

EUROPEAN ATOMIC ENERGY COMMUNITY
EURATOM
THE COMMISSION

Third

GENERAL REPORT

on the

Activities of the Community

(March 1959 - April 1960)

APRIL 12, 1960

EUROPEAN ATOMIC ENERGY COMMUNITY
EURATOM
THE COMMISSION

Third
GENERAL REPORT
on the
Activities of the Community
(March 1959 - April 1960)

APRIL 12, 1960

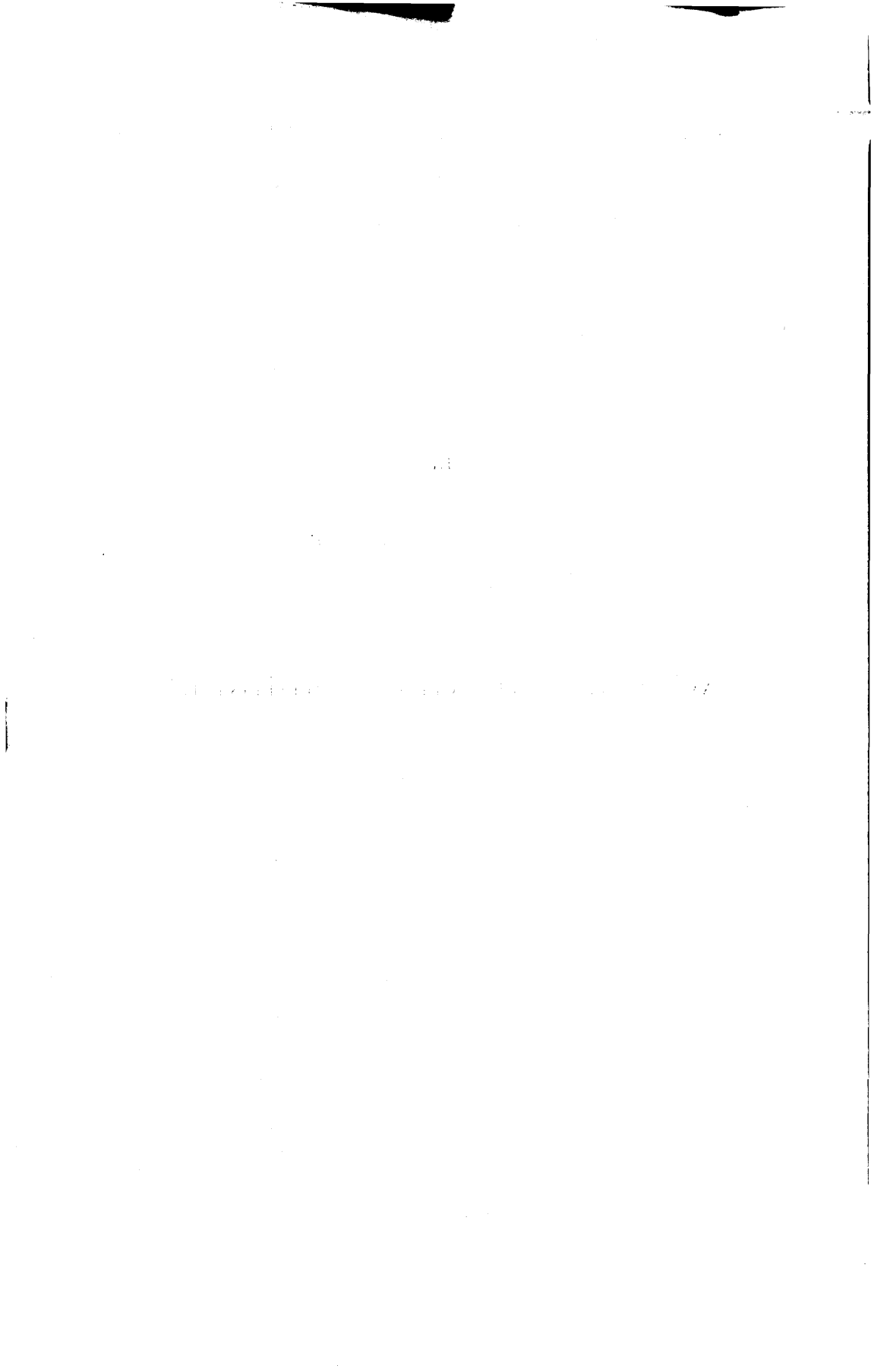


Table of Contents

	Page
INTRODUCTION	7
<i>PART ONE : THE APPLICATION OF THE TREATY</i>	
<i>Chapter I</i> — Research and Training	17 —
— Interim Committee on the European University	34
<i>Chapter II</i> — Dissemination of Information	37
<i>Chapter III</i> — Nuclear Industry, Energy and Economy	40
<i>Chapter IV</i> — Supply	65
<i>Chapter V</i> — Safeguards, Controls and Property	70
<i>Chapter VI</i> — Health and Safety	74
<i>Chapter VII</i> — The Community's External Relations	89
<i>Chapter VIII</i> — Administration and Personnel	95
<i>Chapter IX</i> — Finance and Budget	99 —
<i>PART TWO : THE INSTITUTIONS OF THE COMMUNITY</i>	
<i>Chapter X</i> — The European Parliament	107
<i>Chapter XI</i> — The Council of Ministers	109
<i>Chapter XII</i> — The Commission	113
— Co-operation with the Other European Executive Bodies	115
— Joint Legal Service	118
— Statistics Office of the European Communities	118
— Press and Information	120
<i>Chapter XIII</i> — The Court of Justice	122
<i>Chapter XIV</i> — The Scientific and Technical Committee	124
<i>Chapter XV</i> — The Economic and Social Committee	126



INTRODUCTION

1. The European Atomic Energy Community has now been in existence for more than two years. Although definite progress has been made, it is too limited and too slow when viewed in the light of the tasks which face us.

The European Atomic Energy Community, like the European Coal and Steel Community and the European Economic Community, is founded on the will of the member nations to build a new Europe. The legitimate desire of our peoples for progress and a higher standard of living, coupled with the intensifying of peaceful competition throughout the world, is evidence, if it were needed, of the urgency of the task of building a united Europe and the need for sharing our human and material resources.

Given the immense resources possessed by the United States and the rate at which Soviet industry is expanding, how can Europe possibly maintain in the world a rank which shall be both commensurate with the contribution which it has made to civilization and consonant with the qualities of its citizens, if each country, acting in isolation, relies solely on its own resources, and if the initiative taken by Community institutions comes up against hesitancy, let alone actual opposition, on the part of the member states, which should be affording these institutions their unreserved support ?

It is essential to realize that the Community is nothing more than the sum total of its constituent parts and that the interests which it upholds are the legitimate interests of the member countries transposed into a context which concentrates the forces of 170 million men and women, instead of yielding them up to sterile and anachronistic trials of strength.

The Community, in order to co-operate, for the benefit of all parties concerned, with the greatest powers on an equal footing, must, however, have the assurance that it is speaking with the full backing of the Six and their united potential.

At any event, as far as the nuclear field is concerned, it is only on this scale that even a minimum of effectiveness can be ensured in setting on foot the projects and undertakings which will shape our future and which require such enormous resources in men and materials.

Until the realization of these requirements becomes an accepted and automatic element in the mental outlook of the Community's citizens, all attempts at putting the Treaty into effect will be running up against constant difficulties arising out of traditional national attitudes on the part of governments, civil service bodies and organizations. In order to overcome these difficulties, the executive bodies must not only display rigid strength of determination and indefatigable persistence, but also subject public opinion and the national parliaments to an unremitting pressure. The European Parliament, whose influence will be considerably enhanced by the direct election of its members, has a role of exceptional importance to play in this process.

The Commission of the European Atomic Energy Community is marshalling all the resources at its command to foster the "European spirit", which is a sine qua non for the creation of a united Europe. It is organizing meetings and conferences for experts and the heads of the various bodies and industries of the Community countries. It is setting up multinational research and technical teams. It is preparing the ground for the creation in the member countries of Joint Research Centre branch establishments with their accompanying European schools, as well as arranging contracts providing for collaboration on a whole range of subjects. It is engaged on the setting up of the European University and of European Institutes.

Finally, the Commission is glad to be able to state that the work of its own departments is carried on in a thoroughly European spirit. Thus the Commission has evidence to substantiate the idea that it is a possible and even simple task, provided that the elementary safeguards are ensured, to build up a European public service informed by a genuine Community spirit.

2. In its second General Report, presented at the beginning of 1959, the Commission made clear its intention of laying stress on four essential points: the rapid creation of the Joint Research

Centre, the definition of nuclear energy production objectives, the setting up of the European University and the implementation of the agreements concluded with the United States and Great Britain. Every use has been made of the possibilities afforded for the pursuance and expansion of these aims, and the Commission intends to carry on along the same lines in the course of 1960.

3. In the field of research, on which the successful development of nuclear technology will depend for many years to come, the Commission has laid down, after consultation with the Scientific and Technical Committee, to which it is deeply indebted for its assistance, and in collaboration with the persons responsible for the national programmes, the broad outlines of its own programme, which embraces the following principal items :

- the study and development of the applications of radiations and radioisotopes in industry, agriculture and biology and, notably, radiation hygiene;
- the study of controlled fusion;
- the development of reactor types chosen to dovetail with the research and construction projects undertaken by the Community countries.

This programme is being carried out by :

- the Joint Research Centre branch establishments,
- contracts placed with research institutions and industries in the Community,
- collaboration with non-Community countries.

4. On the basis of proposals emanating from the governments concerned, the Commission has decided to set up Joint Research Centre establishments at Ispra, Petten, Karlsruhe and Mol.

At Mol, in Belgium, the Central Nuclear Measurements Bureau has begun its activities. Negotiations with the governments involved are nearing completion with regard to the Petten (Netherlands) general-purpose establishment and the establishment at Karlsruhe (Federal Republic of Germany), which will specialize in plutonium studies.

With regard to the installation at Ispra (Italy) of the first Joint Centre establishment, the agreement concluded with

the Italian Government in July 1959 has not yet come into effect. It was not submitted for ratification to the Italian Parliament until February 1960 and the ratification procedure is not yet completed. This has caused a considerable delay in the joint research programme. The teams earmarked by the Commission for Ispra are confined to theoretical work at the Commission headquarters or are sent on study assignments. This has caused the brake to be applied to the recruitment of engineers and research workers.

5. Finally, contracts providing for financial contributions and the lending of research teams have either been or are about to be concluded with various scientific institutions in the Community, and principally with the following :

- the Commissariat à l'Energie Atomique (France) for important controlled fusion studies. A second agreement on the same subject is to be concluded with the Max-Planck-Institut für Physik and Astrophysik;
- the N.V. tot Keuring van Electrotechnische Materialen (KEMA) (Netherlands) for the study and development of a homogeneous suspension reactor (SUSPOP Project);
- the Nederlandsche Centrale Organisatie voor toegepast Natuurwetenschappelijk Onderzoek (TNO) for the study of radiation effects on living beings.

Negotiations are at present being conducted with the Dutch authorities on Euratom participation in the agricultural radio-biology research work which is being carried on at the Wageningen Centre (Netherlands).

The task of undertaking various other research projects has been entrusted to Community laboratories or enterprises in order to compensate as far as possible for the time lost in the setting up of the Joint Research Centre.

The best way of showing the extent of the undertakings which have been entered into would be to point out that, of the 215 million units of account available to it for the carrying out of its first five-year research programme, the Commission has already committed itself to the expenditure of a sum of 115 million.

6. The problem of fixing the nuclear energy production objectives has acquired an increasing importance by virtue of

the fact that, since the ending of the supply difficulties created by the Suez crisis, the Community is left with a glut of fossil fuels on its hands, and is faced with a situation in which coal market saturation is accompanied by a sharp drop in the price of imported fuels.

In order to avoid a seriously misconceived basic approach in a sphere requiring long-term policy decisions, the work of all the parties concerned — the public authorities, electricity producers, firms of designers and equipment manufacturers — must be based on a full knowledge of all the available facts. In the course of the present report, the Commission summarizes the findings of the first studies which it has made in this direction, which will be continuously kept up to date.

Bearing in mind the Community's task of ensuring a minimum rate of economic expansion, failure to achieve which would jeopardize the success of its endeavours to bring about an improvement in the general standard of living as well as do irremediable damage to the Community's status in the world, these studies show that in twenty years' time, more electricity will have to be produced from nuclear sources than the total amount of electricity at present generated from conventional sources. In this period, the equivalent of over 250 units of 150 MW will have to be installed.

This aim, which implies making, in the space of twenty years, as much progress in the nuclear sphere as has been achieved in the conventional field since the discovery of electricity, can only be achieved if immediate steps are taken to embark on the construction of various types of plant on the largest scale compatible with the present status of technology and embodying the latest discoveries. It is therefore imperative that operators and above all constructors acquaint themselves as soon as possible with the multiplicity of problems arising in the nuclear field. If this is not done, our industries, far from making up the ground which they have lost through force of circumstances, will fall further and further behind and will not be in a position, without incurring the considerable expenditure which dependence on their foreign competitors would entail, to satisfy the demands of the Community, let alone to contemplate exporting their products.

In the present situation, in which nuclear energy is more expensive than conventional power, the governments and operators must consent to certain sacrifices, which would not be an

excessive burden if spread out over the whole of electricity production, and which would have to be paid as the price of admission as full members to the atoms for peace club.

The Commission will continue to do its utmost to keep the parties concerned briefed on developments, to afford them all the assistance within its power and to ensure that action is concerted and the resultant information and experience pooled with maximum effectiveness.

Finally, the Commission has resolved to lend the facilities of its departments to Community enterprises in order to supply them, upon request, with the opinion of the Community's top-flight experts and possibly also the advice of third countries on the safety of nuclear installations. Advantage has already been taken of this opportunity in connection with a request emanating from the Belgian Government concerning a training reactor installed at the University of Ghent.

7. The Community does not intend, however, to rely exclusively on its own resources; on the contrary, it has embarked on a vast collaboration policy with the other countries of Europe and with America. By means of financial contributions and specialist teams, it is taking part, within the O.E.C.C., in the operation of a reactor at Halden (Norway) and the execution of the Dragon Project (Great Britain).

The agreement concluded with the United Kingdom on 4 February 1959 has made it possible to effect a valuable exchange of information on matters of common interest.

The United States-Euratom agreement gives European industry an opening into a branch of technology with which it has had no previous experience, *i.e.* that dealing with enriched uranium reactors. In return, the Community transmits to the United States the details of any improvements brought about by its own technicians. This exchange of information and the establishment of a joint programme help to avoid the dissipation and duplication of effort.

The interest aroused by the research and development programme laid down in the United States-Euratom agreement is evidenced by the submission of 413 proposals.

As for the programme for the construction of enriched uranium power plants with an overall capacity of 1.000 MW,

only one project has been settled so far as a result of the energy market situation outlined above. This is the SENN project for a power plant, which is under construction on the banks of the Garigliano River, 60 kilometers north of Naples. The AKS project for the building of a plant near Stuttgart has been held in abeyance for the time being, while the Belgian group Centre et Sud and Electricité de France have undertaken to carry out the Franco-Belgian project to construct a power plant near Givet.

In order to facilitate the execution of the nuclear power plant programme, the Commission has been pressing for the introduction of a greater degree of flexibility into the agreement. It is at the present time in the process of negotiating an amendment designed to permit the leasing of enriched uranium to power plants in place of sale.

As the agreement provides, the Commission is likewise examining the possibility of extending scientific collaboration to the principal peaceful applications of atomic energy and of facilitating the supply to the Community of special fissile materials.

On 6 October 1959, Euratom signed two agreements with Canada, one with the Canadian Government and the other with Atomic Energy of Canada Limited. The main object of these two agreements is to create the necessary general framework for the execution of co-ordinated research and development programmes for heavy water moderated reactors.

8. The United States of Europe will not be founded on a purely economic or technical basis. The unifying bond is the development in common of our civilization and of our cultural heritage, of which we are justly proud.

This is the motivating force behind the Commission's continued efforts directed at the creation of a European University. On the Commission's initiative, an Interim Committee was set up by the Euratom and Common Market Councils of Ministers. This Committee, headed by the President of the Euratom Commission, comprises representatives of the governments of the member nations, the Euratom and Common Market Commissions, and the High Authority of the European Coal and Steel Community. In accordance with the task entrusted to it, the Committee is drafting proposals with a view to:

- creating a European University endowed with the traditional university autonomy;
- transforming national specialized institutes into European Institutes, in return for which the Community will provide financial assistance;
- facilitating and increasing exchanges of students and teaching staff between existing universities.

The Interim Committee will submit its plan at the beginning of May, so that the European University will be able to open its doors in the autumn of 1961.

9. It goes without saying that the Commission is not restricting its activities to the objectives outlined above.

It has adopted important measures in the most varied fields, and in particular:

- the protection of the health of workers and the population at large;
- the free movement of nuclear specialists;
- the co-ordination of studies and construction projects in the field of nuclear-powered merchant ships;
- the dissemination of information;
- safeguards and control.

10. Imbued as it is with a profound realization of the importance of the duties vested in it by the member states, for the fulfilment of which it must answer to the European Parliament, the Commission will ensure that the Treaty is carried out in the spirit as well as in the letter and, in so doing, it will have recourse, wherever necessary, to the provisions of the Treaty. The new Europe will not be built, if not by and in respect for the Community institutions which it has created and which their own dynamism must progressively develop.

The building of the new Europe requires that nations as well as public and private bodies of all conceivable kinds — political, economic, cultural, and trade union organizations — work together in a resolute and enlightened manner. This is the condition for the development of Europe in the twentieth century, a fraternal Europe which will meet the demands and hopes of mankind, a magnanimous Europe which will be able to stretch out a hand to the disinherited peoples of the earth.

PART ONE

THE APPLICATION OF THE TREATY

CHAPTER I

RESEARCH AND TRAINING

The Commission's work in this field is still in the preliminary stage. Its research programme, drawn up in conjunction with member states, individuals and enterprises in the Community, and in collaboration with governments and organizations outside the Community, is centred on three main problems :

- the applications of radioisotopes and radiations,*
- the study of controlled thermonuclear reactions,*
- power production.*

In implementing this programme, the Commission has four possibilities open to it :

- 1. Its own resources, i.e. the joint research centre establishments,*
- 2. Supplementary contracts and joint enterprises,*
- 3. Contracts of association,*
- 4. Co-operation with non-Community countries and organizations.*

I — Elaboration of the Commission's Research Programme

11. On 20 May 1959, after obtaining the opinion of the Scientific and Technical Committee, the Commission submitted to the Council of Ministers a document entitled " The Implementation of the Initial Research and Training Programme — Joint Research Centre " ¹⁾.

¹⁾ Published in Official Gazette of the Communities No.35, 6 June 1959.

In drawing up this document, the Commission paid particular attention to the following factors :

- 1) Availability of specialized personnel,
- 2) Resources and installations,
- 3) Harmonization with the programmes of member states,
- 4) Provision for future requirements,
- 5) Co-ordination.

The programme outlined in the document is a three-pronged one :

- a) The application of radioisotopes and radiations,
- b) Controlled thermonuclear reactions (fusion of light elements),
- c) Power production.

The practical details of this programme are laid down in accordance with requirements, after consultation with experts in the various fields concerned and in line with the findings of the survey of research in the Community which is carried out by the Commission in pursuance of Article 5 of the Treaty.

The help of the national experts is enlisted in a variety of ways : by means of working groups dealing with specific problems; by organizing meetings, group discussions or study tours; by ensuring liaison between specialists from the Commission and from nuclear research organizations in the Community.

Finally, there is to be a system of periodic consultation between the Commission and the heads of national programmes with a view to integrating the research work in hand.

- 1) *Survey carried out pursuant to Article 5*

12. This survey is kept constantly up-to-date and the fragmentary information given in the first survey published will be supplemented by periodic reassessments of the situation. Apart from providing general information of value in establishing a Community programme, this survey has revealed that there is an adequate, not to say excessive, number of research establishments in the Community whose resources are limited and which are not in a position to undertake really large-scale programmes. In view

of this fact, the Commission has decided not to aggravate this tendency by making its Joint Research Centre an entirely new venture. Instead, it found it preferable to incorporate a number of existing establishments, without, however, impeding the work which is being done on a national basis.

