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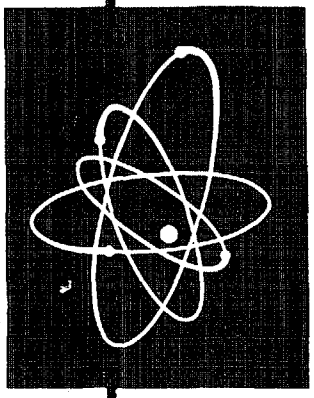

International Atomic Energy Agency

ANNUAL REPORT TO THE ECONOMIC AND SOCIAL COUNCIL OF THE UNITED NATIONS FOR 1958-59

Vienna, June 1959

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THE AGENCY'S ANNUAL REPORT TO THE ECONOMIC AND SOCIAL COUNCIL OF THE UNITED NATIONS FOR 1958-59

1. By resolution GC(II)/RES/24 the General Conference decided that a report should be submitted by the Agency to the Economic and Social Council of the United Nations each year at its second session on matters within the Council's competence, and authorized the Board of Governors to submit this report in 1959.

2. After approval by the Board at the 126th meeting on 11 April 1959, the report was accordingly transmitted to the United Nations. The text of the report is reproduced in this document for the information of Member States.

ANNUAL REPORT BY THE INTERNATIONAL ATOMIC ENERGY AGENCY TO THE ECONOMIC AND SOCIAL COUNCIL FOR 1958-59

(This report refers to the activities of the Agency up to 15 April 1959)

Table of Contents

Table of Contents (continued)

List of Abbreviations

ACC	Administrative Committee on Co-ordination
ECAFE	United Nations Economic Commission for Asia and the Far East
ECE	United Nations Economic Commission for Europe
EPTA	United Nations Expanded Programme of Technical Assistance
FAO	Food and Agriculture Organization of the United Nations
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
ILO	International Labour Organisation or International Labour Office
IMCO	Inter-Governmental Maritime Consultative Organization
OAS	Organization of American States
OEEC	Organization for European Economic Co-operation
TAB	Technical Assistance Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
WMO	World Meteorological Organization
UNTAA	United Nations Technical Assistance Administration

INTRODUCTION

1. Under Article V of the Relationship Agreement between the United Nations and the International Atomic Energy Agency, the Agency is required to consider any resolution relating to it which is adopted by the General Assembly or by a Council of the United Nations. Resolution 694 E (XXVI) of the Economic and Social Council which, inter alia, expressed the hope that the Agency would find it appropriate to submit annual reports to the Council, was accordingly brought before the General Conference at its second regular session. After considering this question, the General Conference adopted resolution GC(II)/RES/24, [1] by which it decided that a report shall be submitted to the Council each year at its second session on matters within the Council's competence, and authorized the Board of Governors to submit this report in 1959.

2. The Board of Governors accordingly has the honour to present the first annual report of the Agency to the Economic and Social Council.

3. In introducing this report, the Board would recall that by the terms of Article III (a) of the Relationship Agreement between the United Nations and the Agency, the Agency has already submitted two annual reports to the General Assembly. The first such report, [2] presented before the Agreement came into force, covered the history of the Agency from the first proposal for its establishment on 8 December 1953 until 31 October 1957, thereby including the work of the first regular and first special sessions of the General Conference and the establishment of the first Board of Governors. The second report [3] covered the period from 1 November 1957 to 30 June 1958 but the expanded preface included reference to developments in the Agency's work up to the end of the second regular session of the General Conference (4 October 1958). The report to the Economic and Social Council therefore does not refer to all matters which have already been reported upon to the General Assembly but is designed to inform the Council of those aspects of the Agency's development and programme which would appear to be of particular interest. In selecting topics for inclusion in this report the special responsibility of the Economic and Social Council under the United Nations Charter for co-ordinating the activities of the United Nations family in the economic and social fields has been borne in mind.

4. Although the Agency juridically came into being on 29 July 1957, and its administrative framework was established by the General Conference at its first session, its technical work began only in the second quarter of 1958 when its scientific staff began to arrive. In the year that has passed, two broad technical subjects have provided the basis to which most of the Agency's activities, such as dissemination of information, technical assistance and its regulatory work can be directly or indirectly related. They are the production and application of radioisotopes and radiation sources to industry, agriculture and medicine and their use in research; and the development and use of nuclear reactors and nuclear power including all phases of the fuel cycle, and, in particular, the supply of nuclear fuels.

5. Both these broad subjects bring the Agency into contact at various points with the United Nations and the specialized agencies. This will be clearly illustrated in the two special reports which are being presented by ACC to the twenty-eighth session of the Council. The first deals in detail with inter-agency co-operation and co-ordination with regard to activities related to the peaceful uses of atomic energy, [4] and the

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[1] Reproduced in annex A.

[2] United Nations document A/3747.

[3] United Nations document A/3950.

[4] United Nations document E/3247, Annex II.

second with the question of concerted action in regard to the effects of radiation resulting from the peaceful uses of atomic energy. [5] Because of their particular interest to the Council, certain aspects of both these questions are also referred to in the present report.

6. As part of its work in connexion with radioisotopes, the supply of nuclear fuels and development of nuclear power, the Agency has important statutory responsibilities for the protection of health and safety, and protection of property against the damages of radiation and nuclear accidents. In particular, the Agency provides a means whereby international agreement can be reached and action taken on problems of common concern to all Member States, irrespective of the stage of their technical advancement. The solution of these problems, which have both economic and technical aspects, is of fundamental importance in providing a framework for the worldwide development of nuclear technology. It is, for instance, essential that there should be general agreement on regulations for the transport of radioactive materials by land, sea and air, and on regulations for the operation of nuclear propelled ships. Similarly, agreement is necessary on methods to ensure safe handling of radioactive materials [6] so that not only can they be safely transported but that all concerned with their movement from one country to another may have no fear of their accidental misuse, which might lead to harm either to the workers or to the general public. Connected with this regulatory work there is the problem of third party liability, which must also be dealt with on an international plane.

7. In July 1957 the Economic and Social Council adopted resolution 653 (XXIV) requesting the Secretary-General of the United Nations to transmit his report on "Economic Applications of Atomic Energy: Power Generation and Industrial and Agricultural Uses" [7] to the Agency upon its establishment "for examination and comments on the fields in which the United Nations and the International Atomic Energy Agency could act jointly to discharge their responsibilities in this regard according to both the Charter of the United Nations and the Statute of the Agency."

