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on Wednesday, 21 September 1960, at 3.5 p.m.

President: Mr. NADJAKOV (Bulgaria)

CONTENTS

* GC(IV)/130.

The composition of delegations attending the session is given in document GC(IV)/INF/31/Rev.3.

GENERAL DEBATE AND REPORT OF THE BOARD OF GOVERNORS FOR 1959-60
(GC(IV)/114, 126 and 126/Corr.1)

1. Mr. KAKAR (Afghanistan), after congratulating the President on his election, expressed his Government's gratitude to the Agency for its assistance in organizing a nuclear training program in Afghanistan. As a result of recommendations made by the Agency's fourth preliminary mission, which had visited Afghanistan in 1959, equipment worth $23 000 would be received before the end of 1960 for the nuclear physics laboratory of the University of Kabul; the United States Government had agreed to provide the equipment under its offer of equipment to the amount of $200 000 for technical assistance projects undertaken by the Agency in 1960 (see the annual report of the Board of Governors to the General Conference (GC(IV)/114, paragraph 103)).

2. A nuclear physics expert, also provided by the Agency, was soon expected; he would assist in drawing up a development program and setting up the nuclear physics laboratory. In 1961-62 Afghanistan hoped to receive additional equipment worth some $30 000 through the Agency under the United Nations Expanded Programme of Technical Assistance, and had already been awarded numerous Agency fellowships.

3. It was hoped that, by the end of 1961, the University of Kabul would have a fully equipped and staffed nuclear physics laboratory. A request would be submitted to the Agency for an expert in radiotherapy and for a contribution towards the cost of a radiocesium unit for a cancer therapy center which was urgently needed.

4. His Government was well satisfied with the assistance the Agency had provided in 1959 and 1960 and hoped such assistance would continue; it would support any bilateral or international agreements that could benefit mankind.

5. Mr. COUTURE (France) extended his warm congratulations to the President, the first scientist to become President of the Conference.

6. In the Agency's third year of existence, certain expectations had been fulfilled, but fears caused by its inability to carry out some of its statutory functions remained. No dealings in natural uranium had been arranged through the Agency, and two requests made a year previously for small quantities of enriched uranium were still at the stage of negotiation. Nor had any bilateral agreement been registered with the Agency or submitted for execution under Agency supervision as envisaged in Article XII.A of the Statute.

7. His delegation, which had closely followed the Board's study of the safeguards problem and had provisionally approved the principles and procedures submitted to the General Conference[1], continued to believe that the theoretical rules would have to be very flexibly interpreted and adapted when they were actually applied to projects involving Agency safeguards. Otherwise, the Agency might find it had a safeguards system but no opportunity of using it.

8. At a time when the world's main uranium producers were beginning to shut down mines, it was unlikely that a large number of countries would come to the Agency to obtain fuels which were in abundant supply. The same applied to the power reactor construction industry, for which the market was far less favorable than had been hoped some years previously.

9. Moreover, the problem of supervision might be greatly complicated by the advances which had apparently taken place in the technique of uranium isotopic separation by ultra-centrifugation - advances which might enable other countries to produce uranium ^{235} on a more modest scale than that involved in the immense gas diffusion plants, which only the Great Powers could afford.

10. Technically, a peaceful atomic industry could most readily be supervised at the plant where irradiated fuels were chemically processed, i.e. where pure plutonium was produced. That type of plant was not covered in the principles and procedures for the attachment and application of safeguards, which referred to the next two years only, but it was a matter the Agency should study. In that connection, Eurochemic - the irradiated fuel processing enterprise jointly set up by thirteen countries belonging to the European Nuclear Energy Agency (ENEA) - would certainly provide interesting practical data and it would be useful if, under the proposed agreement with ENEA[2], the Agency could arrange to obtain such data.

11. On the credit side, the Agency had continued its valuable work on the dissemination of information, and had trained numerous experts from the less-developed countries in the use of radioisotopes. That type of work should be expanded, especially in regard to the use of radioisotopes in medicine. The French delegation entirely approved the 1961 fellowship program. In 1960, France had received 27 trainees from 12 Member States, and would continue to open its laboratories and lecture-rooms to Agency fellowship-holders.

1/ GC(IV)/108/Rev.1, Annex.

2/ See GC(IV)/121, Annex.