2) *Working groups*

13. In the second General Report submitted to the Parliament, mention was made of a number of working groups. Others have come into being since and have produced the following results :

a) *Prototype reactors*

14. The Commission's first task in this direction was to build up a body of information which would enable it to frame its reactor prototype programme. It decided to give priority to the study of natural uranium reactors moderated with heavy water, with particular emphasis on the organic liquid cooled variety. Furthermore, the discussions which have been held have made it possible to lay the foundations for co-operation in the field of neutron measurements, in particular by making use of the "Aquila" (France) critical assembly and by improving this facility with a view to achieving greater flexibility.

b) *Materials testing reactors*

15. The Commission has collected information on the construction of materials testing reactors in the Community and on the programmes in hand for producing the ancillary installations required for the operation of these reactors. As a general rule, all projects involving testing reactors under construction have fallen considerably behind schedule and commissioning dates have been postponed to 1961. Valuable discussions have been held on the possibility of specializing the various reactors in operation or under construction and on the standardization of the material and equipment needed for the installation of irradiation loops or capsules. No definitive conclusions, however, have been arrived at on these points.

c) *Plutonium recycling*

16. Comparison of the various national programmes under way in this field has enabled the Commission to form a preliminary

opinion on the necessity for setting up a Joint Centre laboratory at Karlsruhe for research on the transuranic elements. Furthermore, the experts have emphasized the importance of arranging for the exchange of personnel on a Community basis and a beginning has already been made with exchanges of this sort.

d) *Controlled thermonuclear reactions*

17. While the Commission has not set up an actual working group to deal with this subject, it has taken an active part in the meetings of the European Organization for Nuclear Research (CERN) with the aim of co-ordinating research programmes and achieving collaboration between Community and non-Community countries.

3) *Organization of meetings, group discussions and study tours*

18. The Commission has made use of the possibilities offered in this field with very specific objectives in view and often within the framework of international agreements. The following examples can be listed :

— various meetings held under the United States-Euratom Research and Development Programme which have brought proposers together in an attempt to co-ordinate research proposals and have often helped to bring about agreements and to encourage the organization of new groups.

These meetings dealt with the following subjects : uranium oxide based fuels, the metallurgical and technological problems involved in the production of thick-walled steel pressure vessels for reactors, reactor instrumentation;

— trips organized on the initiative of the Commission to give various organizations in the Community an opportunity of comparing their own work with the work being done elsewhere.

For example : a visit to Argonne and Hanford (United States) to study plutonium recycling; a study tour to the United States devoted to heat exchange; a visit to Canada of European manufacturers to study the technological problems arising out of the construction of natural uranium reactors cooled and moderated with heavy water;

— two conferences organized by the Commission in Brussels. The first, which was held in October 1959, dealt with corrosion in nuclear reactors and the second, which was held in February 1960, was devoted to a discussion of documentation techniques.

19. The Commission has maintained close liaison with nuclear research establishments in the Community. Mention should be made in particular of the contacts which have been established with a view to elaborating a co-ordinated programme for the production and utilization of radioisotopes and with the purpose of co-ordinating effort in the field of scientific data processing. The latter is a good example of a specifically Community activity which does not trammel individual initiative and only acquires its full significance when carried out on a Community scale.

20. After examining the information collected in these various ways, the Commission submits its conclusions to the Scientific and Technical Committee for its opinion.

21. Once the general lines of policy are worked out, the next step is to gear the machinery required to implement this policy.

Under the Treaty, the Commission has the following facilities at its disposal:

1. its own resources, *i.e.* the Joint Research Centre establishments,
2. supplementary contracts ¹⁾ and joint enterprises,
3. contracts of association ¹⁾, the general principle of which was set forth in the report submitted to the European Parliament by M. Longchambon (Parliamentary Records, No. 43, 1959),
4. co-operation with non-Community countries and organizations.

¹⁾ For general information purposes, notices on the conclusion of research contracts are published by the Commission in the Official Gazette.

II — Implementation of the Programme

A — *Application of Radioisotopes and Radiations*

Plant and animal radiobiology

22. On 1 December 1959, a contract was concluded between the Commission and the Nederlandsche Centrale Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek (TNO), Netherlands. It provides for the study of radiation-induced physiological disorders in normal animals and in animals born free of specific pathogens. The contract provides for a total expenditure of 920,000 units of account, 40% of which is to be borne by Euratom. The Commission is also discussing with the Netherlands Ministry of Agriculture participation in the programme of the Wageningen Research Centre, which is concerned with the study of radiobiological problems in agriculture.

Medical applications

23. Contact has been established with physiologists interested in the therapeutical applications of nuclear radiation.

Radiation hygiene

24. This question is a matter of fundamental concern to the Commission. It is dealt with in the chapter on Health and Safety.

Industrial applications

25. The Commission is endeavouring to work out a co-ordinated radioisotope production policy, on the basis of which an expanded programme for the industrial applications of radioisotopes can be launched at a later date under the best possible conditions.

B — *Controlled Thermonuclear Reactions*

26. The plasma physics programme, on which the Commission and the French Commissariat à l'Energie Atomique (CEA) are working in association, comprises theoretical studies, which are useful in staging experiments and interpreting results, and also

experimental work in three fields: pinch; production, injection and capture of plasma; continuous magnetic mirror. The contract, which was signed in July 1959, is for a three-year period and provides for an expenditure of 9 million units of account, 6 million of which are to be contributed by the Commission. The mixed team working on the programme at the present time is made up of some 40 CEA and 20 Euratom research workers. It will be enlarged, especially later on, but its work is already proceeding very satisfactorily.

Another contract of association is being negotiated with the Max Planck Institut für Physik und Astrophysik, Munich. Although it has not yet been worked out in detail, this programme will consist of advanced theoretical research and, on the experimental side, it will be concerned with the study of plasmas produced by means of linear and toroid discharges and confined by a Stellarator-type device. A number of research workers from the Commission are already collaborating in Munich with the German physicists from the Max Planck Institute. Collaboration on an international level on these problems is also under consideration.

C — *Power Production*

27. Here, too, the Commission is anxious to avoid any duplication of the work being done by member states. Agreements concluded with non-Community countries are designed to make available to European industry technological information acquired elsewhere.

Graphite moderated reactors

28. In view of the state of research and the progress made generally in the Community so far, the Commission's activities in this field are centred on the part which it is playing in the Dragon Project. The aim of this project, which groups together a number of OEEC countries and the United States, is to build a high-temperature, gas-cooled reactor at Winfrith Heath (United Kingdom). The total cost of the projects is estimated at 38 million EMA units of account, with the Community and the United Kingdom each making a 43.4% contribution. Some thirty Commission specialists have been seconded to the project. The

chief engineer, two deputy chief engineers and the deputy head of the Research and Development Division come from Community countries. The first invitations for tenders for the research and supply contracts to be placed in connection with the project have been issued and proposals are now being studied. Tenders have been invited from public and private enterprises in the Community.

As part of its task of ensuring a proper distribution of information, the Commission has asked member states to name technical correspondents, who will be responsible in particular for distributing information made available by the project and for obtaining on behalf of the project information on what possibilities exist for firms and organizations in Community countries to do research or to take part in the construction of this reactor experiment.

Finally, as part of its policy of co-operation with Great Britain, an exchange of information is scheduled in connection with the advanced gas-cooled reactor. There is to be a group discussion on this subject on 25 and 26 April 1960.

Heavy water moderated reactors

29. The Commission has so far concentrated its efforts in this field on the Halden Reactor Project. This Norwegian boiling heavy water reactor is operated under the aegis of the OEEC. A number of experts from public and private enterprises in the Community are working on the project to study the techniques employed. Progress is satisfactory but it is clear that the Halden agreement will have to be extended if the programme initially scheduled is to be successfully implemented.

The scope of the Commission's activities has been widened by the policy of collaboration with Canada and by the orientation of the research programme towards the natural uranium reactor string moderated with heavy water and cooled by organic liquids.

The agreements for co-operation between the Community and Canada, which were concluded on 8 October 1959, provide for exchanges of information and general consultation on the subject of heavy water reactors. There is to be a co-ordinated research programme on the problems posed by the development of reactors of this type, to which the Commission and Atomic Energy of

Canada Ltd (AECL) will each devote 5 million EMA units of account in the first five-year period. The programme is directed by a Joint Board. One point which has already emerged from the work of the Board is that this joint effort will be centred on heavy-water moderated and organic-liquid cooled reactors (ORGEL and OCDRE projects).

The AECL and the Commission have begun the study of their respective reactor projects and work is already sufficiently far advanced to enable both sides to be of real assistance to one another. The bulk of the work to be done on this Euratom project will be carried out in the Joint Nuclear Research Centre and other research will be left to contracts. Work is progressing along the following lines :

- examination and development of the ORGEL Project : this involves the study of a 500 MW (th) prototype, for which various calculations have been made on the basis of hypotheses relating to the fuel elements;
- research on neutron physics and technology : the former is being studied in collaboration with the French Commissariat à l'Energie Atomique;
- the selection, the designing and, if necessary, the construction of a special test reactor which might become necessary before a power prototype is built.

Hydrogen moderated reactors (light water or organic liquids)

30. This type of reactor is covered by the United States-Euratom Agreement. Quite apart from the construction of industrial reactors, which is dealt with in another chapter, this Agreement provides for a joint research and development programme, which is already under way.

An invitation for research proposals issued by Euratom and the United States Atomic Energy Commissions (USAEC) at the end of 1958 has met with a very favourable response. By 1 April 1960, 413 proposals had been received, 70 in the form of letters of intent, 57 as preliminary projects and the majority (286) in the shape of detailed proposals.

Of these 413 bids, 80 were submitted by establishments in the United States. These proposals, although inferior in number to the European bids, match them in intrinsic importance, since, owing to the greater familiarity with this procedure in the United States, the projects envisaged by them are on the whole bigger and more detailed than their European counterparts.

The results of this joint research effort will be of benefit to both sides and from Europe's point of the view data obtained will be a valuable addition to the information made available under the agreement with the United States as well as a substantial contribution to scientific knowledge in general.

The examination of the European proposals also provides a means of realigning research activities with a view to preventing dissipation of effort and achieving increased efficiency. It has been possible to do this in a number of instances, particularly in the field of research on uranium oxide fuels, plutonium recycling and metallurgy.

By 1 April 1960, the examination of these proposals had led to the drawing up of 29 research contracts, involving expenditure in the region of 4 million units of account.

Homogeneous reactors

31. The Commission has concluded an agreement with the N.V. tot Keuring van Electrotechnische Materialen (KEMA), Netherlands, for the study of a homogeneous suspension reactor (SUSPOP Project). This contract has been concluded for a three-year period dating from 1 July 1959. It provides for the setting up of a mixed team, which is already being recruited. The object of the contract is to construct a 250 kW reactor experiment. A sum of 1.4 million units of account has been earmarked by the Commission for this project.

Plutonium recycling

32. A number of proposals have been made in this field under the United States-Euratom Agreement. The Commission is attempting to co-ordinate the programmes proposed bearing in mind the research work being done in the United States. A Board comprising representatives of AEC proposers and Euratom experts has been set up to elaborate these programmes. It is

expected that approximately 8 million units of account will be spent on this work by the end of 1962.

In addition, negotiations are being carried out with the Government of the Federal Republic of Germany and the Land of Baden-Württemberg with a view to setting up at Karlsruhe a Joint Research Centre establishment specializing in the study and development of plutonium based fuels. A preliminary project for this establishment is currently being worked out by a mixed working group.

Fast reactors

33. The Commission attaches great importance to this reactor string of the future and to fuel breeder systems generally. A first step in this direction, which has been the subject of discussions within the framework of the Agreement with Great Britain, might be the construction of a critical fast neutron assembly.

This assembly, which is due to be built in the Community, will provide information vital to the study of fast reactor neutron physics and control.

Furthermore, the type of fast reactor which the Commission intends to develop will be based on a different concept from that used for the reactors of this string already studied in the United States and Great Britain. The main difference will be that plutonium will be used in the place of uranium 235.

Testing the behaviour of materials under irradiation

34. This is an essential part of any nuclear programme and Annex V of the Euratom Treaty provides for the construction of a reactor for this purpose at the Community's Joint Research Centre.

There is a reactor with which a number of tests of this kind can be carried out at the Joint Research Centre establishment at Ispra.

A test reactor is being built at the Petten research centre in the Netherlands. The Commission is currently negotiating with the Dutch Government on the setting up of a Joint Research Centre establishment at Petten, into which this reactor would be incorporated.

The BR 2 Reactor is being built at the Centre d'Etude de l'Energie Nucléaire (CEN) at Mol in Belgium. Talks are being held with this organization for the purpose of working out a formula for co-operation.

Finally, contact has also been established with the Jülich Research Centre in Germany, which is due to have "Merlin" and "Dido" type reactors at its disposal.

In these various ways, the Commission is endeavouring, by a policy of co-ordination and specialization, to achieve optimum utilization of the irradiation facilities available in the Community. As far as can be seen at the present time, these arrangements should be sufficient to meet future requirements without any need for planning new installations.

GRISA (Scientific Data Processing Research Team)

35. To provide research programme staff with the scientific information they require, the Commission has been making considerable efforts in the field of documentation. An account of this work, which is carried out by the Dissemination of Information Department, is given in the chapter devoted to this subject.

The Commission has now set itself a further aim in this field by creating a research team on the processing of scientific data.

Investigations are being carried out by this team with a view to developing a documentation machine for recording, classifying and reproducing data relating to nuclear energy and its applications. The team is working hand in hand with specialized institutions in member countries (Gmelin Institute, the CEA, etc.).

III — The Commission's own Resources

36. Under the Treaty, the Commission is responsible for setting up a Joint Nuclear Research Centre. It has to recruit the scientists and technicians required for this Centre as well as for the mixed teams which are scheduled to implement the bulk of the contracts placed by the Commission. The position with regard to both these points is as follows:

A — Joint Research Centre Establishments

37. On 22 July 1959, an agreement was concluded in Rome between the Euratom Commission and the Government of the Republic of Italy providing for the transformation of the research centre set up at Ispra by the Comitato Nazionale per le Ricerche Nucleari (CNRN) into a general-purpose joint Nuclear Research Centre establishment.

The Agreement lays down in broad outline the manner in which this transfer is to be effected and the Centre developed and the conditions which will govern co-operation between Commission and CNRN staff. It is expected that by 31 December 1962 there will be 1,500 Euratom staff at Ispra.

There is frequent contact between the Commission and the CNRN, which makes it possible for various points in the agreement to be clarified. The teams which will be working at Ispra are already being set up and research programmes, which in an initial stage will be centred on the ORGEL project (cf. C.2.), are being worked out. A large number of orders have already been placed for laboratory equipment.

The Ispra agreement has not yet come into force as it still requires to be ratified by the Italian Parliament.

Petten

38. Negotiations are currently in progress to follow up an agreement in principle concluded with the Dutch Government on the setting up of a general purpose Joint Research Centre establishment at the Reactor Centrum Nederland (RCN) research station at Petten. In the initial stage, the work of this establishment would be based on the high-flux reactor (cf. C.7.).

Karlsruhe

39. The Commission has concluded an agreement in principle with the Government of the Federal Republic of Germany for the setting up at the Nuclear Research Centre of Karlsruhe a

Joint Centre establishment for research on the transuranic elements. Negotiations are currently in progress (cf. C.5.). A preliminary estimate puts the investment required for the construction of this Plutonium and Transuranic Elements Institute at 12 million EMA units of account. There would be about one hundred scientists and auxiliary personnel working at the Institute.

Central Nuclear Measurements Bureau (Mol)

40. The work of this Bureau, for which provision is made in Article 7 of the Treaty and which on 1 April 1960 employed 25 persons, including 12 engineers or equivalent staff, covers the following fields :

1) Radioisotope measurement

41. The following research work is in progress :

- systematic study of methods for producing thin layers and samples for counters (4-);
- systematic study of adjustments required by self-absorption;
- more precise measurement of constants in formulae for absorption and adsorption in walls of counters (gas counters).

2) Calibration of neutron sources

42. A first piece of apparatus has been produced for geometrical integration measurements with the help of detectors (gold, indium) in a water bath.

3) Measurement of absorption cross-sections for thermal neutrons — liaison in the field of nuclear constants

43. It is this Bureau that represents the Commission and the Euratom countries on the European-American Nuclear Data Committee, which is responsible for co-ordinating work on basic

nuclear measurements throughout the Western world in such a way as to achieve the most rational possible use of the personnel, facilities and products available.

The question of what major items of equipment (accelerators, special reactors) the Bureau should have at its disposal will be decided within the framework of the programme laid down by the European-American Committee. A preliminary report on the type of accelerator to be selected and its main features has been drawn up.

4) Standardization

44. A meeting has been held in Brussels to provide representatives of the five national standards institutes with an opportunity of establishing contact. The delegations agreed to keep in regular touch with one another via Euratom and to draw up a list of subjects to be given priority by their institutes.

B — Recruiting and Training of Personnel

Recruiting of staff

45. To implement this programme, the Commission has endeavoured to enlist the services of qualified scientists and technicians. The following results have been achieved so far :

- personnel as of 1 April 1959 24
- personnel as of 1 April 1960 238

(Central Nuclear Measurements Bureau 25, long-term courses of practical training, including "fusion" contract 36, other courses of practical training 4, Dragon Project 23. The remainder are engaged on work of a general nature, on the technical problems involved in the negotiation of contracts and on preparatory work for the Joint Research Centre. The bulk of the personnel in this latter category belongs to the "Orgel", "Heat Exchange" and GRISA teams.)

- personnel recruited and due to take up duties later, as of 1 April 1960 162

A twofold set of difficulties remains :

- 1) the Commission is faced with the well-known general shortage of staff existing in member states;

- 2) executive staff and top-grade technical staff are still hard to find.

This situation is not improved by the lack of a statute of service for personnel. Moreover, the delays which have occurred in the transfer of the Joint Research Centre at Ispra are preventing research teams from proceeding with their assignments at the proper speed.

Training and instruction

46. A working group has been set up comprising members of the Scientific and Technical Committee, university teachers and representatives of the Commission. Its terms of reference are to examine how best to increase the number of graduates in the various fields required for the development of nuclear science and industry, in particular by improving liaison between universities and nuclear research establishments. The following possibilities have so far been envisaged :

- periods of training at nuclear centres for students,
- courses of training and instruction at universities,
- postgraduate trainee periods on special subjects,
- exchange of scientific staff between universities and nuclear research centres.

These suggestions have already borne fruit, in particular in the matter of student trainees and specialized postgraduate courses.

In 1960, it will be possible to accommodate 100 to 300 student trainees and the Euratom Commission has already awarded scholarships for specialized postgraduate courses on fusion at Saclay and Munich and for the Varenne summer school.

47. The Commission's research activities are still in the preliminary stage. The programmes mapped out so far will involve a sum in the region of 116 million EMA units of account, apportioned as follows :

— setting up of Joint Research Centre establishment at Ispra,	40	million u.a.
— United States-Euratom Joint Research Programme,	50	million u.a.
— Euratom participation in Dragon project	12	million u.a.
— Euratom contribution for Halden reactor	1	million u.a.
— Contract of association with French Commissariat à l'Energie Atomique for the study of controlled fusion	5.8	million u.a.
— draft agreement with Atomic Energy of Canada Ltd,	5	million u.a.
— contract of association with N.V. tot Keuring van Electrotechnische Materialen (KEME)	1.4	million u.a.
— contract of association with the Nederlandse Centrale Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek (TNO)	0.4	million u.a.

Of this total scheduled expenditure, only 3.5 million units of account has actually been paid out by the end of 1959 (for details, cf. chapter on Finance and Budget).