8. In March 1958 the Secretary-General accordingly transmitted the report to the Agency, and the Board of Governors referred it to the Secretariat for study. At that time, the Secretariat was still in the initial stage of its organization and only a few of its scientific and technical staff had been appointed. As soon as the technical divisions of the Agency had been set up, however, they examined the report in the light of the Agency's initial programme of work. [8] The Agency's programme and budget for 1959 [9] reflect, to a large extent, the results of this examination. The Agency's comments on the report, which are necessarily of a general nature are set forth in Annex B.

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[5] United Nations document E/3247, in Annex I, section F.

[6] It is of interest to note that the Agency's first technical publication was a manual on safe handling of radioisotopes, which was issued in 1958 (ST I/Publ. No. 1).

[7] United Nations document E/3005.

[8] GC. 1/1.

[9] GC(II)/36.

I. EXTERNAL RELATIONS OF THE AGENCY

A. Relations with the United Nations

9. The Agency, established under the aegis of the United Nations, has particularly close ties with that organization. The Relationship Agreement, which came into force on 14 November 1957, provided the framework for the close working relations which have now been established. Inter-secretariat consultations were facilitated by the appointment in December 1957 of a Permanent Representative of the Secretary-General of the United Nations at Agency headquarters in Vienna and in March 1958 of a Permanent Representative of the Director General at United Nations Headquarters in New York.

10. In beginning its operational programme, the Agency consulted extensively with other members of the United Nations family in order to benefit by their advice and experience as, in the same manner, the Agency had previously been guided in setting up its administrative procedures. The Agency's Provisional Staff Regulations and Financial Regulations are, for example, based to a large extent on the provisions of the Staff and Financial Regulations of the United Nations. The United Nations and the specialized agencies also seconded staff to the Agency to provide experienced assistance during the first years of its operations. Another link in the United Nations chain was forged when on 1 October 1958 the Agency became a member of the United Nations Joint Staff Pension Fund.

11. The Agency has also participated extensively in the proceedings of various organs and bodies of the United Nations. Thus delegations headed by the Director General attended the General Assembly of the United Nations and the Economic and Social Council, and participated in the second United Nations International Conference on the Peaceful Uses of Atomic Energy. The Agency was represented at such other meetings as ECAFE's Committee on Industry and Natural Resources, ECE's Committee on Electric Power and the meeting of the United Nations Committee of Experts for Further Work on the Transport of Dangerous Goods. The Agency has also actively participated in the work of the United Nations Scientific Committee on the Effects of Atomic Radiation and was represented at the first session of the Governing Council of the United Nations Special Fund. The United Nations, for its part, has been represented at the first regular, first special, and second regular sessions of the General Conference and has followed the work of the Board of Governors and its committees.

B. Participation in the work of the Administrative Committee on Co-ordination

12. In accordance with Article XI of the Relationship Agreement with the United Nations, the Agency is participating in the work of ACC. The Director General attended both sessions held in 1958 and plans to be present at the meeting to be held in May 1959. The two special reports being made by ACC to the Council (referred to in paragraph 5 above), clearly demonstrate the manner in which the Agency is already playing its part within the United Nations framework.

13. The Agency is also participating in the work of such subsidiary bodies of ACC as the Consultative Committee on Administrative Questions (CCAQ), the Consultative Committee on Public Information (CCPI) and the Technical Working Group on Fellowships.

C. Participation in the United Nations Expanded Programme of Technical Assistance

14. Article XV of the Agreement between the United Nations and the Agency recognizes the desirability of co-operation concerning the provision of technical assistance in the atomic energy field. [10] In view of the desirability of using existing international

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[10] See also paragraphs 60 - 82 below.

machinery to this end, the General Conference at its second session, on the recommendation of the Board of Governors, decided that the Agency should apply to become a participant in the United Nations Expanded Programme of Technical Assistance (EPTA). The steps taken to bring this about are well known to the Council and need not be recapitulated here. The Board would, however, wish to express its appreciation of the action taken by TAB and by the Council [11] itself, which enabled the Agency - although the decision of the General Conference was taken only on 4 October 1958 - to participate in the Programme in 1959.

D. Relations with the Specialized Agencies

15. In December 1957 the Board authorized the Director General to initiate discussions with certain of the specialized agencies with a view to introducing effective machinery for consultations and the conclusion of relationship agreements. As a result of these negotiations, relationship agreements were unanimously approved by the General Conference at its second regular session between the Agency on the one hand, and ILO, FAO, UNESCO, WHO and WMO on the other. The agreement with UNESCO came into force on 1 October 1958 and with ILO on 21 November 1958. The agreement with FAO was approved by the FAO Council on 3 November 1958 on a provisional basis pending its approval by the FAO Conference in November 1959. The agreements with WHO and WMO are provisionally in force until final action has been taken on them by those organizations. The harmonious manner in which these agreements were concluded is a good augury for future inter-agency relations. Negotiations are also in progress with ICAO with the purpose of concluding a similar agreement. There are a number of questions which will be of mutual interest to IMCO and the Agency, such as the nuclear propulsion of ships, waste disposal at sea and the carriage of radioactive cargoes by sea. When IMCO has been operating for a longer period, it may therefore be desirable also to negotiate a similar agreement with that organization.

16. These agreements contain the provisions to be found in other inter-agency agreements, with the addition of a clause providing that

> "in all cases where either organization proposes to initiate a programme or activity on a subject in which the other organization has or may have a substantial interest, the first party shall consult the other before bringing to finality the programme or initiating the activity."

17. Even before the conclusion of the agreements, inter-secretariat consultations were taking place on many questions and observers from certain of the specialized agencies were present at the first regular, first special and second regular sessions of the General Conference, and observers from the Agency were invited to attend meetings of the specialized agencies. Such meetings have included the FAO Council, the UNESCO Conference and Executive Board, the World Health Assembly and Executive Board, and the first Assembly of IMCO.

E. Relations with Inter-Governmental Organizations outside the United Nations framework, and Non-Governmental Organizations

18. Article XVI of the Statute provides for appropriate relationships being established with organizations the work of which is related to that of the Agency. A certain number of inter-governmental organizations outside the United Nations framework are concerned with different aspects of the peaceful uses of atomic energy, and in order to avoid duplication of effort and waste of resources, co-operation between them and the Agency is clearly desirable. Accordingly, at the invitation of the Agency, observers from the following organizations attended the first regular session of the General Conference and were also present at the first special session, which was convened immediately afterwards: the European Organization for Nuclear Research, the Joint Institute for Nuclear Research and OEEC.