12. Agency conferences and symposia had been extremely valuable. Thanks to their efficient organization, the quality of the reports and the number of eminent scientists who had participated, those meetings had become one of the Agency's most useful activities. France was anxious that the Agency should take an active part in organizing the third United Nations International Conference on the Peaceful Uses of Atomic Energy in close collaboration with the United Nations. In the meantime, the smaller meetings held by the Agency offered one of the rare points of contact between all countries. However, it was generally recognized that the saturation point had already been reached and that too many conferences could be harmful. Consequently, the number should be reduced so that scientists also had time to work in their laboratories.

13. His delegation also approved the Agency's work on health and safety measures and, in particular, the regulations on the handling, transport and disposal of radioactive materials. In that connection, the report of the Panel on Radioactive Waste Disposal into the Sea[3/] was particularly useful. Since his Government was convinced that such problems should be dealt with by an international organization, it had taken a large part in the Vinca dosimetry project, expending a sum roughly equal to its voluntary contribution to the Agency's operational budget for 1960.

14. Technical assistance continued to be the Agency's major activity, although it did not seem to have succeeded completely in finding the right approach. Preliminary assistance missions had helped to define the needs and programs of the countries concerned, but there was a danger that increasing requests and projects might lead to a dissipation of the Agency's limited resources. His delegation believed - and the Conference on Small and Medium Power Reactors[4/] confirmed the view - that during the next few years the Agency would probably have no opportunity of helping to build nuclear power stations in the non-industrial countries, where nuclear energy at present offered few advantages.

15. One lesson of recent years was that some countries had embarked upon atomic energy programs more rapidly than was desirable, with the intention of training technicians to operate power reactors, which they hoped would be available on the world market, competitively with conventional sources of energy.

3/ TO/HS/21.

4/ Held at Vienna from 5 to 9 September 1960.

A time-lag of some ten years was involved, however, and those countries now found that they had plant - research reactors in particular - without having the necessary technicians, programs and financial means.

16. The Agency could play an extremely useful role by helping Member States which so requested to plan work programs for their research reactors, co-ordinating research undertaken with reactors of the same type. Such assistance had four aspects: the collection at Agency headquarters of data on research undertaken with research reactors, with the ultimate purpose of co-ordinating such research; the drafting, also at headquarters, of work programs for the national teams; the training of experimental physicists and reactor managers in centers in the advanced countries; and the provision of experts to help in putting newly-constructed reactors into operation. As part of its previous offer of experts (see Annex VIII to the annual report), France was prepared to place at the Agency's disposal some of the experts trained at the ten research reactors it had in operation, and to receive trainees at Saclay, Fontenay-aux-Roses and Grenoble who could join the teams actually operating the research reactors.

17. Some type of pairing might also be devised, through which an advanced laboratory would become the adviser and guide to a newly-created center.

18. The French delegation had always emphasized the importance of the Agency's scientific and technical activities and approved the program of the functional laboratory to which it had made a gift of electronic material worth 150 000 NF. The laboratory already had useful work to its credit, and would help to retain the services of the excellent technicians already employed at Vienna, and attract others.

19. His delegation approved the Agency's 1961 program as a whole, and hoped that the modest 4% increase in professional staff and the 5.5% increase in the regular budget would enable it to play an increasingly effective part in international atomic collaboration. Although the operational budget was less than one-third of the regular budget, the fact that it depended on voluntary contributions made it more uncertain from one year to the next; that was a defect which should be kept in mind when the Statute came up for revision in two years' time.

20. The French delegation hoped that in the future the Board would avoid the political discussions which had marred some of its too frequent meetings, and that the excellent relations established with the United Nations and the specialized agencies would be strengthened, enabling the Agency to fulfill, as it should, an essentially technical role in regard to atomic energy.

21. Mr. McCONE (United States of America) congratulated the President on his election.

22. He expressed the hope that the Conference would devote its entire attention to the Agency's technical programs and administration. Differences of opinion on those matters should be discussed openly, but political matters, which were beyond the assigned responsibility of the Agency, should be excluded.

23. He was happy to convey to the Conference the following message from the President of the United States, Dwight D. Eisenhower:

"Mr. President and Delegates:

(a) "Nearly seven years ago, at the United Nations General Assembly, it was my privilege to give voice to a hope that was rising in many minds and many places. The hope was to harness the new force of the atom for the benefit of all peoples of all nations. The challenge was to do it.

