHEL officially opened and Nimrod inaugurated.
- 1965 Science and Technology Act. NIRNS dissolved and Laboratories came under the SRC funded through the Department of Education and Science.
- 1971 Decision made to proceed with construction of 300 GeV proton synchrotron at CERN. Neutron Beam Research Unit set up.
- 1973 The name of the Laboratory changed to the shortened Rutherford Laboratory. Involvement with ILL on neutron scattering.
- 1974 The UK became co-equal partner with France and Germany in the ILL.
- 1975 ACL transferred to RL to become Atlas Division. Establishment of a Central Laser Facility.
- 1977 Inauguration of a laser facility. Approval for the construction of a pulsed spallation neutron source.
- 1978 Close down of Nimrod. Construction of neutron source.



RUTHERFORD

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1978

published by the Scientific Administration Group