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[11] Council resolution 704 (XXVI), noted by the General Assembly in resolution 1255 (XIII).

19. In March 1958 the Board of Governors discussed the question of liaison with such organizations and authorized the Secretariat to make informal contacts with regional inter-governmental organizations concerned with the peaceful uses of atomic energy. Such contacts were accordingly made. In June 1958 the Board again discussed the question and decided to invite the same organizations to send observers to the second regular session of the General Conference as had been invited to the first, with the following additions: the Commission for Technical Co-operation in Africa South of the Sahara, the European Atomic Energy Community and OAS. The Board has been further authorized by the General Conference to issue invitations to inter-governmental organizations to send observers to the third regular session of the General Conference.

20. As a result of the informal inter-secretariat relations which have been established, the Agency has been invited to send observers to certain meetings, such as the OEEC European Nuclear Energy Agency group of experts on Third Party Liability and the second Inter-American Symposium on the Peaceful Applications of Nuclear Energy (OAS), which is to be held in Buenos Aires in June 1959.

21. As far as relations with non-governmental organizations are concerned, the Agency has been guided by the practices of the Economic and Social Council. Thirteen non-governmental organizations were invited to send observers to the first regular session of the General Conference and sixteen were invited to the second regular session. All these organizations have consultative status with the Council. At its second session the General Conference approved rules for the granting of consultative status with the Agency and in January 1959 the Board set up a Committee on Non-Governmental Organizations for dealing with applications. By 15 April 1959 applications had been received from the International Chamber of Commerce, the International Confederation of Free Trade Unions, the International Co-operative Alliance, the International Federation of Christian Trade Unions, the International Organization for Standardization, the International Union against Tuberculosis, the World Federation for Mental Health, the World Federation of Trade Unions, the World Federation of United Nations Associations and the World Power Conference. It is expected that these applications will be dealt with in the course of the first half of the year.

II. THE AGENCY'S WORK IN TECHNICAL FIELDS OF INTEREST TO THE COUNCIL

A. The Supply of Materials and Nuclear Fuels, and Development of Nuclear Power

1. Nuclear power

22. In terms of Article III.A.2 of the Statute, the Agency is authorized

> "to make provision for materials, services, equipment and facilities [for the] practical application of atomic energy for peaceful purposes, including the production of electric power ....."

23. It is expected that in the long run, the development of nuclear power will be the most important peaceful application of atomic energy, and that the Agency's assistance to Member States in this field will become its leading or at least one of its major activities.

24. In regard to the supply of nuclear fuels for reactors of all types including research, training and materials testing as well as power reactors, the Statute envisages a number of well-defined tasks of a very specific nature for the Agency, and this important part of its activities is accordingly dealt with separately in paragraphs 39 - 48 below.

25. In the field of nuclear power as a whole, the Agency's responsibilities are of a more general nature, and its initial work is concerned with both the technical and economic aspects of the subject, with particular reference to the needs of the less developed countries. In the technical field, the Agency's work is taking the form in particular of the collection, evaluation and dissemination of information on developments in reactors and other nuclear equipment, provisional advice on reactor programmes and projects of Member States, sponsorship of technical meetings and conferences and the conduct of surveys. Similar activities are envisaged, in close co-operation with the United Nations, in regard to the economics of nuclear power.

26. To date, information has been collected on power reactors, operating and under construction, and the first volume of the International Directory of Reactors on the design, cost and operating characteristics of power reactors is to be published in May or June 1959. Subsequent volumes will cover research, experimental and test reactors, as well as new types of power reactors.

27. The Agency closely followed the second United Nations International Conference on the Peaceful Uses of Atomic Energy held in Geneva in September 1958 and the papers on the economics of nuclear power reactors are being evaluated.

28. At its second regular session, the General Conference adopted a resolution on the subject of assistance to less developed countries in connexion with the development of nuclear power. [12] It was recommended that earnest and early consideration be given to initiating a survey of the needs of the less developed countries, with their consent, in the matter of nuclear power generation plants suitable for their specific circumstances; adopting measures for a continuing study of the development of the technology and economics of small and medium scale nuclear power reactors best suited for the economic development of less developed countries; disseminating to all Member States the information collected; and assisting the less developed countries in planning and implementing their training programmes.

29. Although the implementation of this resolution will be of a continuing nature, the proposed action is to divide the programme into successive steps. Accordingly, a two-year programme for 1959-1960 dealing with the shorter-term aspect of the problem was drawn up and approved by the Board of Governors in January 1959.

30. The first phase of the work includes the study of the technical feasibility of available reactors; the economic studies of available reactors; the survey of the less developed

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[12] GC(II)/RES/27.

countries in the matter of nuclear power generation suitable for specific application; and the selection, to be completed by August 1960, of the most promising situations for further, more detailed study.

31. The studies on the technical feasibility of available reactors will cover:

(a) The collection of technical data and survey of suitable reactor systems for small and medium output - up to 50 megawatts (electrical) - from published information on reactors which are in operation, under construction, or planned;

(b) Inquiries to Governments, organizations and industry to obtain further information when needed;

(c) The evaluation of information gathered and preliminary assessment of suitability of reactor systems in regard to their technical feasibility, operational ease, reliability and safety, size, effect of environment, fuel cycles, and fuel availability; and

(d) Discussion with constructors and others as needed.

32. The economic studies of available reactors will cover:

(a) The systematic analysis of the elements of nuclear power costs;

(b) The collection of economic data on reactors from published sources;

(c) Inquiries to Governments, organizations and industry;

(d) Preliminary analysis of suitable reactor systems from the economic point of view; and

(e) Discussion with constructors and others as needed.

33. With regard to the survey of the promising situations suitable for the application of nuclear power, Member States have been requested to give an indication of the extent to which they might wish to participate in the studies pursuant to resolution GC(II)/RES/27.

34. At present it is envisaged that two or three special power survey missions to countries in different areas of the world will be organized in the course of 1959. The first such mission is scheduled to visit Argentina and Brazil some time in the second half of the year, in response to requests for assistance made by these Governments.

35. The information which will be collected and prepared by the Agency, together with the information obtained from Member States and the information obtained by the Agency's survey teams, will be analysed and the most promising situations selected for further, more detailed study.