(b) "The almost universal approval of the Atoms for Peace proposal demonstrated the hope of people everywhere that the great new force of atomic energy would be devoted to the peaceful advancement of mankind. This International Atomic Energy Agency is one expression of that hope. The historic mission of the Agency was to make a new approach to international co-operation - to translate the concept of the peaceful atom into a practical, positive program on a world-wide basis.

(c) "In three short years, the Agency has become the prime international organization in the nuclear field. Its activities are stimulating much of the global effort to bring more people more benefits in this still new atomic age. It is providing sound advice and guidance for the management of many new atomic projects under way in its Member States.

(d) "The Agency is making substantial contributions on an international basis in such fields as education, training, and technical assistance. It is making great strides in spreading the knowledge of many uses of radioisotopes in medicine, agriculture and industry. In addition, the Agency has a paramount role in the development of the necessary health and safety standards.

(e) "This Agency is an organization that has no secrets; an organization devoted to the sharing of effort, research and information; one in which the major Powers can lay aside political differences to work for the common good.

(f) "In broad outline, I can see the Agency fulfilling the basic purposes of its historic charter and thereby contributing to world peace. I can see it as a unique forum where technical skills and resources are pooled for the benefit of mankind.

(g) "The United States is gratified and encouraged at what has been done in three short years. My country will continue to support this organization. I wish for it continued progress and success."

24. The Agency was destined to grow. Science had just begun to reveal the applications of the atom, and as its uses increased, the responsibility of the Agency would grow and it would need moral, technical and financial support.

25. The Agency's achievements were already substantial. It had become the foremost international body providing technical assistance in atomic energy. While it was true that certain applications of the atom had been slower in developing than had originally been expected, that should not cause discouragement nor obscure the worth-while contributions made by the Agency to the benefit of almost every nation.

26. Technical assistance had been provided to forty-five Member States. To train a thousand scientists and technicians in three years was an achievement, but even more important was the fact that the first thousand would in turn train thousands of others.

27. Agency-sponsored conferences on a wide variety of subjects had been of great benefit to scientists and engineers, and the results had appeared in a series of important technical publications.

28. International health and safety standards were vitally important, and the Agency should continue with that work. His delegation was happy to learn that the $50 000 worth of special nuclear materials donated by the United States in 1959[5/] might be used in the new research reactor which was being constructed in Finland. His Government wished to offer a second $50 000 worth of special nuclear material, to be made available in 1961.

29. The United States had contributed substantially to the Agency's regular budget, as well as giving at least half of the voluntary contributions for each of the three preceding years. It had also made special grants, totalling almost $1 million, for the Agency's functional laboratory, the mobile laboratories and equipment, placed $150 000 worth of research contracts through the Agency, and provided more than 200 cost-free fellowships.

5/ See GC(III)/OR.28, paragraph 27.

30. Continued progress demanded that every Member State should support the Agency in a manner consistent with its ability, but not all had done so.

31. His delegation wholeheartedly supported the program and budget proposed for 1961.

32. The application of radioisotopes in medicine, industry and agriculture offered immediate returns and the Agency should continue the excellent work it was doing in that connection.

33. There had been some setbacks and disappointments in the development of nuclear power programs. It had proved more difficult than had at one time been expected to transform atomic energy economically into electricity, while new sources of conventional fuel had been developed in many places and the efficiency of existing plant had been improved. The Agency's approach had been realistic; studies and surveys had provided essential information, and uniform practices had been devised for calculating nuclear power costs. His delegation agreed with the Agency's most recent conclusion that important cost reductions would result from technical advances based on continuous research and development.

34. Under the United States intermediate and small power plant program, several reactors of differing design, ranging in size from 12 000 to 60 000 kilowatts, would soon be completed. In response to an invitation issued in 1959[6/], Agency scientists had seen and studied some of those projects and, in particular, the small, pressurized water reactor designed to provide nuclear power in the range of 20 000 kilowatts or less. His Government renewed its invitation and suggested that the Agency concern itself with the design and operating details of several small reactors included in the current United States program.