This sum can be expected to rise sharply once the Joint Research Centre establishments start working and as soon as the placing of contracts provided for by the United States-Euratom Agreement gets fully under way.

In carrying out its programme, the Commission is making every endeavour to enlist the help of public and private enterprises in the Community and makes a point of trying to set up its research teams for all assignments on a multinational basis.

INTERIM COMMITTEE ON THE EUROPEAN UNIVERSITY

The Euratom and EEC Councils of Ministers have instructed an interim committee headed by the President of the Euratom Commission to propose what steps should be taken to set up a European University, to develop European institutes of higher education, to co-ordinate university curricula, and to encourage the mutual recognition of degrees.

48. The Interim Committee is made up of representatives of the member states, of the Euratom and EEC Commissions as well as of the High Authority of the Coal and Steel Community.

The discussions in which the Euratom Commission has been engaged over the last two years spring from Article 9, para. 2, of the Treaty, which stipulates : " An institution at university level shall be set up; the particulars of its operation shall be settled by the Council acting by means of a qualified majority vote on a proposal of the Commission ". The Treaty gives no other indication concerning this institution. The activities which the Commission is pursuing in this field are therefore quite separate and distinct from its action in setting up schools for the training of nuclear specialists (Article 9, para. 1).

A — *The European University*

49. The European University will be designed for students who have already studied for several years at universities or institutes of higher education. This advanced training would be based on a close interrelationship between the actual courses and individual research, and would be centred on European problems, the outlook for scientific development and the factors making for unity between various academic disciplines. Five departments could be set up in an initial five-year period : law, economics, sociology, history and civilization, mathematics and theoretical physics. The term " department " has been selected in preference to " faculty " in view of the variety of meanings attached to the latter expression in different countries.

Courses would last for a minimum of two years and would be concluded by a "European doctorate".

The student body would probably be in the order of 200 to 300 during the first year, increasing to 1,000 in five years' time.

The staff would be made up of university teachers and professional men.

The University would be autonomous, in line with the traditional university practice.

B — *European Institutes of Higher Education*

50. Various specialized institutes of high academic standing already in existence in our universities would be granted the status of "European institutes". These institutes would open their doors to students from Community countries, which would second, for varying lengths of time, professors and lecturers working in the particular field studied at the institute. The institutes would receive financial backing from the Community. The advantage of this scheme is that it could be put into practice immediately, since it would be applied to institutes which already enjoy an established reputation; it would, moreover, encourage a division of labour and specialization between universities.

C — *Equivalence of Degrees and Co-ordination of Curricula Teaching Staff and Student Exchanges*

51. The efforts being made under this rubric are directed at encouraging the growth of the European idea in existing universities in the Community and at enabling these universities to afford students any facilities which their studies might require.

It is not intended that the Interim Committee should define the equivalents of academic degrees, but that it should suggest what steps are necessary to create a system providing for the mutual recognition of degrees in the Community. For example, students would have the opportunity of completing at least half of their normal degree courses (number of terms and examinations) in Community countries other than their own.

This system should be adopted at all universities concerned and should offer the students maximum safeguards.

The co-ordination of curricula does not exclude the need for variety. It might be of advantage to proceed along pragmatic lines and leave it to the universities themselves to decide how co-ordination should be planned. These universities could draw heavily on the experience acquired in this field by the European University.

52. Exchanges of teaching staff have up till now taken place on the basis of bilateral agreements. These agreements might usefully be continued, improved and extended to cover all the countries of the Community.

A system of associate professors could be set up, visiting professors from one Community country being attached as faculty members to the staff of universities in other Community countries to give full courses of lectures (*e.g.*) for one term or one year). The practice of the sabbatical year could also be introduced.

53. A system of exchanges should enable students to attend different European universities in the course of their studies; this would be facilitated by the following arrangements :

- a European University attendance book, giving students the right to free matriculation and allowing them to benefit from all social services;
- a documentation centre for the compilation and dissemination of data on the equivalence of terms kept at different universities, the recognition of degrees, and the curricula and special subjects studied at different universities.

This information would be published in a "European Students' Handbook".

The three headings of the Interim Committee's mandate are thus fundamentally interdependent. A certain number of problems, primarily of a legal and budgetary nature, remain to be settled by the study groups before the definitive report can be submitted to the Councils of Ministers on 1 May 1960.

CHAPTER II

DISSEMINATION OF INFORMATION

As part of its work of ensuring a proper flow of information, the Commission is setting up a documentation centre for use by all research workers. A study is also being made of a scientific data processing system. The Commission has also contacted the responsible American and British authorities with a view to the creation of three nuclear documentation pools. Finally, it has established the basic principles for a patents' policy which shall make allowance for the rights of inventors and the traditions of European industry.

I — Documentation

54. The Commission has planned the installation of a documentation centre, equipped with the most modern facilities and designed to supply it with information which will prevent duplication of effort and make for maximum effectiveness in the research programme. It will perform similar services for the member states, for persons and enterprises as well as national research centres within the Community.

Work on the following projects is now proceeding :

a) Arrangements are being made to enable interested parties to consult the documents in the scientific and technical library at the Commission's headquarters. In addition, adequate documentary material will be supplied to the branch establishments of the Joint Research Centre.

b) Automation will be employed in document classification. This will entail the use of a complex of machines, some of which are due to be installed in the initial months of 1960. Equipped

with these facilities an information bureau will be able to lend effective assistance to research workers and manufacturers within the Community. With this aim in view, a thorough investigation into data processing is currently being carried out (cf. chapter on Research and Training, GRISA).

c) An information section is being prepared on translations of technical documents from Slavonic and Oriental languages.

d) Contacts have been made with the United States Atomic Energy Commission (USAEC) and the United Kingdom Atomic Energy Authority (UKAEA) with a view to setting up three nuclear documentation pools :

1. A pool of technical abstracts relating to the exact sciences;
2. An abstracts pool for the social sciences (economics, law, politics, etc.);
3. An information pool on translations.

Pool 1 would be placed under the USAEC (Technical Information Service Extension), which already publishes "Nuclear Science Abstracts". The Commission and the UKAEA would collaborate by collecting documents and preparing abstracts for this periodical.

Pool 2 would have to be built up from scratch and would be organized by the Commission in collaboration with its British and United States counterparts. It would probably be run on the same lines as Pool 1 and would likewise eventually put out collections of abstracts.

Pool 3, likewise administered by Euratom, would collect all information concerning translations made or being made into Western European languages anywhere in the world, of documents written in Slavonic or Oriental languages. The publication of a regular bulletin or the circulation of cards containing such information is contemplated.

The present status of the negotiations which are in progress on these pools gives reason to anticipate rapid and satisfactory results.

e) Finally, the Commission is envisaging the eventual publication of technical reports of its own research work and possibly also of work done under contract.

II — Industrial Property

55. a) Article 16 of the Treaty commits member states to communicate to the Commission all applications filed with them for patents or utility models relating to nuclear subjects. So far, all communications have been sent in regularly, except by the French Government, which has, however, informed the Commission of its intention to do so in the near future. A provisional perforated card system for classifying these patent applications and making the necessary background investigations has been elaborated by the Commission.

b) There have been numerous contacts with interested circles in the Community for the purpose of defining a patents' policy in line with the provisions of the Treaty. This policy will make every allowance for the interests of inventors and the traditions of European industry.

The Commission is preparing a certain number of guide lines to delimit the rights of Euratom and contracting parties with regard to the results of research carried out under contract. These principles are designed to rule out discrimination of any sort and to remain sufficiently flexible for adaptation to particular circumstances.

It is the Commission's view that this policy, partly reflected in the research contracts which have already been drawn up, will strike an equitable balance between Community interests and the rights of inventors and manufacturers.

c) The fact that the laws governing industrial property stop at national boundaries brings about a legislative disparity in the Community countries which could prove an obstacle to the smooth functioning of the nuclear common market.

The Commission therefore fully endorsed the European Economic Community's action in calling a meeting in Brussels in November 1959, between the various Secretaries of State with a view to studying the question of co-ordinating the laws governing industrial property and the possibility of creating a European patent and a European trademark. A apparatus is being set up, on which the Euratom Commission is represented on an equal footing with the European Economic Community.

CHAPTER III

NUCLEAR INDUSTRY, ENERGY AND ECONOMY

In an economic study devoted to this problem, the Commission has attempted to assess the role of nuclear energy in the years ahead. Taking as conservative an estimate as possible, the study anticipates that, in twenty years' time, more electricity will be generated by nuclear means than is now produced from all available sources. This means that manufacturers and electricity producers cannot afford to lose any time in setting about a minimum nuclear power programme. Only so will they be able to make enough progress to put nuclear electricity on a competitive footing and to be in a position to construct the nuclear power plants required when the time comes.

Under the United States-Euratom agreement, a first nuclear power plant is currently being built and an undertaking has been given to build a second by a Franco-Belgian group. It is the Commission's view that further commitments will be forthcoming as soon as certain difficulties have been settled.

In the field of nuclear marine propulsion, the Commission is keeping in touch with the appropriate circles and has established contact with representatives of the member states to co-ordinate their approach to various problems.

The establishment of the nuclear common market has now been followed up by a Commission project to provide free access to specialized employment in the nuclear field inside the Community.

In the sphere of third-party liability and nuclear insurance the Commission is urging the appropriate circles in the Community countries to speed up the solution of the various problems involved.

Introduction

56. To cope with the growing demand for power in the industrially developed countries of the world, the brunt of the efforts made in recent years in the field of applied nuclear energy has been directed towards the production of electricity. Nuclear energy can of course be harnessed to other purposes, *e.g.* marine propulsion, radioisotope production, and district or industrial heating.

The period between 1956 and 1960 saw a radical reshaping of nuclear power plant construction programmes.

In 1956-1957, there was a general anxiety that Europe was heading towards a rise in coal prices and a shortage of oil, the conventional sources for the thermal production of electricity. However, the post-Suez period, which saw the bringing into play of fresh sources of supply and the relaxation of political tension in a number of oil-producing countries, was marked by slight economic recession and a considerable drop in freight rates, thus upsetting earlier pessimistic forecasts and dispersing the fears which had been entertained.

In addition, technological progress has brought about a reduction in the cost of conventional thermal power plants, thus widening the already considerable gap existing between the cost of electricity from conventional thermal and from nuclear sources.

This turn in events does not mean, however, that we can afford to ignore basic economic trends and the very great likelihood which exists of reducing the cost of nuclear electricity in the light of experience gained from the study, construction and operation of nuclear power plants.

Although these are the fundamental considerations underlying the work of the Commission, at the same time, it is not neglecting the development and utilization of nuclear energy for other purposes.

The Commission has accordingly widened its contacts with individual bodies and groups representing the various interests active in the nuclear industry and has sought to encourage those programmes which appear vital to the long-term development of the peaceful utilization of nuclear energy in general and to electricity production in particular.

Furthermore, every endeavour has been made to bring home to governments, manufacturers and trade unions in the Community the full extent of their responsibilities in this field.

The Commission has also taken every opportunity of impressing upon the representatives of industry and the unions its contention that the advent of nuclear energy in a wide variety of fields is now only a matter of time. To this end, it has organized information sessions, set up joint Commission-manufacturer working groups and encouraged the work of such groups generally, collected and distributed documentary material, arranged for visits to installations inside and outside the Community and provided opportunities for meeting foreign experts.

The Commission has also endeavoured to bring interested parties in contact with one another whenever this has seemed essential to prevent the duplication and scattering of effort in the field of research.

The development of nuclear energy, a major objective of Euratom, cannot, however, be viewed in isolation from the general energy context, and the Commission attaches great importance to the proper study of all the problems involved and to the framing of a common energy policy, which is vital to the smooth economic development of the Community. Thus, apart from taking part in the work of the Mixed Committee (High Authority, Council of Ministers), the Commission is an active member of the inter-executive Working Group on Energy Problems, which was set up by the High Authority and the EEC and EAEC Commissions in October 1959 to study the problem of integrating the various types of energy and to submit concrete proposals for co-ordinating policy in this matter.

I — The Outlook for Nuclear Power

57. A brief study has been made on this subject, giving a preliminary assessment of the prospects for nuclear energy and the scale on which it will be required. This study is drawn up along lines which are still comparatively schematic so that many points will have to be expanded and clarified later.

The facts and figures contained in the study will make it possible, once they have been revised and completed, to draw up

at a later stage the first of the target programmes referred to in Article 40 of the Treaty.

The study examines prospects for the next twenty years, *i.e.* up to 1980. It will be revised in line with the new facts as they are brought to light. This revision will take particular account of the comments formulated by the Working Group on Energy Problems when it examined this study, which was submitted to it by the Commission.

It is difficult to draw a comparison between the forecasts published in this report and those arrived at by other experts, *e.g.* the Advisory Board of the OEEC (the Robinson Report), owing to the fact that the territories and periods taken as a basis were different in each case. A first analysis, however, does not reveal any significantly divergent conclusions.

At the present moment, the Community does not possess a single actual nuclear power plant. As at least three years are needed for construction, plus a further year for commissioning, a plant of this kind does not normally come into operation on an economic footing until the fifth year from the start of building. We shall thus have to wait until 1964 at least before obtaining any data on industrial operation which will throw some light on the conditions in which nuclear power may be brought into play. The study is therefore based on the supposition that, taking into account any contribution which might be made by nuclear plants already in the planning stage, increases in production will be covered by conventional power plants. Nor is it assumed that existing or modernized plants working on conventional fossil fuels will be replaced by nuclear power plants during the remainder of the period in question.

The assessment made of electricity requirements is a fairly modest one and, as the above remarks show, the assumptions as to the rate at which nuclear energy can be developed are comparatively pessimistic.

For purposes of interpreting this study, it was regarded as advisable to simplify matters by adducing a single figure rather than to take a maximum and a minimum hypothesis and thus suggest, perhaps wrongly, that the truth lay somewhere between the two.

A — Electricity Needs

58. Electricity requirements are evaluated by extrapolating up to 1980 the function which expresses the relationship between electricity consumption and industrial production and which at the same time makes due allowance for the intrinsic and regular development of electricity consumption.

The forecasts are made on the basis of a hypothetical annual rate of industrial expansion of 5.5% for the 1955-60 period and rates of 5% and 4% respectively for the periods 1960-70 and 1970-80. The comparisons made by the working Group on Energy Problems seem to suggest that these rates are in no way exaggerated and that they may be safely adhered to until the emergence of fresh data which might enable us to arrive at a more exact opinion on the matter.

59. The Community's electricity needs would accordingly be as follows :

	1955	1960	1965	1970	1975	1980
in 10 ⁹ kWh	185	264	370	518	701	950
index numbers	100	143	200	280	379	514

The rule which is usually applied, *i.e.* that electricity requirements are doubled every ten years, would produce a much steeper curve.

Using the same method, overall primary energy needs may be estimated as follows :

	1955	1960	1965	1970	1975	1980		
in 10 ⁶ TCE (millions of tons of coal equivalent)			398	468	540	624	695	774
index numbers			100	118	136	157	175	195

Electricity consumption goes up more rapidly than the total energy consumption and will thus account for an increasing share in the latter. If we juxtapose the development forecast for electricity needs expressed as coal equivalent with that established for overall primary energy requirements, the proportion of electricity, less than 25% in 1955, is found to rise progressively

and to amount to over 40% in 1980. In comparison with the corresponding American figures, this percentage seems high, but this is due to the differences in the structure of the Community and the United States' energy economy. It is worth noting that the above forecasts give a per capita electricity consumption figure of 5,000 kWh for the Community in 1980. This is a bare 10% above the United States figure for 1959 (4,500 kWh), but way below the 8,500 kWh which the Soviet Union plans to reach by 1980.

60. A considerable portion of electricity requirements is obtained from sources of primary energy, which are generally used to produce electricity. It is hardly reasonable to assume that, in the next 20 years, nuclear electricity will be in a position to replace the power which is derived at relatively low cost from these "privileged" sources.

The most important of these sources are: lignite, blast furnace gas, refuse coal, hydroelectric power and geothermic heat, as well as certain rich natural gas deposits.

61. An assessment of the development of electricity production from these various sources up to 1975 was given in the First Report on a Co-ordinated Energy Policy, published in April 1959 by the Mixed Committee (High Authority, Council of Ministers). Extrapolating further up to 1980, we obtain the following figures for power produced from the total of these "privileged" sources:

	1955	1960	1965	1970	1975	1980
in 10 ⁹ kWh	122	176	237	280	325	370

This assessment appears to be somewhat generous, which means that the estimates given below can be regarded as being all the more cautious.

In other words, the electricity requirements which will have to be met by other sources are as follows:

	1955	1960	1965	1970	1975	1980
in 10 ⁹ kWh	63	88	133	238	376	580

The electricity requirements which cannot be met by "privileged" sources are thus expected to increase sixfold between 1960 and 1980.

62. In assessing the part which nuclear energy might be able to play in the production of electricity between now and 1980, only that increase in demand which it will not be possible to meet from "privileged" sources in the 1965-1980 period is taken into consideration.

The proportion of electricity production which could be taken over by energy for each of the years under consideration is as follows :

	1965	1970	1975	1980
in 10 ⁹ kWh	14	119	257	461

It will be seen that the figure for 1980 is practically double the total quantity of electricity produced in 1959. All the above figures, however, apart from the one for 1965, relate only to possibilities; in order to judge the extent to which nuclear energy can actually be employed, other factors must be taken into account.

B — *The Extent of the Nuclear Power Plants Required*

1) *The Conditions for the Use of Nuclear Power*

63. Sooner or later, nuclear energy will be progressively in a position to :

- supplement conventional sources of power,
- supersede classical power plants as a result of the general and permanent economic advantages certainly to be derived from such substitution,
- facilitate further expansion and act as a stimulant to the economy in general as soon as it has become a particularly cheap source of electricity.

In the 20-year period lasting from now until 1980, however, there are two main aspects to the problem :

- the use of nuclear energy as a necessary alternative in the event of failure on the part of sources available to cope with demands or if requirements can only be met by stepping up fuel imports excessively,
- the exploitation of nuclear energy on the basis of the economic advantages offered, especially as soon as production costs become competitive.

2) *Fossil Fuel Imports*

64. In 1960, fossil fuel imports into the Community will account for approximately 27% of the total energy consumed. This figure would rise to 50% by 1980, if no further plans for nuclear power plants, beyond those already drawn up are forthcoming. Imports of fuel on such a large scale could have wide repercussions on the economy generally and might in particular affect the security of our position with regard to the supply and cost of energy as well as upset the balance of payments.

Seen from this angle, then, the use of nuclear energy would appear to be expedient, since the development envisaged by the present study would mean that the Community, in the matter of power supplies, would be dependent only up to a level of 36% on imports.

This consideration alone, however, is not enough to justify the development of nuclear energy. The quantity of fossil fuels available promises to be sufficient for the next twenty years, and there seems to be small risk of the supply of traditional fuels needed by the Community falling below the level of the forecast total requirement.

In this connection, mention need only be made of the possibilities of stepping up coal imports, especially from the United States, the importance of the oil deposits recently discovered in North Africa and in other parts of the world as well as the favourable prospects for natural gas.

A rough assessment can be made of the extent of the supply problem which would arise if we adopt the extreme assumption that all increases in energy consumption up till 1980 would have to be met by oil alone. This would imply that coal consumption

would remain pegged at the 1958 level; that the production of electricity from privileged sources would correspond with the forecasts and that nuclear energy would be limited to the 2,000 MW scheduled for 1965. Such an assumption would involve a fourfold increase in oil consumption in a space of twenty years, which means that the figure of some 60 million "mean" tons would soar to an approximate total of 250 million "mean" tons. This would certainly be a prodigious increase, but the possibility of achieving it cannot by any means be dismissed out of hand.

Thus, however, weighty they may appear to be, the considerations bound up with the prospect of increasing dependence on fossil fuels are still not adequate to justify the large-scale utilization of nuclear energy until its production is economically viable.

This conclusion brings us to pivotal problem of the cost of the nuclear and the conventional kWh.