36. In conducting these studies and in the collection of relevant information, the Agency will require and seek assistance from the appropriate international organizations, particularly the United Nations, its regional economic commissions and the International Bank for Reconstruction and Development. In particular, the Council's invitation [13] to the Agency to consider and recommend projects which might usefully be undertaken by the Council, its regional economic commissions or other subsidiary bodies of the Council in order to assist the Agency in carrying out its programmes in various regions of the world, will be borne in mind.

37. In the autumn of 1960 it is planned to hold a technical conference to deal with the technical feasibility of small and medium power reactors; the economics of small and medium power reactors; and the application of small and medium power reactors to specific situations in less developed countries.

38. The short-term aspect of the problem outlined above should be considered in the light of the long-range power requirements of the less developed countries, which will involve an extensive survey of the needs of the countries concerned and the economic development of all the available resources for meeting those needs.

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[13] Council resolution 694 E I (XXVI).

2. The supply of nuclear fuels (fissionable and source materials)

39. Any project involving the supply of fissionable and source materials requires the Agency to exercise a wide variety of functions, such as providing technical advice, making the physical arrangements for the supply of material and its technical verification, negotiating the agreements with the recipient Member State and, if the material is not delivered from resources under the Agency's direct control, negotiation of an agreement with the supplying Member State. These functions include the application, to the extent relevant, of health and safety and security safeguards. It is considered that the Council will, however, be interested mainly in the economic implications of any such projects.

40. The full implementation of the Agency's supply function will depend upon the development of a demand for nuclear power in countries other than those which have already made considerable progress in this field, and upon factors such as the price and conditions at which such materials can be supplied through the Agency in relation to the price and conditions at which they may be procured, through other channels.

41. By mid-April 1959, the fissionable materials offered by Member States for the Agency's operations amounted to 5 140 kilogrammes of contained U-235. Umbrella agreements are in the process of negotiation with the three Member States concerned (the Soviet Union, the United Kingdom and the United States), defining in broad terms the conditions under which the materials will be made available. It is expected that these agreements will be concluded by the middle of the year. Each agreement contains provisions relating to the price of the material, indicating that it will be made available to the Agency on terms not less favourable than those under which it is supplied to other external purchasers. In the case of the agreement with the Soviet Union, the price to be charged is the "lowest international price". In the case of the agreement with the United States, the price will be no higher than that charged to the domestic consumers.

42. Most of the research and training reactors being built outside the highly industrialized countries are being constructed in terms of bilateral agreements which were in existence, before the establishment of the Agency as an operating organization. However, one Agency project involving the supply of source materials to a new reactor is now well in hand and certain further inquiries have also been made by Member States about the terms on which fissionable as well as source materials will be supplied.

43. The project in hand is a research reactor being built by the Japanese Atomic Energy Commission, to which the Agency was requested, in September 1958, to supply three tons of natural uranium in the form of metallic castings.

44. On receipt of the request, the Agency asked the nine Member States which had indicated that they were prepared to make available source materials [14] to submit sealed tenders, according to detailed specifications, for the three tons of material requested. By 12 December 1958, bids had been received from three of these Member States at the following prices:

Belgium	1 700 Belgian francs (US $34) per kilogramme
Canada	No charge
USA	US $54.34 per kilogramme

This is understood to represent the first occasion on which there has been international bidding for the supply of natural uranium.

45. The gift by the Government of Canada was accepted by the Agency. At the same time the Belgian Government indicated that it was prepared to maintain the price quoted for the supply of the amount of natural uranium to the Agency for a period of one year.

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[14] Belgium, Canada, Czechoslovakia, India, Norway, Portugal, the Soviet Union, the United Kingdom, and the United States.

46. Subsequently, the Government of Belgium informed the Agency that the company which had been responsible for the tender referred to in paragraph 44 above, was prepared to supply uranium oxide concentrate at a price of US $8.00 per pound contained. At a later date, the Government of the Union of South Africa indicated that it also was prepared to supply uranium oxide concentrate at US $8.00 per pound contained, at railhead in the Union of South Africa.

47. The Agency set a price of US $35.50 on the materials supplied to Japan, taking into account the lowest price which had been offered by a Member State, and the expenses involved in the analysis and delivery of the material. The Supply Agreement with the Government of Canada and the Project Agreement with the Government of Japan were concluded on 24 March 1959. The material is to be delivered before 1 November 1959.

3. Other nuclear materials and equipment

48. The Agency has also organized technical information services to assist Member States in acquiring other materials and the equipment needed for the development of the peaceful uses of atomic energy. Considerable interest has been shown in these services by Member States.

B. Contribution of the Application of Radioisotopes and Radiation to Economic and Social Development

49. The contribution to economic and social development - particularly of the less developed areas of the world - which may be made by the application of radioisotopes and radiation to industry, medicine and agriculture, cannot yet be fully assessed.

50. Application of radioisotope techniques to the general industrial economy is already well established in a number of the more advanced countries. The over-all picture is, however, continually changing with the increasing number of applications. There is now, for example, the prospect of an entirely new field opening up, where large sources of radiation may be used for industrial processing and sterilization.

51. In the more highly developed countries, the annual savings attributed to the use of radioisotope applications have been estimated at tens, and even hundreds, of millions of dollars. This is mainly achieved by the wide-spread use in industry of radiography and gauging of thickness and density of materials, resulting in a more uniform product. Such applications have the advantage of being non-destructive. This results in a considerable reduction of wastage and enables a higher production rate to be attained. Certain problems with which it was previously not possible to deal are now being tackled by the use of radiographic sources.

52. The tracer use of radioisotopes where radioactive materials are followed through physical and chemical processes with the use of nucleonic detectors is also important. It has been applied, for example, in the petroleum industry where the application to the detection of leaks in pipelines and the marking of the interface between different grades of fuel moving in the same pipeline is used as a matter of routine. Further tracer studies in the wear of bearing surfaces has resulted in considerable savings of both time and money.

53. These examples of the industrial uses of radioisotopes represent only a small fraction of the potential applications. The Agency is promoting the use of such techniques by the dissemination of information and the provision of specialist advice.

54. Research in the uses of large radiation sources is being carried out in many centres. The future possibilities are very great, considered together with the increase in the use of nuclear power, [15] since it is reactors which provide the sources either in the form of separated radioisotopes from the spent nuclear fuel or the actual fuel rods themselves, immediately after they come out of the reactor.

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[15] See also paragraphs 22-38 above.