35. He had a number of specific recommendations to make.

36. The United States Government considered that the Agency's technical assistance program should be expanded. Up to the present, the primary need had been to train personnel, provide equipment and advise on programs. Those needs continued, but many countries had now reached the stage where actual programs could be undertaken. His delegation accordingly recommended that the research contract program should be broadened and increasingly used to assist

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6/ See GC(III)/OR.28, paragraph 16.

laboratories and institutions in Member States, particularly in connection with such subjects as solid state and reactor physics, radiation effects, basic properties of materials, low-energy physics, shielding, corrosion and so on. An attempt should be made to determine what data of importance to all Member States could be produced in the many new research reactors that were now available; the Secretariat had already made a start in that direction.

37. In research, the Agency was in a unique position to serve the interests of science, and should stimulate research on selected matters of general interest. In that connection, the Scientific Advisory Committee, composed of the world's best authorities in their particular subjects, could provide valuable guidance.

38. The Agency was making good progress in collecting and disseminating information. Its scientific publications were increasing in number and quality, and the library was a most important world repository of data on the peaceful uses of atomic energy. The United States sent the library all pertinent reports, bibliographies, abstracts and other publications, and had to date contributed more than 29 000 documents. Some Member States were following suit, but all States should provide the library with all relevant documents and information.

39. The fellowship program had been highly successful, but it might have to be changed as the needs of Member States altered. Meanwhile the United States would continue to make cost-free fellowships available in 1961. It specifically recommended that the program for exchanging senior scientists and engineers should be expanded and that the Agency should arrange specialized training courses in health physics.

40. Health and safety involved international problems, and protection must keep pace with the development of nuclear facilities. One serious reactor accident could adversely affect programs in all countries but procedures must not be so extreme or drastic as to deny mankind the enormous potential benefits of atomic energy. The work of the Conference on the Disposal of Radioactive Waste[7] and similar activities should be continued and regarded as one of the Agency's foremost tasks.

7/ Held at Monaco from 16 to 21 November 1959.

41. A practical and workable system of safeguards had been devised and put forward by the Board for consideration by the Conference.[8] The need for a system of safeguards had been questioned; his delegation believed that the need was as vital today as when the relevant provisions had been incorporated in the Statute in 1956. The United States was prepared to submit to Agency safeguards four of its facilities - two research and two power reactors - of a type and size envisaged under the Agency system; if the proposals submitted to the Conference were accepted, the United States would request the Agency to inspect the operation of the four reactors in question for an agreed period of time. His delegation urged all Member States to support the proposed system and recommended that an increasing number of bilateral activities should be submitted to Agency safeguards. Several countries which had bilateral agreements with the United States had agreed with his Government to enter into consultations with a view to applying the safeguard provisions as soon as the Agency was prepared to assume the necessary responsibility.

42. He hoped delegates would feel free to discuss with the United States delegation the recommendations he had made, and promised to give the same consideration to constructive proposals put forward by other delegations.

43. His Government was gratified with the progress the Agency had made and was impressed with the opportunities that lay ahead, but future progress depended on the fullest possible support in manpower, material and money from all Member States.

44. Mr. FURUUCHI (Japan), after congratulating the President on his election, assured the Conference of the Japanese Government's continued strong support of the Agency. The past year had seen the establishment of a firm operational basis for the Agency's activities, which could be expected to expand. In executing specific projects, the Agency should try to achieve a well-balanced program that would make a substantial contribution to the needs of all its Member States. One of the Agency's most important functions was the establishment of an effective safeguards system; his Government believed such a system could eventually become the basis of a genuinely universal safeguards system. The first transaction for the supply of uranium through the Agency had taken place at the request of the Japanese Government.[9] One of the

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8/ GC(IV)/108/Rev.1.

9/ See document INFCIRC/3.

main purposes of that request had been to expedite the Agency's establishment of appropriate measures to accompany such transactions, including procedures and facilities for implementing safeguards against diversion to military use.

45. His delegation was therefore very pleased that the principles and procedures for Agency safeguards had been provisionally approved by the Board of Governors, to which it was most grateful. Effect must be given without delay to those principles and procedures, and his Government was ready to apply them to activities in Japan relating to the purchase of three tons of natural uranium through the Agency. His Government had agreed with the Governments of Canada and the United States to hold consultations with a view to requesting the Agency to administer, as soon as it could, the safeguards applicable to the agreements between Japan and Canada and Japan and the United States. Japan's experience would show how the safeguards system could be improved.