3) *The Competitive Prospects for Nuclear Energy*

65. The ability of nuclear electricity to compete in the period 1960-1980 depends essentially upon :

- the development of the cost of electricity from conventional sources and, therefore, to a decisive degree, upon the development in the costs of fossil fuels;
- the estimates of the cost of electricity produced in nuclear power plants;
- various factors which cannot be quantitatively expressed in cost schedules. Certain factors militate against nuclear energy — such as the high investment cost per net kW installed, the risk of very rapid technological obsolescence and exaggerated fears of nuclear hazards. Others operate favourably — such as the relative abundance of nuclear materials with the enhanced security of the energy supply situation generally which this implies, and the need to plan ahead in any new branch of technology to avoid being overtaken by events.

These latter points are not dealt with in the study at the present stage. Nor have various other factors of importance in the structure of the energy economy been taken into consideration such as the base and peak load breakdown and the integration of very large-scale production units into the grid.

a) *Development of the cost of the conventional thermal kWh*

66. This factor is largely dependent on developments in the cost of fossil fuels. As "privileged" sources need no longer be taken into account, the following sources are mainly involved:

- coal produced by the Community;
- imported coal, mainly from the United States;
- oil, and in particular, fuel oil.

The cost of the conventional thermal kWh has been estimated by assuming a 20% reduction as from 1965 in the current price of approximately 15 dollars per ton of coal-equivalent, taken as an average for the Community. This would appear to be a reasonable hypothesis, not unduly favourable from the point of view of nuclear energy.

If the downward price trend should be less marked, this would, therefore, improve the competitive status of nuclear power plants.

In these conditions and until around 1965, conventional, fully-modernized 150 MWe power plants, consuming 2,350 kcal per kWh and having a load factor of 80%, should show, on average, a production cost of:

8.7 mills per kWh ¹⁾

After 1965, increases in plant capacity to the 300 MWe level could bring about a reduction in fixed costs of approximately 10%. If, to this, is added a reduction in the price of fuel of 20%, it should be possible to obtain, with a load factor of 80%, a production cost of:

7.3 mills per kWh

¹⁾ One mill = one-thousandth of a U.S. dollar or of a EMA unit of account.

The load factor of 80% has been adopted in order to allow an exact comparison with the figures given below for nuclear power plants.

b) *Development of the cost of the nuclear kWh*

67. The competitive status of nuclear energy from now until 1980 can be assessed in the basis of the following :

- the proposals for the construction of power plants of approximately 150 MWe submitted under the United-States-Euratom Agreement;
- the USAEC studies published in August 1959;
- the Pittman Report (USAEC) on the economic development of power reactors.

It is estimated that nuclear energy could produce electricity on the following conditions :

- *from the present time until 1965*, for 150 MWe nuclear power plants operating on a load factor of 80%, at a cost of roughly :

11 mills per kWh

- *after 1965*, on the basis of available information, the cost has been calculated at :

7.5 mills per kWh

- *after 1965*, according to latest information, the downward trend will continue,
- *from 1970* costs will fall even further and, at all events, will be less than 7.5 mills per kWh.

The Pittman Report, it is worth noting, estimates that after 1965 the 300 MWe OMR type reactor operating on a load factor of 80% will be able to produce electricity at a cost of less than 7.1 mills per kWh. Moreover, it must be borne in mind that the figures used in the Report are based on construction costs in the United States and that considerable savings are possible

if the plants were built, at least in part, in Europe. Finally, it should be noted that these figures have been calculated according to a cost schedule which differs slightly from that adopted for working out the cost of the conventional kWh; the fixed costs have in fact been estimated at 14% of the investment, as against only 12% for the conventional kWh.

4) *Evaluation of Future Nuclear Electricity Capacity*

68. The table below shows the competitive status of nuclear electricity as compared to conventional electricity between now and 1980 :

	Cost per kWh		Difference between the cost of the nuclear and conventional kWh
	Conventional power plants	Nuclear power plants	
until 1965	± 8.7 mills	± 11 mills	20 - 30% dearer
1965-1970	± 7.3 mills	± 7.5 mills	equal
1970-1980	± 7.3 mills	less than 7.3 mills	clear advantage

The following points must be considered :

- new techniques cannot be brought into operation immediately, even if operational prospects are good;
- the competitive estimates allow for a possible margin of error (on the whole, to the detriment of nuclear power);
- nuclear plants requiring a higher investment than conventional plants for an equivalent productive capacity, actual output is greater in the case of the latter than in the case of the former for the same initial outlay;
- there may be differences in local circumstances and in load requirements for which the above figures, which represent averages, make no provision.

69. As it is still too early to assess the precise influence of these various factors, it will be assumed tentatively that the increased electricity requirements referred to in paragraph 62 (page 46) could be met by phasing-in nuclear power plants in accordance with the following time-table :

- until 1965 : up to the capacity at present planned,
- 1965-70 : to meet half of the increased demand,
- 1970-80 : to meet two-thirds of the increased demand.

This progressive phasing-in of nuclear energy would imply the following installed capacities :

Extent of future capacity for nuclear electricity production

	Share of nuclear energy	Potential need for nuclear energy in 10 ⁹ kWh	Needs covered by nuclear energy in 10 ⁹ kWh	Estimated load in hours per year	Net nuclear power to be installed (in MW)
until 1965	—	14	14	7,000	2,000
1965 - 1970	1/2	105	53	7,000	7,600
1970 - 1980	2/3	342	228	7,000	32,600
		461	295		42,200

Subject to further research and allowing for the need to review the basic assumptions underlying the above figures in the light of subsequent developments, both as regards the security of the supply situation and economic conditions generally, it may therefore be considered that the countries of the Community should have available in 1980 an installed capacity exceeding

40,000 MWe net.

70. To understand the relative significance of this figure, it is enough to realize that it implies a production of nuclear electricity in 1980 over 10% higher than the scheduled total production of electricity for 1960. Furthermore, this would represent

approximately 30% of the total electricity production envisaged for 1980. An installed capacity of this size corresponds to more than 250 nuclear units each of 150 MWe.

It should be emphasized once again that this estimate represents the most probable forecast that can be deduced from information available at the present stage of this study. However even if these estimates were drastically reduced, the outlook for nuclear development would still justify every effort being made at the present time to encourage industrial effort and investment and to promote the training of qualified personnel.

II — Cost of Electricity

71. The Commission is carrying out a systematic study of the various items making up the cost of the nuclear kWh. However, as there is as yet no nuclear power plant in operation in the Community, the Commission has been able to do no more than collect information on plants outside the Community with a view to analyzing cost-data and providing a proper basis for comparison with conventional electricity costs, given the same basic economic assumptions.

Fuller and more exact data will become available once power reactors are built in the Community and the exchange of information with other countries provided for in the agreements concluded with them has got under way.

III — Power Reactor Programme

72. These considerations prompted the Commission to launch an intensive publicity campaign coupled with an assistance programme in order to induce electricity producers to complete, within as short a space of time as possible, a minimum power plant construction programme.

In spite of the temporary cost handicap under which nuclear energy is labouring, the Commission considers it imperative that effective and immediate measures be adopted to promote the necessary industrial and financial effort and to encourage the training of the specialized personnel which will be required for the development of the nuclear sector in order to ensure that

this new source of power can be systematically harnessed, at the right time and in the quantity desired, to the production of electricity.

A — *Programme for the Construction of American-Type Reactors*
(*United States-Euratom Agreement*)

73. The object of the United States-Euratom Joint Nuclear Power Programme is to build a number of nuclear power plants in the Community and to carry out a research and development programme.

To help finance the power plants scheduled under the programme, the United States agreed to grant Euratom a \$135,000,000 loan and a contract was concluded to this effect on 10 August 1959 with the Export-Import Bank of Washington setting out the conditions under which the loan was to be administered.

On 13 April 1959, an announcement appeared in Official Gazette No. 23 of the European Communities, officially inviting industrial concerns in the Community to submit proposals for the construction of reactors to be built by the end of 1963. This document and its annexes specified the conditions governing participation in the programme, the criteria adopted for the selection of projects, the benefits offered and the obligations to be assumed by participants. The Invitation further specified that these proposals had to reach the Euratom Commission by 1 September 1959. As electricity producers were unable to file their proposals by this date, the Commission requested and obtained from its United States partners an extension of this deadline to 20 October.

Five enterprises had sent in letters of intent for the construction of nuclear power plants to be built by the end of 1963.

The situation on 20 October 1959 was as follows :

The Società Elettronucleare Nazionale (SENN) had submitted a proposal in conformity with the conditions laid down in the Invitation. It involved the construction of a boiling water reactor on the Garigliano River a few kilometres from the sea between Rome and Naples.

The Arbeitsgemeinschaft Baden-Württemberg zum Studium der Errichtung eines Kernkraftwerkes (AKS) had submitted an extremely detailed project for an organic-moderated reactor in line with the requirements specified in the Invitation. The participation of Electricité de France (EDT) in this project was also contemplated. However, the AKS was unable to give a binding commitment to construct the power plant as a number of legal, administrative and financial questions still remained to be settled.

Thirdly, Electricité de France and the Belgian Centre et Sud had informed the Commission of their intention of constructing jointly a power station at Chooz on the Meuse near the Franco-Belgian frontier. By 20 October, the site survey was well advanced, but definitive proposals had not been worked out, mainly because the two companies had not finished examining the tenders submitted to them.

Finally, the Berliner Kraft- und Licht Aktiengesellschaft (BEWAG) confirmed that it wished to participate in the programme by building a power plant in West Berlin, and the Commission was also informed that a project was being studied by the Samenwerkende Electriciteits Producenten (SEP), an organization which incorporates all electricity producers in the Netherlands.

In the last few months, it has become clear that the Dutch SEP Project will not be completed by the end of 1963, and that the German BEWAG Project is being drawn up with 1965 as the deadline in view. Nevertheless, it is still possible that the SEP Project will be submitted for inclusion in the second phase of the United States-Euratom Agreement.

As for Electricité de France and the Belgian Centre et Sud, both concerns undertook, in the middle of January 1960, a commitment to build a power plant of a type which still has to be selected, providing that they can become eligible for the benefits offered to joint enterprises under the Euratom Treaty. Centre et Sud and EDF are in fact convinced that the execution of their project as a joint enterprise will create more favourable economic conditions, reducing operating costs and facilitating the financing programme.

The various technical and economic aspects of the definitive SENN proposal and the detailed AKS project have been studied by the Joint Reactor Board. The task of this Board, which is made up of representatives of Euratom, the United States Atomic Energy Commission (USAEC) and the Export-Import Bank, is to examine whether projects submitted conform to the conditions and criteria stipulated in the Invitation and whether or not they should be selected under the Agreement. To speed up this work, the Joint Reactor Board has commissioned the USAEC national laboratories of Oak Ridge, Argonne and Brookhaven to carry out a number of technical assignments on its behalf. Experts from Euratom and the member states take part in the studies carried out in these laboratories and in the USAEC headquarters. Finally, the members of the Joint Reactor Board and the experts from the American laboratories have held meetings with proposers, as well as with their suppliers and constructors, to confirm and supplement the data received. On 22 January 1960, the Joint Reactor Board sent in a favourable report with recommendations to the Euratom Commission and the USAEC.

During the next few months, the Commission will be inviting enterprises to submit proposals for reactors to be constructed before the end of 1965.

B — *Heavy Water Reactor Programme* (*Canada-Euratom Agreement*)

74. The Canada-Euratom Agreement concluded on 6 October 1959 provides for co-operation in the field of heavy water moderated reactors.

The Canadian authorities expressed the wish to establish contact with European enterprises interested in the supply of reactor parts and invited business-men to come to Canada. In the second half of October, some forty representatives of the Community's nuclear industries paid a visit to Canada, where they visited the Chalk River Centre and met representatives of the Canadian circles concerned. The trip showed that there were numerous points of common interest and the contacts established will be extremely valuable for future collaboration.

The Canada-Euratom Joint Board provided for in the Technical Agreement, has already held two meetings in Brussels. One point which emerged from these meetings is that, in carrying out its industrial programme, Atomic Energy of Canada Limited (AECL) envisages collaboration with the Community industries on the same footing as with American and British industries.

Euratom has stated that its participation in the Joint Programme would be based mainly on the ORGEL heavy water moderated and organic liquid cooled reactor (cf. chapter on Research and Training).

Finally, the AECL has declared its readiness to welcome visits from European engineers to study heavy water reactors, a field which has already been the subject of considerable study in Canada.

IV — Marine Propulsion

75. The construction and operation of United States submarines and the construction of the Soviet icebreaker "Lenin" have demonstrated the possibilities of marine propulsion based on nuclear energy.

The United States is also completing construction of a passenger-cargo vessel powered by nuclear energy, the "Savannah", and is drawing up a number of other projects, particularly in connection with tanker construction. Great Britain, too, as well as the USSR and Japan, is actively engaged in a study of the possibilities offered by this field.

Studies have likewise been undertaken in the Community. The technical research necessary to develop a project of this kind and put it into effect will involve considerable expenditure and long years of work. There are, moreover, problems of a legal and administrative order to be solved (safety of shipping and navigation, third-party liability, access to harbours, etc.).

On 1 July 1959, the Commission called a meeting of interested parties with a view to avoiding dispersal of effort on the part of shipbuilders and shipowners and preventing unnecessary duplication in the study and research stage. This meeting made apparent the need for technical and economic, as well as legal co-ordination.

Two working groups made up of experts from the Commission and Community countries have been at work since September 1959.

At a meeting of the technical and economic group, representatives of enterprises and study groups reported on various projects. Financial participation on the part of the Community in certain research projects has been contemplated, and the possibility of setting up "joint enterprises" has even been suggested. Requests for collaboration made by the French and German governments were favourably received by the Commission.

A second group has been examining the legal problems facing maritime and harbour authorities in connection with the advent of nuclear-powered merchant and passenger vessels.

This group has stressed the urgent need for wide international co-operation in elaborating a legal framework to accommodate this application of nuclear energy.

To prepare the way for these activities, the Commission has been compiling and sifting the relevant documentary material and intends to establish contact with representatives of the member states in order to bring about the adoption of a co-ordinated approach to the legal and administrative problems involved.

These questions must be examined in the light of the fact that nuclear ships will soon be putting into Community harbours and also in view of the Intergovernmental Maritime Consultative Organization (IMCO) Conference scheduled for May-June 1960. This conference is being held to revise the 1948 Convention on the safeguarding of human life at sea by adapting it to cover the new situation created by the application of nuclear energy to marine propulsion.

V — Radioisotopes

76. The Commission is encouraging the increased use of radioisotopes in two ways :

- 1) by supplying manufacturers and other interested parties with information obtained on the basis of statistics on the use of radioisotopes throughout the world and the evaluation of the resultant saving,

- 2) by carrying out research work which will make it possible to put radioisotopes to novel uses in various branches of the Community's economy. Research projects have been initiated for this purpose both in collaboration with existing laboratories as well as at the Community's Joint Research Centre.

VI — Nuclear Common Market

77. Chapter IX of the Treaty entrusts the Commission with four basis tasks :

- a) to ensure the free movement of nuclear products within the Community;
- b) to ensure free access to specialized employment in the nuclear field within the Community;
- c) to further the solution of problems relating to insurance against nuclear risks;
- d) to facilitate free movement of capital within the Community.

As far as the movement of capital is concerned, no action by the Commission has so far been necessary. The results of its work in connection with the other three points are described in the following paragraphs :

A — *Free Trade in Nuclear Products*

78. As already indicated in the last General Report, the common market in nuclear products, provided for in Articles 93 a) and 94 of the Treaty, came into effect on 1 January 1959. The statistics on foreign trade in nuclear products compiled during recent months by the Statistics Office of the European Communities show that trade in nuclear products with non-Community countries has got off to a good start.

In this connection it should be remembered that the level of customs duties has been so regulated as to leave the nuclear market of the six countries open to imports from outside. No duties are imposed on fertile and fissile materials or radioactive isotopes. The duty of 10% on nuclear reactors has been provisionally suspended until 1 January 1962, whilst duties of 5% and

12% on other nuclear products have been partially or completely suspended until 1 January 1964.

The Commission is examining to what extent certain products of List "B", which are of particular importance to the development of the nuclear industry, can be included in the liberalization programme within the Community.

Negotiations, in which the Commission took part, led to the OEEC Council's decision to bring about the introduction of standstill measures governing internal European traffic in nuclear products. It has been agreed that member states of the OEEC will undertake not to place any new obstacles in the way of trade in nuclear products or to revoke the suspension of customs duties in force on 1 January 1960. This new decision, however, does not affect the Community's right to introduce a common external tariff for List "B" products in accordance with the Treaty. The standstill measures will be in force from February 1960 until the end of the the year.

B — *Free Access to Specialized Employment
in the Nuclear Field*

79. Article 96 of the Treaty lays down that free access to specialized employment in the nuclear field must be assured within the Community.

In accordance with this Article, the Commission, together with experts of the member states, has produced a set of draft directives which, before final elaboration, will be submitted to the Economic and Social Committee for its opinion and to the EEC Commission and the High Authority of the European Coal and Steel Community for information.

This draft, after consultation with the Parliament, will be forwarded to the Council, which will issue the directives in their final form to the member states.

The draft defines the scope of the term "specialized employment in the nuclear field" and specifies the measures to be taken by member states to ensure free access to such employment within the countries of the Community, to nationals of any of the member states who have contracts of employment.

C — Third-Party Liability and Coverage of Nuclear Risks

80. As in the case of every other industry, the nuclear industry exposes its own staff and third parties to certain risks, which obviously must be covered by an adequate system of insurance. Thanks to highly effective safety precautions in the new nuclear industrial undertakings, the number of accidents has been maintained at an extremely new level. At present, no evaluation of the probability and extent of the damage which nuclear accidents might involve is possible. For this reason alone, private companies are not in a position to offer comprehensive insurance against nuclear risks, which means that these risks will have to be covered by some system of supplementary insurance financed by the public authorities.

The geographical situation in Europe is such that the possibility exists of damage being caused in areas beyond the borders of the country in which a nuclear accident occurs. It is, therefore, essential to devise some reciprocal system whereby victims can be compensated, irrespective of nationality.

Negotiations have been going on for several years within the framework of OEEC to find a solution to the various problems connected with nuclear insurance by drawing up a convention between the European members of the organization. The Commission has been actively concerned in the preparatory work on this convention, which governs, in particular, the following important matters :

- 1) Institution of a system of "absolute liability",
 - the operator of a nuclear plant must accept liability for all damage caused by his operations, irrespective of the question of culpability.
- 2) Channelling of responsibility,
 - the operator is solely responsible for any damage caused to third parties.
- 3) Liability ceiling of 15 million EMA units of account,
 - this amount may, however, be reduced to 5 million units or increased without limitation.
- 4) Ten-year limit for actions for damages against operators.

The OEEC Convention does not provide for any supplementary State coverage for damage exceeding certain limits. In view of the vital importance of this problem for the whole development of the nuclear industry, however, the Commission, working in conjunction with experts from states, has prepared a draft supplementary convention governing the question of governmental intervention. The draft is based on the OEEC Convention and it is intended that it shall be open to accession by other countries.

The Commission is disturbed at the fact that the preparatory work on this supplementary convention is proceeding far too slowly, despite its importance to European nuclear progress. The successful bringing into operation on an industrial scale of the nuclear power plants currently planned or under construction within the Community hinges on the solution of the problem of nuclear insurance.

In order to speed up work on the OEEC Convention and on the supplementary convention, the Commission has repeatedly addressed the Council's attention to the urgency of this problem. It has also urged the governments of the member states to issue to the experts who are representing them in the negotiations proceeding within the OEEC and the Community such instructions as will enable them to bring their efforts to a successful conclusion.

81. Under Article 98 of the Treaty, the Commission is bound to issue directives requiring the member states to facilitate the conclusion of insurance contracts covering nuclear risks.

The Commission has now drawn up a draft set of directives reiterating the necessity for making progress along the lines pursued by the OEEC and Euratom draft conventions and emphasizing the desirability of creating a uniform basis for national legislation.