55. The Agency's programme of conferences and symposia will play a large part in furthering the applications of radiation and radioisotopes and also in the training of personnel. The whole question of the applications of large radiation sources, with particular reference to their use in the chemical industry, will, for example, be discussed at a conference which will be convened by the Agency, to take place in September 1959 in Warsaw. A conference on the use of radioisotopes in the physical sciences is also planned for 1960 and a further conference on the use of radioisotopes in the biological sciences is scheduled to take place in 1961.

56. It is recognized that the training of personnel is particularly important in the development of the peaceful applications of nuclear energy. An extensive research programme is also necessary and, to this end, the Agency is fostering and encouraging research by the awarding of research contracts.

57. The applications of radiation and radioisotopes in medicine and agriculture are most promising for the economic and social progress of the less developed countries, and the Agency, in consultation with WHO and FAO, is assisting in their promotion. Different local requirements and conditions have to be taken into account in the development of these new techniques. The preliminary surveys of the needs of Member States being made by the Agency in various regions and described in paragraphs 67 - 73 below, enable these conditions to be studied at first hand. As far as agricultural research is concerned, the use of radioisotopes as tracers can be applied directly to problems of increasing crop yields. In co-operation with the interested specialized agencies, the Agency is rendering technical assistance in the form of expert advice to under-developed countries (e.g. Burma and Pakistan) in radioisotope investigations of soil fertility, fertilizer application and nutrition of food plants. Ionizing radiations may be used to induce beneficial hereditary changes such as developing improved varieties of plant species. This was one of the questions on which the first preliminary assistance mission to South East Asia (described in paragraph 72 below) was able to provide advice.

58. In the medical field, the diagnosis of disease is a particularly important example of a complete change in the methods now being employed as a result of the use of radioisotope techniques. In this connexion, the Agency and WHO jointly sponsored, in March 1959, a seminar on medical radioisotope scanning, the proceedings of which will be published by the summer of 1959. The Agency is able to give advice on these aspects of radioisotope applications. Consideration is being given to the award of contracts in the medical field to enlarge, for example, research and promotion of radioisotope applications with regard to tropical diseases. Today radioisotopes are being increasingly used where radium and X-ray machines were previously used. The Agency, in consultation with WHO, is preparing a survey on the availability and use of radioisotope therapy units and super-voltage accelerators for various medical applications. When this survey is complete, a meeting of experts will be convened to make recommendations regarding both the physical aspects of the survey and also the various uses.

59. A number of advanced countries have spent large sums of money exploring the possibility of preserving food by irradiation. A survey of this work is being made by the Agency in consultation with FAO, with a view to finding whether such an application would be economically feasible in the less advanced areas of the world as a means to easing the increasing demands for food of the ever-growing world population. The use of large radiation sources could, for example, bring about large economic and social repercussions by the disinfestation of grain. This aspect is particularly important in a number of areas where as much as a quarter of the stored grain is lost annually as a result of infestation by such pests as grain weevils.

III. THE AGENCY'S TECHNICAL ASSISTANCE ACTIVITIES

60. One of the most important aspects of the Agency's operational programme to carry out its statutory objectives of accelerating and enlarging the contribution of atomic energy to peace, health and prosperity throughout the world, is the provision of various kinds of technical assistance in accordance with patterns and procedures developed in the United Nations family during the last decade.

A. Development of Technical Assistance Projects: Resources available

61. The resources at the disposal of the Agency for carrying out its technical assistance programmes are of three kinds, namely:

(a) Financial contributions to the General Fund;

(b) Donations in kind in the form of gifts by Member States of the services of experts, of fellowships and scholarships at national institutions of Member States, and of equipment, etc.; and

(c) Funds made available to the Agency as a result of its participation in EPTA.

62. In 1958, the resources available were the contributions, amounting to a total of US $129 140, to the Agency's General Fund, which had been specifically allotted for the setting up of a fellowship programme, and certain gifts in kind, in particular fellowships [16] and the services of a number of experts for limited periods.

63. As a result, the Agency's technical assistance activities in 1958 were confined almost entirely to establishing a fellowship programme, other forms of assistance being largely limited to the preliminary and exploratory surveys mentioned in paragraphs 67 - 73 below. Preparations were, however, made for the initiation of considerably larger scale activities in 1959.

64. The resources available to the Agency in 1959 at 15 April were as follows:

(a) Contributions to the Agency's General Fund, totalling US $898 207. The target figure for the Fund is US $1.5 million. [17] A list of contributions pledged is given in annex C;

(b) The offer of the services of a number of experts (see annex F), and fellowships to be financed by Member States offered to the Agency for 1958 and 1959 (see annex D); and

(c) An allocation of US $200 000 from TAB. In view of the special circumstances, TAB has dispensed this year with the requirement that the Agency's programme should be submitted to the procedure of country programming. In addition, it has been indicated that the Agency will be allowed to draw upon the TAB Contingency Fund to a maximum of US $300 000.

65. In view of the proposed increase in the size of the General Fund and of the Agency's participation in EPTA, the fellowship programme has been planned on a larger scale in 1959, and more substantial resources are expected to be available for other technical assistance activities. The eventual scope of both these programmes will be determined largely by the extent to which the target figure for voluntary contributions to the General Fund is realized.

B. Fields of Assistance

66. The fields in which the Agency may render assistance are indicated in annex G.

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[16] Offers of 151 fellowships were received.

[17] Of which US $400 000 is provisionally allotted for laboratories, and the remainder for technical assistance.

C. Kinds of Assistance

1. Preliminary surveys

67. The Agency's technical assistance activities, like those of other members of the United Nations family, consist primarily of

(a) the provision of the services of expert advisers;

(b) fellowships, exchange and training; and

(c) the provision of limited quantities of technical equipment.

However, while it was possible to begin the Agency's fellowship and training programme on the basis of individual applications from Member States, the provision of technical assistance on a larger scale often involves a considerable amount of preparatory work by the Agency. Many of the Agency's Member States have not yet begun programmes for the development of the peaceful uses of atomic energy; in several cases, the governmental machinery for planning such programmes does not yet exist. Many Member States therefore need advice on the establishment of atomic energy authorities, the planning of programmes, the types of external assistance they will require and the assistance which can be made available from the Agency and the procedure for obtaining it.

68. Accordingly, one of the first activities of the Agency was to organize and despatch preliminary assistance missions or to make preparatory surveys of various kinds.