These draft directives were forwarded by the Commission to the Economic and Social Committee, which appointed a working group to examine them in January 1960. The deliberations of this group will be concluded shortly.

82. As regards third-party liability and the coverage of nuclear maritime risks, the Commission was represented by an observer at the Conference of the International Maritime Committee (IMC) held in Rijeka (Yugoslavia) in September 1959. This conference adopted a preliminary draft international convention governing the liability towards third parties of the operators of nuclear-powered ships.

83. The study of certain questions not covered by the draft convention, such as, for example, governmental intervention for the compensation of victims of major nuclear accidents, has been undertaken by a panel set up by the International Atomic Energy Agency and the IMC. The Commission also sent an observer to attend the sessions held by this panel during the second half of March 1960.

VII — Investments

84. Under Article 41 of the Treaty, enterprises within the Community must give notice of their investment projects to the Commission. It is essential that this article and its rules of application should be observed to enable the Commission to fulfil the tasks reserved to it. It is hardly necessary to stress the exceptional importance of the function which devolves upon Euratom of promoting as far as possible the co-ordination of investments in order to ensure that the plans for procuring the nuclear equipment which will be required by Europe in the years to come are made, for purposes of maximum efficiency, in conjunction with Euratom.

The Commission is endeavouring to avoid a recurrence of the delays which have been noted hitherto.

So far, apart from a few study or research reactors, communications concerning two power reactors, a plant for the fabrication of fuel elements and a uranium mine have been made to the Commission.

On the basis of the data obtained, the Commission has given a favourable opinion on all the various projects submitted to it. However, certain reservations were expressed with regard to the health and safety aspects. The governments concerned were

reminded of the obligations which they had assumed to enforce the observance of the basic standards for protection against ionizing radiations.

VIII — Joint Enterprises

85. The Commission has examined the practical possibilities afforded by the creation of "joint enterprises" for the development of the nuclear industry within the Community and the concrete means to be employed in setting them up.

An initial general study of the matter, reviewing the main problems arising in connection with these "joint enterprises", has been submitted to the Scientific and Technical Committee.

A concrete instance of the establishment of such a "joint enterprise" has been brought before the Commission in the shape of the project for the construction and operation of a nuclear power plant at Chooz, by the group comprising Centre et Sud and Electricité de France; this project is to be carried out under the United States-Euratom Agreement.

The Commission has initiated detailed studies of the legal, financial and fiscal problems raised by the creation of this joint enterprise.

The Commission is examining other cases in which this procedure might be followed.

CHAPTER IV

SUPPLY

To end the provisional system, the Commission has taken steps, in conformity with the Treaty, to bring the Supply Agency into operation and has laid down the commercial practice to be adopted by the Agency in the light of the present market conditions. The Council has promulgated the Commission's draft regulations defining mineral concentrations in ores.

I — Transition Period

86. In 1959, the Commission's activities were pursued in accordance with the provisional system laid down in Article 222 of the Treaty stipulating that any transactions relating to the supply of ores, source materials or special fissile materials are subject to Commission approval.

During this transition period, the Commission has given its approval to 54 transactions concluded by various enterprises in the Community and involving altogether approximately 26,750 kg of natural uranium, 40 kg of uranium of various degrees of enrichment and compounds with 950 kg. thorium content.

II — The Supply Agency

87. Taking into account the present market situation, the Commission has continued preparing the way for the Supply Agency to assume its duties. The Commission regards it as desirable, without violating the terms of the Treaty, to restrict the Agency's operations to a minimum, and to give users and producers as free a hand as possible in commercial dealings.

On 18 September 1959, on the occasion of the consultation which the Treaty stipulates shall be held in connection with the question of the tax, the Commission reaffirmed before the Council the statement which it had issued a year earlier, on 31 July 1958, and which the Council had approved. This declaration stated that "the Commission will take steps to avoid the inflation of the administrative apparatus beyond the requisite minimum as well as the assumption of responsibilities which would be out of harmony with the market situation and which would tend to add to the burden resting on enterprises or increase the Community's financial liabilities beyond what is strictly necessary". The supply situation is in fact basically the same now as it was in July 1958, and will be characterized during the next few years by an adequate supply of ores and source materials and good chances of the Community's obtaining the special fissile materials which it will require.

In view of this market situation, the Commission intends that the Supply Agency, by virtue of the prerogatives vested in it by Article 52 of the Treaty, shall act as a guarantor of good supply conditions. In doing this, it is endeavouring to put into practice the principle, which is one of the corner-stones of the Community, that all users should have equal access to available resources.

The steady flow of information concerning demands and potential markets which the Agency obtains through its activities both inside and outside the Community will enable the Commission to put into effect, should the need arise, the supply policy for which it is responsible under the Treaty.

For this purpose, it will be the Agency's task, in accordance with Article 60 of the Treaty, to facilitate liaison between users and producers, to inform interested parties of offers and demands and in this way to establish normal conditions of competition. In this connection, the Agency's first task will be to work out a detailed system for collating offers and demands in order to uphold the principle of equal access to resources.

Taking account of the prevailing economic circumstances, the Agency will exercise its exclusive right to conclude supply contracts within this context. This right means that any trans-

action concluded without Agency participation is automatically null and void; in spite of this, the Commission is not of the opinion that the Treaty commits the Agency to appear as a buyer in all supply contracts or as a party to them. Consequently, even though the Treaty stipulates that no transaction shall have force of law without the Agency's agreement, it is none the less true that legally this consent could be granted in such a way as to absolve the Agency from any of the risks normally inherent in commercial operations. It is in fact envisaged that the consent of the Agency should be granted in the shape of authorizations, either general or specific, for each type of material or enterprise. These authorizations would bind the recipient to give the Agency notice of all contracts. The period of validity of these authorizations will depend on the materials involved and the general supply conditions.

It is the firm opinion of the Commission that this definition of the Agency's functions corresponds with Treaty requirements with regard to both actual supply conditions and the other duties vested in the Agency, principally the financial accounting for special fissile materials.

For ores and source materials, it is envisaged that the Agency will issue general or specific authorizations for each type of material or enterprise. These authorizations would serve to facilitate the conclusion of contracts on the supply of ores and source materials and to give such contracts legal validity. The authorizations would thus automatically involve Agency participation in supply contracts to which the recipients of the authorizations were party.

On the other hand, authorizations similar to those for ores and source materials could be issued for special fissile materials only in exceptional cases, since such materials, being Community property under the terms of the treaty, would normally involved Agency participation in contracts relating to their supply.

In the present market situation, the Commission is not of the opinion that the Agency will need to invoke, except in the event of abuse, the right of option referred to in the Treaty, since it is of an exceptional character and constitutes a subsidiary and discretionary prerogative.

These provisions limit the Agency's operations to a strict minimum and, while ensuring conformity with those terms in the Treaty which relate to supply, afford the broadest possible scope to the free initiative of the users and producers.

III — Regulations Governing the Average Concentration in Ores

88. On 18 September 1959, the Council was seized of a new draft regulation defining the average concentrations in ores, in accordance with Article 197 of the Treaty. The Commission had conveyed draft regulations to the Council on this matter as far back as the end of 1958 and the beginning of 1959.

On the basis of the preparatory work which had already been carried out, during its session of 2 February 1960 the Council issued regulations defining the level of concentration in ores as proposed by the Commission (cf. Official Gazette No.12 of 22 February 1960). Furthermore, after consultation with the Commission, the Council expressed the view that for 1960, no tax should be levied and that the Agency should be financed entirely out of the member states' contribution to the Commission's working budget. With one dissenting voice, the member states were in agreement with the Commission's opinion that both the existence and the operation of the Agency are made obligatory by the terms of the Treaty, but that its activities, in view of the present market conditions, should be confined to a minimum.

IV — Regulations Governing the Procedure for Comparing Offers and Demands

89. In accordance with the Agency's statutes, the Consultative Committee, during its session of 11 March 1960, was seized of a draft set of regulations, as provided for by Article 60 of the Treaty, determining the manner in which offers and demands are to be compared. At the same time, the Consultative Committee was informed of the commercial practice which the Commission intends the Agency to pursue. The Committee will give its opinion at the beginning of May, when the Commission, in conformity with Article 222 of the Treaty, will end the transition period by settling the date for the Agency to assume its functions.

V — Ties Between Enterprises

90. In connection with the startup of the Agency's work, the Community producers will be invited to submit to the Commission the documents defining the ties maintained with other enterprises in order to permit the implementation of Articles 58 and 62 of the treaty.

VI — Regulations Based on Article 74 of the Treaty

91. The Commission is drawing up a set of regulations based on Article 74 of the Treaty. This Article empowers the Commission to exempt from the supply provisions all transactions involving small quantities of ores, source materials or special fissile materials such as are commonly used for purposes of research.

VII — Reports on Mining Prospecting, Production, Reserves and Investments

92. In pursuance of Treaty requirements, the member states have transmitted to the Commission reports on the development of mining prospecting, production, probable reserves and investments already made or planned on their territories.

VIII — Reorganization of the Supply Division

93. The Commission has decided to abolish the Supply Division, the functions of which will now be assumed by the Industry and Economy Division.

CHAPTER V

SAFEGUARDS, CONTROLS AND PROPERTY

The safeguards and controls system came into operation in the course of 1959. The Commission has received the compulsory declarations provided for in the regulations on nuclear installations, stocks and movements of fissile and fertile materials.

94. In the course of 1959, the Euratom control system passed out of the organizational stage and was put into effect through the implementation of Regulation No. 7 governing the conditions to be observed in making the statements stipulated in Article 78 of the Treaty, and Regulation No. 8, which lays down the nature and scope of the obligations referred to in Article 79.

So far, this is the first "multinational" control system in the world. The control procedure of the International Atomic Energy Agency (IAEA) has been approved provisionally by the Board of Governors. The Convention established by the Organization for European Economic Co-operation (OEEC) on a control system has just come into force. The distinguishing feature of the Euratom system, however, is that it is binding on all the member states, whereas the control exercised by the IAEA and the OEEC is operative only in the case of members either receiving aid from these organizations or submitting themselves voluntarily to their supervision.

It should also be mentioned that the agreements concluded with the United States, Great Britain and Canada have made it possible to establish relations with these countries on an equal footing in this connection.

I — Information on Installations Subject to Control

95. Statements covering the installations existing within the Community have been submitted in accordance with Regulation No. 7 ¹⁾.

Since June, the Commission has received and examined the replies to the questionnaire attached to Regulation No. 7 and the plans of 36 establishments ²⁾ and 58 installations already functioning :

- 10 nuclear research centres or laboratories (not including reactors),
- 20 industrial installations,
- 28 critical and subcritical reactors and assemblies.

Supplementary data and elucidation was requested for the majority of the declarations received. This work is now completed.

II — Accounting for Materials

96. Since the entry into force of Regulation No. 8 in June 1959, practically all of the Belgian, Dutch, French, German and Italian installations have submitted monthly accounts of their stocks as well as movements of fertile and fissile materials to other installations and non-member countries.

The Commission is firmly resolved to enforce the observance of all the terms of the Treaty and, in case of need, to have recourse to the measures for which provision is made in the Treaty.

The declarations transmitted to the Commission have made it possible to begin an inventory for the whole of the Community with the purpose of keeping an up-to-date list of the materials available — ores, source materials and special fissile materials — drawn up according to the place of origin (United States, Canada, Great Britain, etc.) for each installation and for the Community as a whole.

¹⁾ Article 78, para. 1, and Regulation No. 7 do not relate to mines.

²⁾ According to Regulations Nos. 7 and 8, an establishment may include several installations. For example, the Saclay Centre is an establishment and consists of 7 installations: the Alize, Aquilon, EL2, EL3, Peg and Proserpine reactors as well as the laboratories.

Owing to the fact that the Council Regulation fixing the concentration of minerals in ores was not promulgated until 2 February 1960, the provisions of Regulation No. 8 relating to ores did not enter into force in 1959.

III — Contacts with International Organizations and Non-Member Countries

97. Throughout the past year, further consultations were held with the United States Atomic Energy Commission (USAEC) and the International Atomic Energy Agency (IAEA). This exchange of ideas and experience on control systems proved extremely valuable.

The American authorities are agreed that the declarations stipulated in Regulation No. 8 should serve as a basis for the information which the member states are obliged to report to the US Government by virtue of the bilateral agreements which were concluded before the Community came into existence.

Furthermore, the OEEC invited the Commission to take part in the elaboration of its own control system.

IV — Conclusion

98. The Commission intends to pursue its activities in this field along the lines which it put before the Committee on Safety, Industrial Hygiene and Health Protection, and which, together with the report submitted by Mr. Bertrand (Parliamentary Records, No. 49, 1959), were approved by the European Parliament in the September 1959 session.

The principal new activity to be carried out in 1960 is inspection. Before carrying out such inspections, the Commission is bound, under Article 81, paragraph 1, of the Treaty, to enter into consultations with each of the member states. Such consultations are now being held.

The inspectors must check :

1. that the amounts and nature of the materials held by the installation coincide with the data entered in the declaration:
 - a) by comparing the installation's accounts with the declarations forwarded to the Commission;
 - b) by physical measurement, computation or analysis;

2. that materials are held and transferred by the installation in a regular manner :
 - a) by comparing the documents kept by the installation relating to the procurement of the materials with the declarations submitted and with the provisions in force pertaining to supply;
 - b) by examining the use made of the materials.

Inspection, then, is a complex task which includes technical problems and organizational procedures as well as human relations. In other fields, the majority of the civil services of the member states already have inspection services at their disposal. After the pattern of these services, the Commission will expand its inspection activities by stages and in the light of the experience gained.

CHAPTER VI

HEALTH AND SAFETY

The Commission is continuing its efforts to ensure the application of the basic standards in member states and is keeping fully informed on any new facts and investigations relating to environmental radioactivity. It is endeavouring to co-ordinate work on radioactivity measurements and to provide a proper basis for comparing the results obtained. Various nuclear installations have been examined from the standpoint of safety and radiological protection. Co-operation with other international organizations continues.

I — The basic standards and co-ordination of National Legislation

A — The Basic Standards and Their Application

99. The Basic Standards were published in Official Gazette No. 11 of 20 February 1959, after consultation with the European Parliament and approval by the Council of Ministers.

They provide the national authorities with a common basis for legislation, thus constituting the first step towards the establishment of uniform safety standards in the Community as a whole, and as such, represent a concrete and well-defined contribution to the problem of legislating on radiological protection.

The Commission's policy is aimed at elaborating, within a reasonable space of time and in harmony with the traditional administrative procedures, a uniform framework for the inspection and control of nuclear and radiological installations and at devising an adequate system for safeguarding the health of workers and the general public in the Community. The need for radiation protection is not in fact confined to the nuclear industry as such, but

extends to any activities involving the risk of exposure to ionizing radiations, Thus the co-ordination of national legislation in this field will stand out as a problem of major importance in the work of the next few months and years.

B — *Co-ordination of National Legislation*

100. Several times in the course of 1959, the Commission drew the attention of the Council of Ministers to the importance of ensuring the application and observance of the Basic Standards and to the need for finding legal and administrative solutions to the problems which this would involve.

Apart from its routine contact with the Council of Ministers, the Commission keeps in constant and direct touch with the competent national authorities, thus providing itself with detailed and up-to-date information on the regulations governing radiation protection in each of the member countries and on the policy which the responsible national authorities intend to adopt in this field. In this way, the Commission is able to put forward concrete proposals, and work for improved legislative co-ordination.

The drafts of numerous laws and regulations have already been submitted to the Commission; the following list gives some indication of how the position stands at the present moment in the various countries concerned.

BELGIUM

101. On 6 March 1958, the text of draft Law No. 385 on the protection of the population against ionizing radiations was submitted to the Commission for its opinion in accordance with the terms of Article 33. The Commission conveyed to the Belgian Government its favourable opinion.

— On 29 December 1959, the Commission received a draft Royal Decree regulating the possession and use of radioactive substances for medical purposes, on which it likewise gave a favourable opinion.

— A set of preliminary draft general regulations on the protection of the population against ionizing radiations has also been communicated to the Commission for information purposes.

GERMANY

102. On 29 October 1958, the Commission received the Federal Government's draft Atom Law (Atomgesetz). The Commission gave a favourable opinion.

— On 22 January 1960, it received the text of the draft Decree on Radiation Protection (Strahlenschutzverordnung). The Commission's comments have been forwarded to the Federal Government.

FRANCE

103. The Basic Standards are currently being studied with a view to their application by the various ministries concerned. No text has been submitted to the Commission by the French Government to date.

ITALY

104. On 12 January 1960, two preliminary draft sets of safety standards for the prevention of hazards arising from ionizing radiations — one drawn up by the Ministry of Health and the other by the Ministry of the Interior — were transmitted to the Commission for information purposes. The two drafts are broadly in line with the provisions of the Euratom Basic Standards. Other texts, adopted before the entry into force of the Euratom Treaty, have also been submitted by the Italian Government.

LUXEMBOURG

105. On 31 March 1958, the Commission received the text of a preliminary draft law on the protection of the population against the dangers arising from ionizing radiations. It has conveyed to the Luxembourg Government its favourable opinion.

NETHERLANDS

106. On 5 February 1960, the Commission received the text of the draft nuclear law submitted to the Second Chamber of the States-General. The text is now being studied.

— On 12 February 1960, a set of draft regulations on radiation protection was forwarded to the Commission for information and is now being studied.

Although some progress has been made by the member states, the situation, as it now stands more than one year after the promulgation of the Basic Standards, as the Commission has pointed out to the Council on a number of occasions, is still far from satisfactory.

C — Revision of Annexes 1 and 3 of the Basic Standards

107. The directives establishing the Basic Standards, published in Official Gazette No. 11 of 20 February 1959, contain three annexes. Annex 1 deals with the classification of radionuclides according to radiotoxicity, while Annex 3 gives the maximum permissible concentrations of radionuclides in the air and in drinking water. It was decided by the Commission that the table given in Annex 3 should be brought into line with the latest available scientific information. This difficult task was undertaken by a twelve-man team of experts headed by Professor Holthusen, which held four meetings on the subject in the course of 1959. At their last meeting, held in December, the experts produced new versions of Annexes 1 and 3, which was adopted by the Commission. It will be submitted to the European Parliament in the near future, after the opinion of the Economic and Social Committee has been obtained.

The 28 Articles of the Basic Standards have been left unchanged. No new scientific data have emerged which would justify amending or revising anything except Annexes 1 and 3, which were in case provisional.

The Commission is keeping itself fully informed on the results of current research work into the effects of radiation on living organisms. New scientific data will be examined by the experts, who hold regular meetings for this purpose, and the Commission will decide in the light of their findings on the advisability of revising either the maximum permissible doses or the principles underlying the system of medical and physical control provided for the Basic Standards at the present time.

II — Monitoring of Environmental Radioactivity

108. The Treaty commits the competent national authorities to report to the Euratom Commission all data obtained by their

monitoring posts on the development of environmental radioactivity and check compliance with the Basic Standards.

Thousands of measurements and readings taken in these installations were sent in to the Commission by the member states in the course of 1959. This important material has now been indexed and classified.

In spite of the fact that the techniques employed for the measurement of radioactivity are often based on identical principles, the differences between them are still too great to make it possible to publish consolidated results obtained with the aid of data which are not yet scientifically comparable. The Commission feels that great caution must be exercised in comparing and interpreting the results of measurements and in drawing conclusions concerning whole regions or countries. The Commission therefore intends to lose no time in laying the foundations for a co-ordinated and scientifically reliable study of artificial radioactivity in the Community, which will serve as a basis of comparison for future reference.

With this end in view, the Commission has called several meetings of representatives of the competent national authorities in accordance with Article 36 of the Treaty, as well as of heads of monitoring posts and technicians specializing in radioactivity measurements. Numerous problems connected with the work of providing a proper basis for comparison between the measurements of radioactivity in the atmosphere, precipitations and fallout have been discussed and solved.

A first step in this direction has already been made by the classification of monitoring posts, the adoption of standard units and a precise system of identification of measuring instruments.

A second phase will be devoted to comparing techniques, standardizing methods of measurements and adopting a co-ordinated approach to the measurements of radioactivity in water and in the food cycle.

109. The Commission is publishing a document based on the situation obtaining on 31 December 1959 and giving as detailed and as precise an account as possible of the general organization of radioactivity monitoring in the six Community countries.

This document, which has been drawn up with the active collaboration of the competent national authorities, will be distributed throughout the Community.

110. The adoption of a standard index card for all monitoring posts also constitutes an important step towards the establishment of a better system for their identification. Co-ordination in this matter has not yet been achieved, but the suggestion has been very favourably received. The Commission is considering the idea of providing technicians with an opportunity of comparing testing equipment and techniques employed for measurement and calibration in the Euratom Joint Research Centre.

111. Under the Treaty, the Commission is empowered to have checks carried out in monitoring posts by its own staff of specialists. A certain number of such checks were made in 1959 and they will be pursued with greater intensity in the course of 1960.

112. Programmes for studying the radioactivity of the great international rivers, such as the Rhine, the Rhone, the Meuse and the Scheldt are in progress and will be continued throughout 1960.

113. The same applies to the investigations which are being carried out on the natural and artificial radioactivity of certain sites on which nuclear installations are scheduled to be built in the near future. These investigations have already begun and will be continued in 1960.

114. In 1959, the anxiety caused to public opinion by the increase in radioactivity recorded at the beginning of the year as result of the nuclear tests carried out in and before 1958, subsided some months later when the level of radioactivity was found to have considerably diminished. At the present time the levels are extremely low. The radioactivity of atmospheric dust was at its peak in the spring of 1959 and has been steadily declining since; by the end of the year mean values were being recorded 50 to 80 times lower than those measured in April 1959 in numerous Community monitoring posts.

115. In this context, mention should be made of the fact, that, in connection with the Sahara explosions carried out by the French Government, the procedure laid down in Article 34 of the Treaty was observed.

After closely examining the data submitted by the French Government, the Commission :

- 1) Issued the opinion that, as the projected experiments are not likely to affect the territories of other member states, paragraph 2, Article 34 of the Treaty does not apply;
- 2) Specified what additional precautions should be taken to ensure compliance with the Basic Standards with a view to possible repercussions on the population living near the testing site.

The French Government informed the Commission that it would take account of these recommendations.

III — Safety of Nuclear Installations and Radiological Protection

A — Safety of Nuclear Installations

116. This problem is a matter of major concern to the Commission which is fully alive to the fact that nuclear expansion is only feasible on the basis of an adequate system of radiation protection for workers and the population at large.

It is hardly necessary to enlarge on the reasons which have impelled the Commission to study this problem and to seek for a solution to it with all means available under the Treaty.

In 1959, a number of projects for nuclear installations were submitted to the Commission and were studied from a health and safety as well as from an economic and industrial standpoint.

Some of these projects were submitted in pursuance of Articles 41 and 43 of the Treaty, which make it obligatory for enterprises to communicate to the Commission any investment projects relating to new facilities of a given size. In drawing up

its opinion, the Commission made a all-round study of the projects, including the health and safety features.

Other projects for nuclear installations submitted under the United States-Euratom Agreement have been examined by the Commission from the health and safety angle; a watertight procedure has now been elaborated for making examinations of this sort.

117. The Commission's opinion on the health and safety features of a training reactor to be set up at the University of Ghent was requested by the Belgian Government.

In compliance with this request, the Commission convened a team of experts from the Community countries and invited an American and a British expert to take part in the work of the group. There was close collaboration between the group and the relevant departments of the Commission, which had made a preliminary study of the project. The final results of the examination were transmitted to the Belgian Government which was then able to take the necessary measures relating to the construction and operation of the reactor.

This is the first occasion on which a request of this sort has been made of the Commission; it shows the currently felt need for a consultative body on a Community level to advise member states on the health and safety features of nuclear installations.

B — *Radioactive Wastes*

118. This is another problem on which the Commission has been focussing its attention.

The Treaty makes it obligatory for member states to communicate to the Commission any project involving radioactive wastes which might involve contamination of the atmosphere, the water or the soil of another member state.

These projects have to be examined by a team of experts designated by the Scientific and Technical Committee.

The twelve-man team of experts which studied the Basic Standards has now been reinforced by six experts specializing in subjects more immediately related to the problem of radioactive wastes.

This group will study the various factors which have to be taken into account in dealing with the problem of contamination by radioactive wastes of the atmosphere, water, including sea-water, and the soil.

C — *Genetics*

119. The maximum permissible doses given in the Basic Standards include doses which are laid down for persons occupationally exposed and for certain special groups of the population. There is also a dose fixed for the population as a whole; the evaluation of this dose is a matter of some delicacy. It takes into account by weighting for the population at large, the doses received by nuclear workers and special groups of the population, excluding irradiations resulting from natural background radiation and from medical examinations and treatment.

This dose was evaluated on the basis of the latest scientific data and, in particular, the value given by the International Commission on Radiological Protection.

As it is essential to examine the problem of the "population dose" from the genetic standpoint, the Commission is promoting the study, within the Community, of numerous aspects of the question of radiation and human genetics.

D — *Transportation*

120. Attention has often been drawn to the need for devising an adequate system of protection against the radiation hazards arising during the transportation of isotopes, intense radioactive sources and fissile products.

At the end of 1959, the International Atomic Energy Agency in Vienna drew up draft recommendations for the trans-

portation of low-activity radioactive substances, intense radioactive sources and fissile material.

The member states, Euratom and a number of specialized international organizations were asked to submit their comments on these recommendations.

The Commission called two meetings of experts from the six countries to deal with this matter and has drawn up a document giving the comments of the Euratom states in a co-ordinated form. This document has been forwarded to the International Atomic Energy Agency.

As the Euratom Basic Standards also cover the transportation of radioactive substances, the Commission is naturally seeking to co-ordinate the legislation governing this matter in each of the member states.

IV — Medicine and Radiation Hygiene

121. The work which the Commission is called upon to perform implies a particular responsibility in the field of medicine and radiation hygiene.

Articles 23 to 27 of the Basic Standards provide the national authorities with a uniform basis for organizing the medical inspection of nuclear workers. Responsibility for ensuring compliance with the Basic Standards as applied to the exposure of the general public, special groups of the population, and people working in controlled areas, rests with the Commission.

Efforts have so far been directed mainly at dealing with the problem of measuring environmental radioactivity and at bringing about co-operation with the competent authorities and the monitoring posts existing in the six countries. It is essential to work along the same lines with regard to the determination of radiation doses received by people working in the controlled and protected areas. Contact has already been established with the medical services of various nuclear installations.

At its November 1958 session, the European Parliament accepted the draft Basic Standards submitted by the Commission.

It requested the Commission to give further details at a later date on the various problems arising in connection with the organization of physical control, the code of practice and radiation hygiene for nuclear workers, medical surveillance of such workers, and those items in medical record-sheets which need to be standardized.

These problems have been studied and discussed with the twelve-man team of experts. A model radiation card for nuclear workers has been established and been adopted by the control services of the member states. The experience gained with this card in large-scale nuclear installations, where it is to be introduced in 1960, will enable an assessment to be made of its value and effectiveness. At the end of 1959, the Commission began to work out the details of a radiation log-book for use by nuclear workers in the Community and designed to simplify and co-ordinate the application of Article 26 of the Basic Standards on a national level. This work will be continued in 1960.

The Commission also intends to publish a pamphlet which will contain a commentary on the Basic Standards and an account of the problems involved in radiological protection. It is designed specifically for use by doctors and the public health authorities responsible for the control and inspection of installations employing ionizing radiations.

In compliance with another request made by the European Parliament, the Commission has drawn up the programme for a conference which will be held in 1960 and will deal with the medical criteria governing admission to and surveillance in nuclear installations. The conference will make it possible to work out a code of practice regulating the medical surveillance of workers and the physical control of radiations.

V — Social Problems

122. Various problems which were mentioned in the second Euratom General Report were studied jointly with the other European Communities in 1959. The co-ordination of schemes for compensation for nuclear accidents or radiation illnesses raises a number of extremely complex problems. Work has

begun on an inventory of relevant laws and regulations in 1959 and will be continued in 1960.

The free movement of workers and the need of ensuring a fair distribution of the burdens borne by the various enterprises involved presuppose the co-ordination of labour legislation and in particular the regulations applying to occupational diseases. The Commission is devoting particular attention to this problem. Statistics, especially those relating to the frequency of nuclear accidents, are being compiled and centralized. The study will also contain data on the extent of the compensation and reparations already made in this field.

In addition, a special study is being made of a number of specifically medical problems, *e.g.* the characteristic symptoms of occupational exposure.

VI — Co-operation with Non-Community Countries and International Organizations

A — *Non-Community Countries*

UNITED STATES

123. In 1959 the scope of the programme of co-operation as outlined by the United States-Euratom Agreement was extended to the field of radiation protection. This extension of co-operation was welcomed by the American authorities and talks were held in Washington with the United States Atomic Energy Commission in the summer of 1959. These talks made it possible to map out a number of fields in which not only exchanges of information, but also joint activities such as conferences and group discussions would be of value to both parties, and the Commission's activities in 1960 will be planned accordingly. The talks also provided an opportunity for comparing American legislation on the subject of radiation protection with the Euratom Basic Standards. This comparison brought out the similarity between the Euratom and United States standards, a similarity which is accentuated by the new provisions which were proposed by the AEC in May 1959 and for which approval is now being sought. There is also liaison between the Commission and the relevant United States

authorities (AEC, Public Health Service, etc.), which should help to ensure parallel legislative development in the six countries and the United States and a two-way exchange of information in the field of public health.

Here again, the Commission is acting in response to a request repeatedly expressed by the European Parliament.

UNITED KINGDOM - CANADA

124. The broadest possible measure of international collaboration is essential in the field of health and safety, involving as it does the monitoring and control of environmental radioactivity, the safety of nuclear installations, the disposal of radioactive waste, and the biological and genetic aspects of radiation protection. In tackling these various problems, the Commission intends to enlist the co-operation of those countries which have concluded agreements with Euratom and primarily with the United Kingdom and Canada.

OTHER NON-COMMUNITY COUNTRIES

125. It is important that health and safety problems should be covered by the agreements concluded between Euratom and third countries, since this is a subject offering considerable scope for fruitful international co-operation. A case in point is the control of the radioactivity of the Rhine and the Rhone, which concerns a number of Community countries as well as Switzerland.

B — *International Organizations*

ORGANIZATION FOR EUROPEAN ECONOMIC CO-OPERATION (OEEC)

126. Close relations have been established between OEEC and Euratom. The OEEC's Nuclear Energy Agency is kept fully informed of the results of the work done by the Euratom Commission and the six member states, particularly in the field of health and safety and the measurement of environmental radioactivity.

The standards for radiological protection adopted by the Agency on 12 June 1959 are in line with the Euratom Basic Standards. Being only recommendations, however, they are not binding on the member states of the OEEC in the same way as the Euratom directives. It is nevertheless important to realize that even in this form, these standards, to which twelve non-Euratom countries have subscribed, constitute the first step towards providing a broader international basis for the work undertaken by the Commission in this field.

UNITED NATIONS

127. In accordance with the wishes of the Parliamentary Committee on Safety, Industrial Hygiene and Health Protection, informal relations have been established with the United Nations Scientific and Technical Committee on the Effects of Radiations. This will make it possible, in the course of 1960, to make a comparison of Euratom's programmes with those of the Committee and also, if need be, to collaborate with the Committee in making a study of specific questions.

INTERNATIONAL LABOUR ORGANIZATION (ILO)

128. At its 43rd Session in 1959, the ILO dealt with the question of the protection of workers against radiations. Experts who had collaborated on the establishment of the Euratom Basic Standards took part in the work of the committees set up by the conference. The replies made by the member states of Euratom to an ILO questionnaire sent out in connection with the conference were brought into line with the Basic Standards.

The Commission intends to conclude an agreement with the ILO, which would be mainly concerned with health and safety matters.

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

129. While there is no agreement for co-operation with the Agency, there has been a continued exchange of information and contacts have been maintained. Work on the problems posed by the Basic Standards and the transportation of nuclear materials

has involved further useful co-operation with the Agency with a view to adopting common safety regulations and standards. The example of the six Community countries and the prospect of success in their efforts to apply common directives provide a valuable stimulus for the work of other specialized organisations having a membership which is larger and sometimes less open to conviction.

OTHER INTERNATIONAL ORGANIZATIONS

130. Contact has been maintained or will be established, wherever necessary, with other organizations engaged in the study of questions of common interest, such as the International Commission on Radiological Protection (ICRP), the International Commission for Radiological Units (ICRU), the World Health Organization (WHO), and the World Meteorological Organization, etc.

Euratom experts and specialists of the six member countries are frequently called upon to take part in the work of various international organizations.

CHAPTER VII

THE COMMUNITY'S EXTERNAL RELATIONS

The interest aroused by Euratom's activities has widened the range of countries with which the Community maintains relations on a regular basis. The Agreement for Co-operation with the Canadian Government, the negotiations conducted with Brazil and the growing number of diplomatic missions accredited to the Community by non-member states are all evidence of this. In many cases, closer collaboration has also been established with other international organizations active in the nuclear field.

I — Relations with Non-Community Countries

UNITED STATES

131. The work of implementing the Agreement for Co-operation between Euratom and the United States has continued. The Commission is fully conscious of the fact that due primarily to the recent glut on the energy market the premises on which the Agreement was originally based have now changed and that the lukewarm response to the power reactor programme on the part of the manufacturers is a direct consequence of this development. The Commission hopes that its efforts will engender on the part of the United States a wider comprehension of the essential factors underlying the situation in Europe. It is currently engaged in negotiating an amendment to the Agreement designed to permit the supply of enriched uranium to power plants by way of lease instead of purchase.

The Commission is also examining the possibilities offered by the Agreement of extending scientific collaboration to the

other peaceful applications of nuclear energy and of facilitating the supply of special fissile materials to the Community.

For the application of the United States-Euratom Agreement, reference should be made to the chapters on Research and Training and Nuclear Industry, Energy and Economy.

UNITED KINGDOM

132. The Agreement for Co-operation between the United Kingdom and Euratom was signed and came into force on 4 February 1959. Since this date, responsibility for implementing the Agreement has rested with a Continuing Committee for Co-operation consisting, on the British side, of the Lord Privy Seal, who is at the same time Minister of Science and whose duties therefore cover nuclear affairs, together with the Chairman of the United Kingdom Atomic Energy Authority, Euratom being represented by the President and a member of the Commission. On the technical level, this Committee is assisted by a joint working group made up of high officials of the Euratom Commission and the United Kingdom Atomic Energy Authority.

The first meetings of the Committee and of the Joint Group have ranged over a series of questions of common interest, such as the drawing up of long-term power programmes, the problems of fast and advanced gas-cooled reactors, collaboration on fusion studies, and the legal aspects of the use of nuclear energy for marine propulsion.

CANADA

133. The autumn of 1959 was marked by the successful outcome of the negotiations which had been going on for several months with the Canadian authorities. The Agreement for Co-operation between the Canadian Government and Euratom and the Technical Agreement between Atomic Energy of Canada Ltd. and Euratom, both concerned with the peaceful uses of atomic energy, were signed on 6 October 1959 and have now come into force.

For legal reasons involving the institutional set-up of nuclear energy in Canada and because of the laws and regulations in force in Canada generally, two separate Agreements had to be negotiated. In actual fact, however, the two Agreements complement each other, one of the main objects of the Agreement

with the Canadian Government being to create a general framework for the carrying out of the co-ordinated research and development programmes provided for in the Technical Agreement.

In structure and in spirit, the framework Agreement concluded with the Canadian Government is very similar to the Agreement for Co-operation between the United Kingdom and Euratom. The provisions of the Agreement, whether they relate to the supply or re-exports of raw materials or special nuclear materials, or whether they deal with the provision of equipment, the exchange of information or safeguards and control, are based on full reciprocity and recognition of Euratom sovereignty.

The Technical Agreement with Atomic Energy of Canada Limited outlines a joint research and development programme centred on the heavy water moderated reactor type. It is well known that the Canadians have focussed a considerable amount of attention on the natural uranium-heavy water string. AECL already possesses two research reactors of this type and is now going over to power prototype construction. In making the transition to construction on an industrial scale, however, the Canadians are faced with a number of technological problems and would welcome the assistance of European industry in finding solutions to them. As a number of public and private organizations in the Community have undertaken studies in this field, the Commission has decided to encourage work on this type of reactor in the framework of the Community's research programme. It has become clear that progress with this type of reactor will be more rapid and less uncertain if research work is co-ordinated, instead of being dispersed as hitherto, and if the industrial potential of all the countries concerned is fully geared to this purpose. To this end, the Agreement provides for a two-way exchange of information on heavy water moderated research and power reactor systems and operating experience and also of the designs of power reactors and associated equipment. The Contracting Parties also undertake to make equal contributions (up to 5 million EMA units of account over a period of five years), to a joint research and development programme centred on the heavy water moderated reactor.

Finally, the Technical Agreement entrusts a joint board with the task of advising the Commission and AECL on the

carrying out of the Agreement. This board has already held its first meetings.

BRAZIL

134. Following negotiations between the Commission and the Brazilian Government, an Agreement for Co-operation on the peaceful uses of atomic energy has been drawn up and is due to be signed shortly.

This Agreement contains the usual clauses on the exchange of information, material and equipment, but — and this is its salient feature — it also incorporates provisions opening the door for a contribution on the part of Euratom and the member states to Brazil's nuclear effort, particularly in the field of the training of specialists and prospecting.

OTHER NON-COMMUNITY COUNTRIES

135. Following the United States and the United Kingdom, several other non-Community countries accredited diplomatic missions to Euratom in 1959 and at the beginning of 1960; these are Denmark, Israel, Norway, Sweden and Switzerland. Other missions are scheduled to be accredited shortly by Austria, Canada and Portugal.

THE ESTABLISHMENT OF COMMUNITY MISSIONS IN LONDON AND WASHINGTON

136. At the end of 1959, the EEC and Euratom Commissions approached the Councils of Ministers on the question of establishing joint Community missions (Euratom, EEC and ECSC) in London and Washington.

The Councils adopted a decision favouring the idea in principle and decided to study, in conjunction with the Commissions, the problems which the establishment of such missions would involve.

At the beginning of February 1960, the Euratom and EEC Commissions and the High Authority of the ECSC informed the United States and British Governments of their intention of opening joint missions. On 10 March 1960, the Chairman of the Councils notified the heads of the British and American missions in Brussels accordingly.

II — Relations with International Organizations**ORGANIZATION FOR
EUROPEAN ECONOMIC CO-OPERATION (OEEC)**

137. The Agreement relating to the Dragon Project was signed in Paris on 23 March 1959. The Board of Management and the General Purposes Committee provided for in the Agreement have been set up and are now engaged in implementing the Agreement. A sizeable number of Euratom technicians is taking part in the Project (cf. chapter on Research and Training).

A start has been made on the joint operation of the Halden reactor in Norway, also with the participation of several members of Euratom (cf. chapter on Research and Training).

The Commission has continued, side by side with the member states, to take an active part in the work of the Steering Committee and the various technical committees of the European Nuclear Energy Agency and its representatives have attended the various international conferences held under the aegis of the Agency. In 1959, this co-operation bore particularly on health and safety, third-party liability and trade in nuclear products.

Following the entry into force on 22 July 1959 of the OEEC Convention on Security Control, negotiations were held between Euratom and the OEEC as a consequence of the provisions in the Treaty instituting a system of control to be exercised by Euratom on Community territory.

Mention should also be made of the European-American Data Committee, which was set up recently with the collaboration of Euratom and the member and associate countries of the OEEC and which co-ordinates work on the measurement of nuclear properties.

Finally, the four-man group which made a study of the reorganization of the OEEC last January on behalf of the twenty governments concerned, included the Euratom Commission in the consultations which it held before drawing up its report. The Commission advocated official Euratom participation in the nuclear activities of a reorganized OEEC, with the Commission representing the Community within the framework of the institutional responsibilities vested in it by the Treaty of Rome.