69. As the result of a request for an expert study to be made on the need for establishing in Latin America one or more training centres in the field of the peaceful uses of atomic energy, a mission was sent, in 1958, to the following countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela. The mission recommended that at least one specialized training centre and one integrated atomic centre should be established as soon as the necessary funds and staff could be found. It was important that the area of activities chosen for the centres should correspond to regional needs and with the aim of producing early results. The specialized centre could no doubt be expanded in the future by the addition of new fields of action, thus becoming an integrated centre.

70. At the request of the Governments concerned, short exploratory missions visited Pakistan, Thailand and the United Arab Republic in 1958. The mission to Pakistan was concerned with problems connected with research reactors, gamma irradiation, isotopes and health physics, and the Thailand mission gave advice in the fields of reactor technology and medical use of radioisotopes. Fields in which the advice of the mission to the United Arab Republic was sought related to the feasibility of extracting uranium from phosphate ores and of producing heavy water.

71. The 1959 programme provides for a number of such short exploratory missions in connexion with specific technical assistance requests. As a result of such a mission to Greece, requests have been made for four experts, eleven fellowships and one research contract.

72. Also at the beginning of 1959 a preliminary assistance mission of ten members visited four countries in South East Asia - namely, Burma, Ceylon, Indonesia and Thailand - at the request of the Governments concerned. The mission was organized in consultation with the United Nations and the interested specialized agencies. It studied the needs of these countries in the fields of nuclear physics, prospecting, mining and processing of nuclear raw materials; research and power reactors; the use of radioisotopes in agriculture and medicine and training needs. Indications have been received that as a result of the mission's visit, the countries concerned intend to request the Agency for various types of technical assistance, which may amount to a total of twenty-three experts, some equipment, approximately eighty-five fellowships as well as one research contract.

73. It is planned that two similar missions will visit other Member States in the Far East and Latin America in the course of 1959. The mission to Latin America is expected to visit, according to present indications, three countries - namely, Argentina, Brazil and Venezuela.

2. Expert advice and assistance on specific projects

74. As indicated above, a large number of Member States require assistance in evaluating their needs before they are able to submit specific requests for expert assistance. As a result, the services of experts made available to the Agency by atomically advanced Member States in 1958 were used exclusively for preparatory surveys.

75. By 15 April 1959 the picture had changed considerably and some thirty-five requests from twenty-two countries, or indications of requests for specific technical assistance projects, had been received by the Agency. These requests cover a wide range of subjects and may be grouped under the following broad categories:

(a) General advice and assistance for the setting up of national atomic energy establishments and development and implementation of atomic energy programmes;

(b) Technical assistance in exploring the possibilities of production and utilization of economic nuclear power in specific locations;

(c) Technical assistance in the design, construction and use of research and power reactors;

(d) Technical assistance in such specific fields as the use of radioisotopes in agriculture and medicine; prospecting, mining and processing of radioactive minerals; production of heavy water, etc.; and

(e) Requests for scientific and technical supplies and equipment.

76. These requests are at present in various stages of development and are being processed in consultation with the countries concerned, the United Nations and the specialized agencies as appropriate.

3. Training and exchange

77. The lack of scientific and technical personnel possessing the necessary qualifications is one of the main reasons why many countries are not in a position to make speedier progress in utilizing atomic energy for peaceful purposes and in the Agency's initial programme it was recognized that assistance to Member States in this matter should be a major activity of the Agency in its early years.

(a) Fellowships

78. In the course of 1958 the Agency circulated to Member States a brochure describing the Agency's fellowship programme, and listing the countries where the different fields of training relating to the peaceful uses of atomic energy can be obtained. [18] The programme provides for three broad types of training:

(a) General techniques training: to develop skills in the use of some fundamental techniques in the domain of nuclear energy;

(b) Specialist training: to prepare specialists in the theoretical and experimental aspects of science and technology of nuclear energy; and

(c) Research training: to provide advanced training, including active participation in research work, for persons potentially qualified to develop and carry out research programmes in the basic sciences and engineering.

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[18] "Nuclear Science Fellowships", IAEA, Vienna, 1958.

The duration of the training period varies from several weeks to five or six years, depending on the level of training and the requirements of the candidates. Training opportunities may be summarized as follows:

(a) Short-term special training: for graduates from University or a technical school of University level or its equivalent;

(b) Advanced and research training: for graduates from University or a technical school of University level or its equivalent and in some cases with previous experience in the field of nuclear science and technology; and

(c) Long-term complete University training: including general and specialized training in the field of peaceful applications of atomic energy for undergraduates possessing a secondary school certificate.

79. In April 1958 Member Governments were requested to submit nominations for Agency fellowships. By 15 April 1959 a total of 287 such nominations had been received from thirty Governments and 202 fellows had been selected from nominations made by twenty-eight Governments for study in twenty countries. A detailed description of the status of the 1958 fellowship nominations, awards and placements may be found in annex E. The figures contained in the annex refer to all Agency fellowships, whether financed directly by Agency funds, by EPTA funds or by Member States. This final category is also tabulated in annex D.

(b) Exchange of scientists

80. The Agency's programme with regard to the exchange of scientists provides for the exchange of visiting professors to give special courses in the theoretical and experimental aspects of nuclear physics, radiochemistry, etc.; the exchange of visiting scientists, engineers and other specialists to hold courses in special techniques applied to definite research problems; and the sending of experts and consultants, at the request of Member States, to advise on problems related to the development of technical and scientific personnel in the universities and institutes of the respective countries.

(c) Training courses

81. The organization of specialized training courses requires elaborate preparation, and therefore the first example of such a course with which the Agency has been concerned is the joint IAEA/FAO course to be held from 20 July to 10 September 1959 in co-operation with the United States Government and Cornell University. This is the first internationally organized training course on radioisotope techniques designed specifically for the needs of the research worker in agriculture, forestry, fisheries and nutrition. Plans for the organization of courses in other fields are being developed.

4. Equipment and supplies

82. Owing to the highly technical nature of nuclear energy, a number of requests for technical assistance experts are supplemented by requests for equipment. [19] In 1958 requests for scientific and technical supplies and equipment of an estimated value of $145 000 were received from four countries and institutions. On the basis of experience, gained in 1958, it is anticipated that requests for equipment and supplies within the general framework of technical assistance projects will continue to be received throughout 1959 and subsequent years. The requests so far received by the Agency seem to indicate that the Government will often ask for equipment whose relative cost will be high, sometimes much higher than the cost of experts. Arrangements for the procurement of supplies will be made, where appropriate, in co-operation with the United Nations and the specialized agencies concerned, as is already being done in the case of equipment for a radiation laboratory requested by Brazil.