COUNCIL OF EUROPE

138. The period since 1958 has been marked by the forging of close links with the Council of Europe. Relations with the Consultative Assembly have been given concrete expression in the holding of joint meetings between the Consultative Assembly and the European Parliament. Since 18 August 1959, moreover, there has been an exchange of letters between the President of the Commission and the Secretary General of the Council establishing a provisional policy of co-operation between the Commission and the Committee of Ministers and the Secretariat of the Council of Europe.

INTERNATIONAL ATOMIC ENERGY AGENCY

139. In 1959 there was increased contact on technical matters — in particular security control and protection against the hazards of ionizing radiations — between the responsible departments of the Commission and the Agency Secretariat. Euratom has taken part in several international scientific and technical conferences organized by the IAEA and accepted an invitation from the Board of Governors to send an observer to attend the third session of the Agency's General Conference (Vienna, 22 September — 3 October 1959). Agency technicians have also been invited to attend conferences organized by the Commission.

INTERNATIONAL LABOUR ORGANIZATION (ILO)

140. The conclusion of an agreement with the ILO is in sight which is designed to co-ordinate the efforts being made by both parties to ensure the protection of workers and the population at large against the dangers of ionizing radiations.

CHAPTER VIII

ADMINISTRATION AND PERSONNEL

The Commission has been actively engaged in recruiting scientific and technical staff for the Joint Research Centre. Progress already made indicates that a statute of service for personnel can be expected to come into force in the near future. The three Communities are continuing with the task of establishing a staff social security system, and have reached agreement on the principles to be adopted for a Community health insurance fund.

I — Personnel

141. On 1 April 1960, the number of officials and other employees coming under the working budget stood at 459 as against 379 on 1 April 1959 ¹⁾. To this figure must be added the personnel covered by the research and investment budget, amounting to 350 persons on 1 April 1960; however, only 214 of these had actually taken up their duties by this date.

This staff increase was caused primarily by the recruitment of scientific and technical personnel for the Joint Nuclear Research Centre. In the period which will elapse before the opening, in the near future of the first of the Centre's branch establishments, there is a considerable amount of preparatory work to be done. The expansion of the administrative services which would seem to be required by these developments has, however, been restricted.

¹⁾ Of this total of 459 employees, the Language Service, which is indispensable in a European Community, has 47 persons on the strength. This accounts for an expenditure amounting to 11% of the working budget.

II — Statute

142. It is now more than two years since the Treaty came into effect, and there is still no statute of service for personnel. This state of affairs causes serious inconvenience to people already employed and, in many cases, it creates difficulties with regard to the hiring of personnel, particularly of scientists and technicians. The Commission has had to forfeit the services of valuable personnel in a number of cases because the people concerned did not feel justified in giving up a secure position in exchange for an ill-defined situation.

The Commission has taken an active part in the drawing up of the statute. In conformity with the general directives issued by the Council, a group of experts, comprising representatives of the member states and of the European Executives, has held numerous meetings, attended by observers of the other institutions concerned, in order to work out the first provisions of the statute. The preparatory work so far carried out has produced agreement in principle on the basic salary scale, the main allowances and benefits as well as the rate of the Community tax. Taking all these factors together, it emerges that the net salaries of Community employees will be 6% lower than the scale in force at the ECSC. The Commission, however, has always been of the opinion that decisions relating solely to pay scales should not be put into effect unless accompanied by the social guarantees normally afforded by both private and public enterprises in the Community countries. It is therefore particularly satisfactory to note that the EAEC and EEC Councils of Ministers decided on 9 March 1960 that "the entire statute, including the salary scales, will be submitted to the Councils in June", so that it will be possible for it to enter into force before the new budget proposals are made, and at the very latest by 31 July next.

Even if the future statute is modelled on the ECSC statute, it must, nevertheless, serve as a basis for a European civil service and leave the Commission with as free a hand as possible with regard to scientific and technical staff.

To overcome the difficulties encountered in the recruiting of personnel and of highly qualified technicians in particular, the Commission has requested and obtained the adoption of a

system of contracts which will enable it to depart from certain provisions of the statute in the case of certain specialists whose services it is vital to enlist. The Commission, which is fully alive to the responsibilities resting upon it, will make extremely restricted use of this authority granted to it by decision of the Councils of 9 March 1960.

III — Social Security

143. Throughout the period dealt with in the present report, talks have been going on between representatives of the three Communities with a view to the creation of a Community social security scheme.

Agreement was reached on the principles to be adopted for a Community health insurance fund and the rates at which medical bills and operation fees should be refunded.

The Commission trusts that, within the next few months, solutions to the various problems arising in the field of social security can be found and be put into effect.

IV — Medical Service

144. The Commission has at its disposal a medical service, which examines applicants prior to employment and also keeps a check on working conditions. It complies with any request made by the Commission to give such opinions as may be necessary to ensure the smooth working of the social and health insurance schemes. The medical service deals not only with the staff at the head offices, but also with personnel earmarked for employment in the Joint Centre branch establishments or sent on detachment to private or public enterprises either within or outside the Community.

145. Apart from dealing with purely administrative problems, the Commission has also been engaged in working out the procedure to be followed in placing orders under the working and the research and investment budgets.

The Commission would like to take this opportunity of expressing its appreciation for the valuable assistance given by

the Euratom Staff Association in helping to evaluate the general and particular problems which have arisen.

A European School, open to the children of Community employees, was set up in 1958 on the pattern of the school which exists at Luxembourg. The Commission is anxious to express its recognition of the success achieved by the school in meeting the needs of Community personnel and in helping to engender a Community spirit. The Commission also wishes to extend its thanks to the European School Board as well as to the teaching staff.

It should also be noted that it is intended to open European Schools at the various Joint Research Centre establishments.

The Commission has given its full backing to the attempts undertaken by its personnel to perfect their technical and linguistic training as well as to develop cultural, artistic and sporting activities.

CHAPTER IX

FINANCE AND BUDGET

The working budgets for 1959 and 1960 mirror the Commission's efforts to confine expenditure to strict limits. As a result of unforeseeable delays in the installation of the Joint Research Centre, the funds disbursed under the research and investment budget in 1958 and 1959 amounted to only a fraction of the sum originally earmarked for this purpose. The rules governing the rendering and auditing of accounts have been laid down by the Council. In the framework of the United States-Euratom Agreement, the Commission has signed an agreement with the Eximbank making available to the Community a 135 million dollar line of credit.

I — Budget

A — Working Budget

1) The 1959 Budget

146. The Community's budget amounts to a sum total of 417,780,333 Belgian francs ¹⁾. Of this sum, 281,009,000 B.fr. were assigned to the Commission, 61,425,000 B.fr. to the European Parliament, 59,148,000 B.fr. to the Council and 16,198,333 B.fr. to the Court of Justice.

¹⁾ For the financial year 1959, the contributions of the member states were fixed as follows:

Belgium	7.9%	B.fr.	32,832,427.—
France	28.0%	F.fr.	1,149,032,514.—
Germany	28.0%	DM	9,774,919.—
Italy	28.0%	Lire	1,454,601,162.—
Luxembourg	0.2%	Lux.fr.	831,200.—
Netherlands	7.9%	fl.	2,495,264.—

The contributions of the member states to the Commission's working budget were fixed in Belgian francs. Conversion into the national currencies was calculated at the official parity.

To this sum must be added the credits carried over from the financial year 1958. The Commission thus had a total of 315,194,000 B.fr. at its disposal.

The situation with regard to expenditure incurred as of 31 December 1959 shows that, for the financial year 1959, the Commission disbursed a sum of approximately 275,000,000 B.fr. representing 87% of the total credits at the Commission's disposal.

A considerable share of the difference was saved on personnel since, as a result of its cautious recruiting policy, the Commission did not hire as much staff as was anticipated in the 1959 budget, in which provision was made for 450 employees by 30 June and 495 by 31 December 1959.

Thus the Commission's budget position for the financial year 1959 is favourable.

2) *The 1960 Budget*

147. The Community's budget amounts to a total of 440,647,000 B.fr. ¹⁾ of which 300,187,500 B.fr. represent Commission 61,953,667 B.fr. Parliament, 59,597,500 B.fr. Council and 18,908,333 B.fr. Court of Justice expenditure.

As a result of a special effort which was exerted to this effect, the Commission was able to submit its preliminary draft budget for 1960 on 20 September 1959, thus making it possible for the budget estimates drawn up by the Council to be submitted to the European Parliament as early as 23 October of the same year.

1) For the financial year 1960, the contributions of the member states were fixed as follows:

Belgium	7.9%	B.fr.	34,704,318.—
France	28.0%	NF	12,145,429.—
Germany	28.0%	DM	10,332,222.—
Italy	28.0%	Lire	1,537,533,100.—
Luxembourg	0.2%	Lux.fr.	878,590.—
Netherlands	7.9%	fl.	2,637,528.—

The contributions of the member states to the Commission's working budget were fixed in Belgian francs. Conversion into the national currencies was calculated at the official parity.

The development of the Commission's activities is reflected in the increase of the expenditure estimates as against the 1959 budget, and it is the Commission's task to follow up and expand the measures undertaken in 1959.

The working budget relates essentially to the administrative expenses of the Commission's head offices, research work being covered by the research and investment budget. The development of such research in the course of 1960, however, is bound to affect the work carried on at the head offices concurrently with the other activities in which the Commission is engaged. In spite of this, the Commission has made every effort to keep the increase in working budget expenditure down to a minimum.

B — *Research and Investment Budget*

148. For the reasons expounded in the accounts given of the draft research and investment budget for the financial year 1960, the Commission was obliged to defer many of the projects scheduled for 1958 and 1959. Two classes of activity were involved : on the one hand, the Commission's own activities to be carried on the Joint Research Centre, and on the other hand, activities to be pursued in the framework of association with various bodies either in the member states or in countries outside the Community.

The Commission made provision in the budget for the first tranche of the credits for the creation of the Centre, which it hoped could be set up in the beginning of 1959, as well as for the funds earmarked for the carrying out of the first research programme to be carried out in conjunction with the Centre. In actual fact, negotiations with the member states could not be started until later in 1959. These negotiations finally resulted in the signature, on 22 July 1959, of an agreement with the Italian Government for the installation at Ispra of the Centre's first branch establishment. However, as a result of the unforeseen delays which have arisen in the ratification of this agreement by the Italian Parliament, no expenditure was incurred under this heading in 1959.

Negotiations are being carried on with other member states for the installation of Joint Research Centre branch establishments on their territory.

These delays in the establishment and putting into operation of the Joint Centre have inevitably affected that part of the research programme which was to be carried out under contracts concluded in connection with the Centre's activities. Nevertheless, the Commission had done everything possible to bring about the conclusion of research contracts in various fields, some of which were put into effect in the course of 1959.

In the light of these circumstances, it is understandable that expenditure incurred during the financial years 1958 and 1959 remained well below the initial estimates and amounts to a sum of only 3.5 million units of account.

Breakdown of expenditure : (round figures)

a) staff expenditure	370,000 u. a.
b) expenses relating to recruitment and employment of personnel	40,000 u. a.
c) infrastructure, laboratories and small items of equipment	325,000 u. a.
d) general studies, Central Measurements' Bureau at Mol	85,000 u. a.
e) contracts under the United States-Euratom Agreement	90,000 u. a.
f) participation in the Dragon and Halden Projects and in various contracts	2,000,000 u. a.
g) nuclear fusion studies	570,000 u. a.
h) documentation, information, training	92,000 u. a.

This financial record, however, does not represent a complete picture of the Commission's activities. In actual fact, of the 245 million units of account provided for in Annex V of the Treaty for the execution of the first five-year research programme, the work already initiated involves a sum of around 116 million, on the subject of which details are given in the chapter on Research and Development.

C — *Financial Regulations Laid down
Pursuant to Article 183 of the Treaty*

149. The EAEC financial regulations specifying the procedure to be adopted for rendering and auditing accounts were adopted by the Council at its session of 16 and 17 March 1959.

Furthermore, a set of draft regulations for the establishment and implementation of the working budget is at present being discussed by a group of financial experts appointed by the Council. The regulations governing the establishment and implementation of the research and investment budget are being drawn up.

Pending the establishment of the definitive budget regulations, provisional regulations have been adopted for the implementation of the budgets.

D — *General Accounting*

150. Pursuant to the Treaty provisions, the Commission has drawn up budgetary accounts and a balance-sheet for the financial year 1958 and for the two corresponding budgets. These documents will be published as soon as the auditing is finished by the Auditing Commission.

E — *Relations with the Auditing Commission*

151. The Auditing Commission began its activities in 1959. Its work has been concerned with the implementation of the 1958 budgets and the corresponding accounts and balance-sheets.

II — **Financial matters**

A — *Member States' Contributions*

152. With regard to Community revenue, numerous contacts have been made with the six member states in order to establish the broad outlines of the provisional procedure to be adopted by them in making their contributions available to the Commission.

A draft set of financial regulations, drawn up in accordance with Article 183 of the Treaty, has been submitted to the Council by the Commission. Discussion is being held on the subject at the present time. The adoption of this draft will make it possible to lay down hard and fast rules to be followed by the member states in placing their contributions at the disposal of the Commission for the financing of the Community.

B — Financing of Nuclear Power Plants

153. To implement the programme, established under the United States-Euratom Agreement, for the construction of nuclear power plants, a contract was signed on 10 August 1959, under the terms of which the Eximbank opens to the Community a 135 million dollar line of credit, which will enable the Commission to grant dollar loans for terms of about twenty years at rates slightly above 4.5%. These financing operations will appear on the revenue and expenditure side of the Community's research and investment budget.

PART TWO

THE INSTITUTIONS OF THE COMMUNITY



CHAPTER X

THE EUROPEAN PARLIAMENT

In the course of the six sessions held during the period under review, the European Parliament examined the budget estimates and gave its full attention to the work of the European Atomic Energy Community.

154. During the period covered by the present Report, the European Parliament held five ordinary sessions and one extraordinary session.

— During the 9-16 April session, the Parliament heard the inaugural address given by President Hirsch and discussed Mr. Janssen's report on the Community budget estimates for the 1959 financial year.

— The session held on 12-14 May was devoted to a general discussion of the President's introductory remarks and the Commission's second General report, as well as to a debate on the European University (Mr. Geiger's report).

— The programme of the 22-26 June session included a discussion on the scientific and technical research being carried out under the aegis of Euratom (Mr. Longchambon's report) and a debate on power policy (Mr. Leeman's report).

— In the session held on 22-26 September, the Parliament examined the problems of health safety, safeguards and controls (Mr. Bertrand's report).

— During the 20-27 November session there was a discussion on the budget estimates for the 1960 financial year as well as an exchange of views between the European Parliament, the Councils of Ministers and the executive bodies on the relations between

the Parliament and the Councils, the co-ordination of the foreign policies of the six member states towards non-Community nations and underdeveloped countries, and the problems relating to the association with the Community of overseas countries and territories.

The Parliament also held an extraordinary session, lasting from 11 to 15 January 1960, to discuss social questions and problems arising in connection with the location of Community institutions and the European quarter.

The Parliamentary committees devoted several meetings to discussion of problems concerning the Euratom Commission, which has, in all, participated in 25 meetings, in the course of which it was given the opportunity to outline progress made in its work and to expound the policy which it expects to pursue in the future.

The Euratom Commission, moreover, has supplied the Parliament with all the documentary material necessary to keep it adequately informed of the work in progress.

CHAPTER XI

THE COUNCIL OF MINISTERS

The Council of Ministers of the European Atomic Energy Community held ten sessions and a number of important decisions were taken. Several sets of regulations were adopted. The Council discussed the conclusion of agreements with a number of non-Community countries and defined the interim Committee's terms of reference with regard to the European University. In connection with the statute of service for personnel, it has elaborated a pay scale and a system of taxation. The Council also laid down the definitive Community research and working budgets for 1959 and 1960.

155. The Council of the EAEC has held ten sessions since the second General Report was published.

The chair was taken by representatives of France in the first half of 1959 ¹⁾, Italy in the second half of 1959 ²⁾ and Luxembourg in the first half of 1960 ³⁾.

This chapter contains a brief enumeration, in chronological order, of the more important decisions taken by the Council.

-
- 1) Mr. J. Soustelle, Deputy Minister for Atomic Affairs, took the chair at Euratom Council meetings. At meetings of common interest to the EEC and Euratom, the chair was taken by Mr. Couve de Murville, Minister for Foreign Affairs, or, at meetings devoted to budgetary matters, by Mr. V. Giscard d'Estaing, Secretary of State for Finance.
 - 2) The Chairmen were Mr. Pella, Minister for Foreign Affairs, and Mr. Colombo, Minister for Industry and Trade.
 - 3) The Chairman at the sessions held on 1-2 February and 9-10 March 1960 was Mr. E. Schaus, Minister for Foreign Affairs.

— 16-17 March 1959 (15th session)

The Council decided to approve, by the established written procedure, the Commission's regulations laying down the nature and scope of the obligations mentioned in Article 79 of the Treaty, which refers to the maintenance and production of operating records in order to permit accounting for ores, source and special fissile materials used or produced, as well as source and special fissile materials which are transported.

The Council laid down the budget regulations governing the rendering and auditing of accounts (cf. *Official Gazette* No. 63, 16 December 1959).

It also decided to adopt the statutes of the Central Commission and to nominate the members of this Commission by the established written procedure (cf. *Official Gazette* No. 46, 17 August 1959).

— 5 May 1959 (16th Session)

The Council laid down the definitive Community research and working budgets for 1959 (cf. *Official Gazette* No. 39, 22 June, and No. 48, 28 August 1959).

— 28 May 1959 (17th Session)

The Council approved the conclusion of a loan agreement with the Export-Import Bank in Washington.

The Council noted that definitive approval had been given to the Commission's regulations laying down the nature and scope of the obligations referred to in Article 79 of the Treaty (cf. *Official Gazette* No. 34, 29 May 1959).

— 25 July 1959 (18th Session)

The Council discussed the draft Agreement for Co-operation with the Canadian Government and the draft Technical Agreement with Atomic Energy of Canada Limited (cf. *Official Gazette* No. 60, 24 November 1959).

The Council took cognizance of the conclusion of an agreement with the Export-Import Bank for the opening of a line of credit.

— 11 September 1959 (19th Session)

The Council settled a number of internal administrative questions and continued its work on the statute of service for the personnel of the Communities.

— 13-14 October 1959 (20th Session)

The Council, acting on a proposal of the executive bodies, set up the European University Interim Committee and defined its terms of reference.

The task of this Committee, which is presided over by the President of the Euratom Commission, is to study the various questions arising in connection with the setting up of a first European establishment for higher education.

In pursuance of Article 177, paragraph 3, of the Treaty, the Council laid down the Community's research and working budgets for 1960.

— 23-24 November 1959 (21st Session)

The Council examined the question of the statute of service for personnel. It laid down the pay scale for Community staff and adopted proposals relating to the tax on wages and salaries submitted by the Commissions of the EAEC and the EEC in pursuance of Article 12 of the Protocol on Privileges and Immunities.

— 18 December 1959 (22nd Session)

The Council laid down the definitive research and working budgets of the European Atomic Energy Community for 1960 (cf. *Official Gazette* No. 9, 16 February, and No. 10, 18 February 1960).

— 1-2 February 1960 (23rd Session)

In accordance with Article 197 of the Treaty, the Council, acting on a proposal of the Commission, issued regulations defining the average concentrations in ores (cf. *Official Gazette* No. 12, 22 February 1960).

In pursuance of Article 6 of the Supply Agency statutes, the Council, at the request of the Commission, gave its opinion

on the rate of the tax and the methods of levying it. It approved the opening of Community missions in London and Washington.

— 9-10 March 1960 (24th Session)

The Council heard a report of the Commission on the progress made with the United States-Euratom Agreement.

It also decided to adopt a speeded-up procedure to make it possible for a statute of service for personnel to come into force in the summer of 1960.