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[19] Equipment is provided by the Agency only as an integral part of technical assistance projects, since the limited finances of the Agency do not permit large expenditures for this purpose. The Agency may, in addition, be prepared to consider requests for further assistance in the form of equipment and instruments, which may be supplied from voluntary contributions in kind and gifts received from Member States.

ANNEX A

ARRANGEMENTS FOR THE AGENCY TO REPORT TO THE ECONOMIC AND SOCIAL COUNCIL OF THE UNITED NATIONS

Resolution GC(II)/RES/24 Adopted by the General Conference on 1 October 1958

The General Conference

(a) Having regard to Article III.B.5 of the Statute and III.1(c) of the relationship agreement between the Agency and the United Nations relating to reports by the Agency to the Economic and Social Council of the United Nations;

(b) Noting the opinion of the Board of Governors that the stage may be reached between the second and third regular sessions of the General Conference when the Agency's activities of an economic character develop to a point at which they would be of interest to the Council; and

(c) Having considered resolution 694 E (XXVI) in which the Council, inter alia, "expresses the hope that, in order to assist the Council in the discharge of its functions in the field of co-ordination, the International Atomic Energy Agency, in accordance with paragraph 1(c) of Article III of the Agreement governing the relationship between the United Nations and the Agency, will find it appropriate to submit annually for the use of the Council, at its second session each year, a report on matters within the competence of the Council";

1. Decides that a report shall be submitted to the Economic and Social Council each year at its second session on matters within the Council's competence; and

2. Authorizes the Board of Governors to submit to the Council the above-mentioned report in 1959.

ANNEX B

COMMENTS ON THE REPORT BY THE SECRETARY-GENERAL OF THE UNITED NATIONS ON "ECONOMIC APPLICATIONS OF ATOMIC ENERGY: POWER GENERATION AND INDUSTRIAL AND AGRICULTURAL USES"

1. In pursuance of Economic and Social Council resolution 653 II (XXIV), the International Atomic Energy Agency examined the report by the Secretary-General of the United Nations on "Economic Applications of Atomic Energy: Power Generation and Industrial and Agricultural Uses" (United Nations document E/3005).

2. It was found that the Secretary-General's report covered many important aspects of the peaceful uses of atomic energy which are of direct interest to the Agency. As, however, it was prepared in early 1957, much of the factual data related to 1955 or earlier. At that time, the applications of atomic energy as stated in the report were "in their infancy" and the report was necessarily "preliminary and general in nature". Apart from those limitations, it gave an excellent and useful analysis of the factors that were to determine in course of time the broad lines of development in the economic applications of atomic energy. In view, however, of the developments which have taken place since the report was prepared, including the second United Nations International Conference on the Peaceful Uses of Atomic Energy, some modifications, at least in matters of detail, would now seem necessary. The advances made, for example, in some highly industrialized countries in the generation of nuclear power, have demonstrated that this new means of power production is now technically reliable. This has had its impact in the less developed countries while, at the same time, the economic and technical problems involved in the utilization of nuclear power have emerged in sharper perspective than before. The importance to the less developed countries of the economic utilization of nuclear power is reflected in resolution GC(II)/RES/27 adopted by the General Conference at its second regular session, which is described in paragraphs 28-38 of the present report.

3. The Council's request for comments on the fields in which joint action might be taken is considered to be of a continuing nature since the areas of co-operation between the United Nations and the Agency are bound to broaden with the development of the peaceful uses of atomic energy and, in particular, of nuclear power. This matter will accordingly continue to be dealt with in subsequent reports by the Agency to the Council.

4. Within the past year a number of informal inter-secretariat discussions between the Agency, the United Nations and the specialized agencies concerned, have already taken place and as a result, the organizations concerned will co-operate with regard to the holding of a number of conferences, seminars and symposia, the provision of technical assistance activities in this field, and in studies concerning the economics of nuclear power. The extent of such inter-agency co-operation will be described in detail by ACC in the two special reports which it is transmitting to the Council at its twenty-eighth session.

ANNEX C

LIST OF CONTRIBUTIONS PLEDGED TO THE GENERAL FUND UP TO 15 APRIL 1959

1959

	Pledged	Paid
	$US	$US
ARGENTINA	5 600	-
AUSTRALIA	10 000	-
AUSTRIA	2 000	-
BELGIUM	10 000	-
BRAZIL	15 000	-
CANADA	50 000	-
CEYLON	1 050	-
CHINA	5 000	-
CZECHOSLOVAKIA	13 888	-
DENMARK	9 150	9 150
FINLAND	5 000	-
FRANCE	30 000	-
GERMANY	20 000	-
GUATEMALA	1 000	-
INDONESIA	2 000	-
ISRAEL	1 111	-
ITALY	5 000	4 611
JAPAN	20 000	-
MEXICO	3 125	-
MONACO	1 000	1 000
NORWAY	7 000	-
PAKISTAN	8 000	-
POLAND	4 166	-
PORTUGAL	3 500	-
SWITZERLAND	11 628	-
TURKEY	3 333	3 333
UNION OF SOUTH AFRICA	10 000	-
UNITED ARAB REPUBLIC	8 615	-
UNITED KINGDOM	125 000	-
UNITED STATES OF AMERICA	500 000 [a]	500 000
VENEZUELA	2 000	-
VIET-NAM	2 041	2 041
YUGOSLAVIA	3 000	-
	898 207	520 135

a/ In addition to this pledge to the General Fund, the United States Government made an offer of a further amount of $US 600 000, which was accepted by the Board of Governors on 17 April 1959, for the specific purpose of building and equipping the Agency's functional laboratory in 1959-60.

ANNEX D

FELLOWSHIPS, TO BE FINANCED BY MEMBER STATES, OFFERED TO THE AGENCY FOR 1958 and 1959

(as at 15 April 1959)

ARGENTINA	10
BELGIUM	7
CZECHOSLOVAKIA	13
DENMARK	4 - 5
FRANCE	12
INDIA	5
ISRAEL	2
ITALY	10
JAPAN	7 - 10
POLAND	5
ROMANIA	7 - 9
SPAIN	5
SWITZERLAND	4 - 5
UNION OF SOVIET SOCIALIST REPUBLICS	70
UNITED ARAB REPUBLIC	6
UNITED STATES OF AMERICA	120
YUGOSLAVIA	5
TOTAL	292 - 299

1958 FELLOWSHIP NOMINATIONS, AWARDS AND PLACEMENTS AT 15 APRIL 1959

Nominating Governments \ Host Countries	Nominations received in 1958	Not awarded in 1958	Argentina		Austria		Belgium		Canada		Czecho-slovakia		Denmark		France		Germany		India		Italy		Japan		Netherlands		Norway		Romania		Spain		Sweden		Switzerland		UK		USA		USSR		Yugoslavia		1958 Fellows Selected by the Agency				
			accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	accepted	under consid.*	1	2	3	4	5
																																												Accepted or under consideration by host country	Awaiting placement to host country	Withdrawn after Agency selection	Total No. of active fellowships d)	Withdrawn before selection
Argentina	9	-							2																										1		2	2					7	2	-	9	-
Austria	8	2							1	1a)					1a)		1				1												1	2	1						4	1	-	5	1
Brazil	15	2		1a)					1	1a)					1a)	1		1			1												2	1a)	1	2					13	-	4	9	-
Burma	3	-																																			2				1	3	-	-	3	-
China	20	13							1														3														3					7	-	-	7	-
Czechoslovakia	6	-													2			1									1								1		1				6	-	-	6	-
Denmark	2	-																																	1	1							2	-	-	2	-
Dominican Republic	1	1																																									-	-	-	-	-
Ecuador	7	-	1													1														1					1	1	1					6	1	-	7	-
Finland	4	-															4	2		4b)												1				2		1				4	-	-	4	-
Hungary	14	1			1																						1									1	2	1			13	1	-	14	-
Indonesia	13	2																																		5		2a)				11	-	3	8	-
Italy	30	9													1	2	1	1					1						1						3a)	5a)	2		3a)			20	1	3	18	-
Japan	3	-													2																						1					3	-	-	3	-
Korea	11	3													2																						3	1				6	-	-	6	2
Mexico	6	2							1																					1a)		1				1						4	-	1	3	-
Monaco	1	-													1																											1	-	-	1	-
Norway	4	-																																		2		2				4	-	-	4	-
Pakistan	13	3									1																1									1		2	3c)				8	-	3	5	2
Paraguay	3	3																																								-	-	-	-	-
Peru	4	-													1						1																	2				4	-	-	4	-
Poland	20	-											2		3a)			1														1		4	2		5				18	1	1	18	1
Portugal	2	-																																		1	1					2	-	-	2	-
Spain	1	-																																			1					1	-	-	1	-
Switzerland	1	-													1																											1	-	-	1	-
Thailand	37	21			1													1		2															4	2a)	2	3				15	1	1	15	-
Turkey	10	3							2																								1				4				7	-	-	7	-
United Arab Republic	27	1											1		2		1														1		2		2	1	6	1	3		2	22	4	-	26	-
Viet-Nam	2	-					2																																		2	-	-	2	-
Yugoslavia	10	-													3		1																			2		1	1			8	2	-	10	-
TOTALS :	287	65																																							202	14	16	200	4
ACCEPTED BY HOST COUNTRIES :			1		1				7		1		3		19		7		4		2		4				3		1		2		3		4		21		42		12		3		140				
UNDER CONSIDERATION BY HOST COUNTRIES:				1		1		2		1						4		7		2																20		23		1			62				
																																											202				

* *under consideration by host country*

a) *One subsequently withdrawn*

b) *Two subsequently withdrawn*

c) *Three subsequently withdrawn*

d) *The figures in this column are found by adding the figures appearing in columns 1 and 2 and substracting those in column 3.*

ANNEX F

OFFERS OF EXPERTS RECEIVED

Country	Number of experts offered	Expense to the Agency
Argentina	not specified	none
Australia	14	not specified
Belgium	not specified	not specified
Canada	not specified	not specified
Czechoslovakia	10	not specified
Denmark	not specified	not specified
France	5 - 10	Agency or recipient countries to pay
India	not specified	not specified
Israel	not specified	not specified
Italy	not specified	not specified
Japan	2	none
Switzerland	not specified	not specified
Union of South Africa	not specified	not specified
Union of Soviet Socialist Republics	20 - 30	none
United Kingdom	not specified	not specified
United States of America	20 - 30	none

ANNEX G

FIELDS OF ASSISTANCE

Fields in which the Agency may render assistance are indicated below although this list does not claim to be exhaustive. Member States can request assistance from the Agency in any field within its competence. [1]

A. Activities concerned with the development of reactors and nuclear power

Ore prospecting, mining and processing (in co-operation, where appropriate, with UNTAA).

Fabrication and processing of nuclear fuels.

Nuclear research laboratories and research centres.

Nuclear research, scientific studies and laboratory services:

(a) Research and studies (in co-operation, where appropriate, with UNESCO) including: nuclear, reactor, solid state and plasma physics, chemistry, geology, health physics and waste disposal, and radio-biology; and

(b) Laboratory services.

Nuclear reactors:

(a) Planning of reactor programme;

(b) Individual reactor projects; and

(c) Reactor safety.

Safeguards:

(a) Accounting;

(b) Stocktaking;

(c) Measurement; and

(d) Storehousing.

B. Activities connected with the use of radiation sources and radioisotopes

(a) Medicine (in collaboration, where appropriate, with WHO) including: diagnostic studies, applications in radiotherapy, clinical research studies;

(b) Agriculture (in collaboration, where appropriate, with FAO) including: use of isotopes in agriculture research, use of isotope irradiation in plant breeding, use of radiation in food preservation and processing; and

(c) Industry (in collaboration, where appropriate, with UNTAA) including: effects of radiation on materials, effects of materials on radiation, detection and measurement of radiation.

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[1] Under its Statute the Agency is authorized to consider requests from "any member or group of members" for assistance in "any project for research on, or development or practical application of, atomic energy for peaceful uses", i.e. it may consider requests from countries which are economically not under-developed. For a more detailed description of technical assistance available from the Agency see the publication "Technical Assistance - Services Available from IAEA" (G/Publ. No. 1, Vienna, December 1958).

C. Other activities relating to both nuclear power and radiation

Health, Safety and Waste disposal:

(a) Technical problems;

(b) Administrative problems; and

(c) Services.

Atomic Energy Legislation.

Library and documentation services.