156. In addition, numerous communications and reports were submitted to the Council by the Commission; they dealt in particular with the following questions:

- the implementation of the research programme,
- the application of the United States-Euratom Agreement in connection with both the Joint Research and Development Programme and the Nuclear Power Programme,
- the Agreement for Co-operation with Great Britain,
- negotiations with non-Community countries,
- marine propulsion,
- a draft convention on nuclear insurance and third-party liability,
- the implementation of the provisions of Article 33 of the Treaty relating to the Basic Standards for the protection of public health.

The work of the Council was prepared by the Committee of Permanent Representatives ¹⁾, which, at numerous sessions attended by Commission representatives, made a prior examination of all questions submitted to the Council.

¹⁾ This Committee, set up in pursuance of Article 121 of the Treaty and in conformity with the provisions of Article 16 of the Standing Orders of the Council, is responsible for preparing the latter's work and for carrying out various assignments on its behalf. To deal with preparatory work of a more technical nature, the Committee of Permanent Representatives has set up a number of working groups.

CHAPTER XII

THE COMMISSION

The Commission has paid a number of official visits to both Community and non-Community countries, during which it was able to establish valuable contacts with the governments concerned.

The setting up of a working group for energy problems will facilitate the co-ordination of energy policy and the creation of administrative boards will make for increased efficiency in the running of the joint services.

Renewal of the Terms of Office of the President and Vice-President

157. In the course of a meeting held on 24 November 1959, the government representatives of the member states, after consultation with the Commission, decided to renew the terms of office of the President, Mr. Hirsch, and the Vice-President, Mr. Medi, by a further period of two years. In accordance with this decision, taken in conformity with Article 130 of the Treaty, the terms of office of the President and the Vice-President will expire on 9 January 1962.

Official Relations with Member States

158. On 10 January 1960, on the occasion of the second anniversary of the European Atomic Energy Community, the members of the Commission were received in audience at the Palace in Brussels by H.M. King Baudouin.

In response to an invitation issued by the French Government, the Commission paid visits between 20 and 25 April 1959 to the nuclear installations at Saclay, Le Bouchet, Grenoble, Marcoule, Chinon, Bessines and Annecy. At the end of this

trip, the Commission was received by President de Gaulle and Prime Minister Debré.

On 29 and 30 April 1959, the Commission visited the Nuclear Research Centre at Mol and two enterprises engaged on nuclear work. On this occasion, the Commission was received by Prime Minister Eyskens and the Belgian authorities.

In the course of their official visit to the Federal Republic of Germany lasting from 1 to 6 June 1959, the members of the Commission were received by President Heuss and Chancellor Adenauer. This visit provided an opportunity of holding a valuable exchange of views with representatives of German industry and of inspecting Germany's principal nuclear installations.

On 26 December 1959, the Commission paid a visit to Bonn to attend a meeting held by the Federal Cabinet to discuss Euratom affairs.

When the agreement relating to the transfer to Euratom of the Ispra Nuclear Research Centre facilities was signed on 22 July 1959, the Commission was received in Rome by Italian President Giovanni Gronchi and Prime Minister Segni.

On 20 October 1959, President Hirsch and Commissioner Sassen were received in audience by H.M. Queen Juliana of the Netherlands. On this occasion, they also met Prime Minister De Quay.

Finally, during its official visit to Luxembourg on 26 and 27 October 1959, the Commission was received in audience by H.R.H. the Grand Duchess Charlotte. It was also received by Luxembourg Minister of State Werner.

Official Relations with non-Member countries

159. Official relations with non-Community countries were marked by the trip made to the United States by the Presidents of the three European Executives, Mr. Hallstein, Mr. Hirsch and Mr. Finet (8-16 June 1959). On the occasion of this visit, during which numerous valuable contacts were established with the American authorities, the three Presidents were received by President Eisenhower and the members of the Cabinet.

The first meeting of the United Kingdom-Euratom Committee for Co-operation, which was held in London on 4 December 1959, with the Commission represented by President Hirsch and Mr. Sassen, and the British Government and the United Kingdom Atomic Energy Authority by Lord Hailsham and Lord Plowden, gave practical expression to the policy of co-operation provided for by the Agreement for Co-operation and made it possible to proceed with the first joint projects.

In addition to playing an active part in the sessions of the Council, the Commission has generally been represented in the discussions held periodically within the framework of the Conference of the Government Representatives of the Member States.

CO-OPERATION WITH THE OTHER EUROPEAN EXECUTIVE BODIES

160. Throughout the period covered by the present Report, the Presidents of the three Executive Bodies have exchanged views on various questions requiring a common standpoint, such as the memorandum delivered by Mr. Wigny, Belgian Foreign Minister, in October 1959, concerning the development of co-operation between the six countries of the European Communities and their foreign relations, the discussion with the European Parliament and the Council of Ministers and the setting up of joint missions representing the three Communities in certain non-member countries.

The inter-executive working groups ¹⁾ have strengthened inter-Community ties by discussing problems of common interest, such as social questions and the right of the three Communities to receive and accredit diplomatic representatives. Their meetings have also been valuable in helping to build up the joint departments and as a means of co-ordinating the policy of the three Communities.

¹⁾ Inter-executive working groups were set up in 1958 and 1959 to deal with the following matters: external relations, energy policy, social problems, transport, press and information, statistics, inter-executive co-operation.

In the course of a plenary meeting of the Executives held in May 1959, it was decided to set up a Working Group on Energy Problems made up of several members from each Executive. The purpose of this new inter-executive group, which replaces the old Working Group for Energy Policy, is to provide the High Authority of the European Coal and Steel Community with the fullest and most effective possible backing of the other two Executives in the accomplishment of the task entrusted to the ECSC by the Protocol of 8 October 1957 ¹⁾. The new working group has been instructed to draw up proposals on a common energy policy for the member states and in particular to study the following questions :

- the outlook for the energy market,
- competitive conditions,
- methods for drawing up supply and demand statements and for making forecasts.

The text of a memorandum to be submitted to the Special Council of Ministers of the ECSC and outlining the procedure advocated by the three Executives as a means of co-ordinating the energy policy of the Six has been adopted by the Working Group on Energy Problems.

Preparatory work for the Inter-executive Group is being carried out by three ad hoc Community working groups.

Working group 1 is responsible for examining the supply and demand position for 1960 in the light of longer-term prospects with particular emphasis on structural changes and for studying the various solutions available for squaring the balance.

Working group 2 is responsible for collecting information on competitive conditions and for studying ways and means of harmonizing them.

¹⁾ Under the terms of the Protocol of 8 October 1957, the High Authority is required to submit to the Special Council of Ministers of the ECSC proposals for a general energy policy, make suggestions as to the practical possibilities of such a policy and put forward recommendations on specific steps which should be taken.

Working group 3 is responsible for defining the problems involved in co-ordinating energy policy and for elaborating possible solutions to them.

On 30 November, these working groups submitted their first report on the scope and effects of the measures taken in the field of energy policy.

The text of the Energy Group's memorandum was examined and approved by the Special Council of Ministers of the ECSC on 26 January 1960. The Special Council also decided that the Executives of the EACE and EEC might attend Council meetings dealing with energy problems.

Finally, the Euratom Commission has submitted to the Working Group on Energy Problems the first results of the work which it is carrying out to assess the prospects for nuclear energy. This work, which is briefly outlined in the chapter on Nuclear Industry, Energy and Economy, has been discussed by the Committee.

161. The three Executives recently concluded an agreement for the creation of Administrative Boards for each of the joint services (Legal Service, Statistics Office and Press and Information Service). The administrative and budgetary management of each of these joint departments will henceforth be in the hands of one of the Executives, which will be responsible to the other two for its smooth functioning.

The setting up of these Administrative Boards will make it possible to take decisions more rapidly than has been the case in the past and to ensure efficient surveillance over the work of the joint services.

The fact that responsibility for the running of the joint services will henceforth be borne by one of the Executives will make for greater administrative efficiency, in spite of the difficulties caused by the absence of a common headquarters.

Mention should also be made of the fact that the members of the Executives have agreed to adopt practical measures to ensure a greater exchange of information on current activities between their institutions. Documents will be transmitted between Executives to keep each body informed of the salient problems confronting the other two.

Another possibility which is open to each Executive is to invite representatives of the other Executives, wherever this is felt to be useful, to meetings dealing with important problems of common interest.

With regard to staff-level co-operation, mention should be made of the regular meetings held between the heads of administration of the three Executives and the work which has been undertaken on the subjects of industrial property.

JOINT LEGAL SERVICE

162. The Joint Legal Service co-ordinates developments in the three European Communities with regard to legal matters and deals with problems of common interest relating to Community institutions.

As far as the European Atomic Energy Community is concerned, the Joint Legal Service has consistently taken part in the work carried out by all the other departments of the Commission. The task of the Legal Service has consisted not only in examining the problems arising from the concrete application of the Treaty, but above all in co-ordinating, from the legal standpoint, the work carried out by the various departments in order to foster uniformity in the implementation of the Treaty and in legal developments within the Community. The conclusion of the agreements which the Community requires to fulfil its mission has provided the Legal Service with one of its most fruitful spheres of activity. The agreements concluded with non-Community countries, the research contracts concluded under Article 10 of the Treaty and the various agreements necessary for the carrying into effect of the United States-Euratom Programme should all be singled out for special mention.

STATISTICS OFFICE OF THE EUROPEAN COMMUNITIES

163. The setting up of a joint statistical department for the three Communities was decided upon by the three Executives in the spring of 1958. The department, which is called the " Statis-

tics Office of the European Communities”, now functions both in Brussels and Luxembourg.

The Office's principal function is to co-ordinate statistical methods and concepts in the six countries with a view to obtaining comparable statistical data. Documentation work of this kind is indispensable in view of the wide scope of the objectives involved in the integration of the Six.

The Statistics Office has put out a series of publications, including the following :

- General Bulletin of Statistics (express coverage, especially of items of interest in market trend observation),
- Foreign Trade Statistics Bulletin (two series),
- Agricultural Statistics (one series)
- Industrial Statistics (one series)
- General Statistical Data.

Apart from the statistical research work on coal which has already been going on for many years, the Conventional Power Section is carrying out new work on conventional power sources.

In the specific field of power statistics, the Office has been engaged over the past year on the task of drawing up statements showing the supply and demand position. They provide a detailed survey drawn up in accordance with uniform criteria of the production and use of conventional energy. Compiled in the form of annual energy statements, the figures give an idea of the structure of the power economy in each of the six countries and in the Community as a whole.

The Nuclear Energy Section, in collaboration with the competent departments of Euratom, has focussed its attention on questions of nomenclature. Work is being carried out with a view to simplifying this nomenclature.

Apart from current statistical data relating primarily to the electricity economy, the Nuclear Statistics Section has drawn up recapitulative tables on the foreign trade of the six countries in nuclear products and has transmitted them to the circles interested. These tables relate to raw materials, semi-finished and

finished products as well as equipment. Work is also being undertaken on the establishment of unified tables on foreign trade.

In September 1959 the Statistics Office published a Statistical Vade Mecum, which in the previous years dealt exclusively with coal and steel, but which has now been extended, in the 1959 edition, to include other conventional fuels.

PRESS AND INFORMATION

164. The Euratom Commission maintains regular contact with the press through its Official Spokesman's Office, which is also responsible for liaison with the Joint Information Service and the information bureaux set up in the capitals of the Community countries, London and Washington.

Seventeen study and information seminars on the subject of Euratom have been held in Brussels, and six similar meetings have taken place in other cities. The Euratom Commission has taken part in conferences organized for information purposes in London, Nijmegen, Eindhoven, Paris, Strasbourg, Rome, Milan, Stresa, Bonn, Düsseldorf and Hamburg.

The Commission has given a great deal of thought to the question of the equipment necessary for these public relations activities. It has obtained scale models of reactors and nuclear installations in the Community countries. It has fitted out a film library for use by the press and study groups, and now has at its disposal 16 films, a brochure and a folding album.

Maps have also been made, both for use in schools and conference rooms.

The Commission has also set about the fitting up of a permanent exhibition, to demonstrate Euratom's activities, in one of the spheres of the Atomium in Brussels.

While on the subject of exhibitions, it might be mentioned that Euratom has taken part in the New York Fair, the "Grüne Woche" held in Berlin and the Lyons International Fair. In the exclusively nuclear field, it equipped an entire stand at the "Rassegna Nucleare" in Rome.

The Community's activities have figured in several television and radio programmes, as well as in short documentary films.

The Euratom Commission has made every endeavour to ensure the efficient functioning of the Joint Information Service in the face of the considerable administrative difficulties caused by the lack of a common headquarters. It has repeatedly called attention to the need for equipping the Joint Press and Information Service with all the facilities required to carry out its work and has advocated support of the resolution voted on this subject by the European Parliament on 24 November 1959 to the two other Executives, as well as to the Council of Ministers. Because of certain reservations expressed by the other Institutions, the Council of Ministers was unable to give its approval to an organization table, a programme and a budget submitted by the European Commission during the session held on 18 December 1959. In keeping with the wish expressed by the European Parliament, all possible steps are being taken to enable the Council to approve a supplementary budget of 10 million Belgian francs, a sum which is regarded as indispensable to the smooth functioning of the Joint Service.

The Euratom Commission has also seconded the Parliament's expressed desire that a sum of 15 million Belgian francs should be appropriated for specific publicity activities. At this point, mention should also be made of the fact that during the financial year 1959, the Euratom Commission committed itself to the expenditure of 95% of the sum allotted to it from its own funds for information purposes.

CHAPTER XIII

THE COURT OF JUSTICE

The Council laid down the rules governing the procedure of the Court of Justice, to which, as from 21 March 1959, all matters falling within its jurisdiction can be referred.

165. In conformity with Article 160 of the Treaty, the Council of Ministers approved the rules governing the procedure of the Court of Justice of the European Communities on 2 February 1959.

These rules of procedure, laid down by the Court of Justice on 3 March 1959 and published in Official Gazette No. 18 of 21 March 1959, came into force on the twentieth day following publication, *i.e.* on 10 April 1959.

Since certain changes had to be made in the text, the Court of Justice submitted a number of draft modifications to be introduced into the rules of procedure on 17 July 1959.

The Council of Ministers approved these emendations on 11 September. The Council's decision amending the rules of procedure came into effect on 18 January 1960, the date of their publication in Official Gazette No. 2 of 1960.

As of the date of publication in the Official Gazette, *i.e.* 21 March 1959, the Court of Justice, in accordance with Article 212 of the Treaty, could be referred to on matters within its jurisdiction. Similarly, the periods laid down for the submission of cases only began to run as from this date.

On 14 October 1959, the Council laid down a supplementary budget to cover the cost of re-installing the Court.

On 25 March 1960, the President of the Court submitted to the Chairman of the Council the Court's proposals for the organization of the Arbitration Committee referred to in Article 18 of the Treaty.

No case involving the Community has so far been referred to the Court of Justice. The Commission wishes to acknowledge, however, that the very existence of the Court is of considerable assistance to the Commission in carrying out its work.

CHAPTER XIV

THE SCIENTIFIC AND TECHNICAL COMMITTEE

The Commission has obtained the opinion of the Scientific and Technical Committee on major decisions which have had to be taken in connection with the research programme and its application. The Committee's collaboration with the Commission is centred on training, documentation, basic standards and radioactive waste.

166. In fulfilment of the intention expressed in the second General Report, the Commission has broadened and intensified its programme of collaboration with the Scientific and Technical Committee. In the meetings held on 28 April, 30 June, 13 October 1959 and on 26 January 1960, the members of the Committee were informed of the Commission's scientific and technological work by means of progress reports submitted by the various departments concerned.

The Commission requested the Committee's opinion on the important decisions which have had to be taken in connection with the research programme and its application. The Commission was guided by the Committee for example in its decision to study and develop the heavy-water-moderated organic-liquid-cooled natural uranium reactor string (Orgel Project).

Committee participation in the Commission's activities in the sphere of training has been brought about through the setting up of a working group comprising members of the Committee, Commission representatives and university professors. This working group, which is headed by Professor Haxel, a Vice-Chairman of the Scientific and Technical Committee, is charged with the task of drafting a policy to overcome the difficulties

arising out of the general scarcity of qualified staff in the nuclear field.

With regard to documentation, the Scientific and Technical Committee has seconded two of its members to work on the Liaison Committee on Documentation set up by the Commission.

Finally, the team of experts under Professor Holthusen, appointed by the Committee to formulate opinions on the Basic Standards has been reinforced. This team will now be able to deal with questions pertaining to radioactive waste disposal.

It should be mentioned that on 26 January 1960, the Scientific and Technical Committee appointed a new Bureau composed of Mr. Ailleret, Chairman, and Messrs. Cohen and Haxel, Vice-Chairmen. Now that these new appointments have been made, the Commission would like to extend its most cordial thanks to Professor Amaldi for the efficiency with which he discharged his responsibilities as Chairman of the Committee in the years 1958 and 1959.

Finally, it should be recorded that Mr. Devillez, formerly Vice-Chairman, resigned as Committee member at the end of 1959. He has been replaced by Mr. Marcel De Merre.

CHAPTER XV

THE ECONOMIC AND SOCIAL COMMITTEE

Through its subcommittees on Nuclear Energy the Economic and Social Committee is making a valuable contribution to the work of the Community.

167. At the seventh session of the Committee held on 23 July 1959, two subcommittees for nuclear problems were set up: one for social questions, health and training, and one for economic questions.

The subcommittee on social problems, health and training comprises the following 33 members:

Germany : Messrs. Beermann, Eckel, Matuschka, Greifenclau, Patat, Paulssen, Rosenberg, Russe, Schaeffer.

Belgium : Messrs. Cornez, Van Hoorick, Masoin.

France : Messrs. Aicardi, Bouladoux, Brousse, Canon-ge, Fontanille, Meunier, de Precigout, Razafimbahiny, Veillon.

Italy : Messrs. Baldi, De Biasi, De Cesare, Giunti, Giustiniani, Purpura, Todisco, Zino.

Luxembourg : Messrs. Wagner, Weber Paul.

Netherlands : Messrs. Alders, Van Spaendonck, Tinbergen.

Mr. Eckel was elected chairman and Messrs. Alders, Cornez, Fontanille, Weber and Zino officers of the subcommittee.

The subcommittee for economic questions is made up of the following 33 members :

Germany : Messrs. Brenner, Eckel, Falkenheim, Gefeller, Gutermuth, Patat, Pohle, Umstaetter, Wetzler.

Belgium : Messrs. Van Hoorick, Major, Masoin, Serwy.

France : Messrs. Aicardi, Brousse, Canonge, Fontanille, Malterre, Meunier, Mourgues, Razafimbahiny.

Italy : Messrs. Baldi, De Biasi, Giunti, Giustiniani, Grandi, Marduzzi, Todisco, Zino.

Luxembourg : Mr. Weber Paul.

Netherlands : Messrs. Alders, Van Spaendonck, Tinbergen.

This subcommittee elected M. Giustiniani as chairman and Messrs. Aicardi, Brenner, Major and Van Spaendonck as officers.

On 10 December 1959, in pursuance of Article 98 of the Treaty, the Commission requested the Committee's opinion on a draft set of directives relating to the measures required to facilitate the conclusion of insurance contracts covering nuclear risks. The subcommittees on nuclear energy set up a working group to prepare this opinion. The Commission played a considerable part in this preparatory work.

On 1 March 1960, in pursuance of Article 96 of the Treaty, the Commission requested the Committee's opinion on the directives governing access to specialized employment in the nuclear field.

Finally, on 16 March 1960, in pursuance of Articles 31 and 32 of the Treaty, the Commission requested the opinion of the Committee on the revision of Annexe 1 and 3 of the Basic Standards for the Protection of the Health of Workers and the General Public Against the Dangers Arising from Ionizing Radiations.

The Commission intends to consult the Economic and Social Committee on its patents policy in the near future.

PUBLICATIONS DEPARTMENT OF THE EUROPEAN COMMUNITIES

2433/5/60/6