46. The increasing importance of health and safety measures was beyond dispute, particularly in view of the development of nuclear activities throughout the world. The Agency was best placed to deal with such problems; it had already done much to promote and co-ordinate research, and to establish international regulations for radiation protection. The problem of radioactive waste disposal into the sea should be solved as early as possible; it specially concerned maritime States, including Japan. His Government urged the Agency to take immediate steps to establish international regulatory measures, including an effective monitoring and registration system such as that recommended in the report of the Panel on Radioactive Waste Disposal into the Sea[10], and to accelerate the development and co-ordination of technical studies on proper methods of waste disposal and measurement, and the investigation of contamination by radioactive waste. Japan could contribute to those studies.

47. Despite the somewhat pessimistic views expressed recently in many countries, the study and development of nuclear power were still one of the main activities in regard to the peaceful use of atomic energy, and the Agency should continue to promote them. Japan was constructing a nuclear power plant, and would be pleased to make available to other countries any information or technical knowledge obtained from the project.

10/ TO/HS/21.

48. Little progress had been made towards the successful use of plutonium as a reactor fuel, though plutonium production was expected to rise because of the increase in the use of source material. The Agency should take the initiative in research on the peaceful uses of plutonium, and should in particular seek effective measures for collecting and disseminating the technical information necessary for the fabrication of plutonium fuel.

49. Since atomic energy activities were expanding on a world-wide scale, and damage caused by the operation of reactors or nuclear ships might affect many countries, it was most desirable that the Agency should take the lead in standardizing rules and principles, with a view to establishing internationally-applicable regulations on civil liability for nuclear damage.

50. Mr. BERGMANN (Israel) also congratulated the President on his election. His delegation appreciated the help given by the Agency to Israel, particularly through the preliminary assistance mission which had studied conditions in Africa and the Middle East. The mission's excellent and well-balanced report correctly outlined the most reasonable method of establishing regional centers. The process must be gradual. Such centers were undoubtedly necessary, for very few countries had enough money and manpower to embrace all problems and aspects of atomic energy. Viable centers, however, could not be established by decree; they must form a logical step in the nuclear development of countries and regions. The Agency would therefore be well advised to encourage national efforts, with the ultimate intention of joining them together with a view to the establishment of regional centers.

51. Israel felt acutely its inadequacy in many branches of nuclear science, and therefore would not yet request the establishment of a regional center in its territory. Its scientists were trying to gain experience in the Israeli training center, which had recently acquired a research reactor by courtesy of the United States Atomic Energy Commission. It would welcome scientists from any other country and, if the number of participants seemed sufficient, would willingly hold courses at the center in an international language. The Government had offered a number of study grants for students from other countries.

52. Experience had shown that training courses were much more useful if followed by participation in a research project for about a year, since the application of newly-acquired knowledge to a practical problem gave the student a more lasting understanding of what he had learned.

53. Preliminary assistance missions had proved to be one of the most useful activities of the Secretariat, and Israel would be proud if its modest experience could contribute to their work. Missions formed a first link between the Agency and, in particular, developing Member States, and so made possible the gradual progress essential for success - gradual in order that the Agency might ensure that technical considerations alone were taken into account in establishing regional centers and that free access to the facilities of the center were available to every country in the region.

54. Because of the Israeli Government's view that science, and the international organizations devoted to science, were the safest basis for true international collaboration, it was somewhat disturbed by the strong political flavor of the Agency's discussions and decisions. It was wrong to assume that world political questions must be solved before an effective approach could be made to the scientific and technical problems confronting humanity. On the contrary, once the latter problems were solved, political difficulties would disappear almost of themselves. Apparently, therefore, the Agency's most urgent task was to strengthen and widen its efforts in research, development, training, and dissemination of information.

55. The collection and distribution by the Agency of data on various subjects of general interest had been most useful, and other subjects warranted efforts by all Member States, directed and co-ordinated by the Agency. Much work was being done by the Agency and other bodies on protection against the effects of radiation, but it was not yet commensurate with the importance of the problem; in particular the possibility of chemical protection had been somewhat neglected. Even more important was the possibility of eradicating insects - both agricultural pests and disease-carriers - by means of ionizing radiation. That problem was particularly important to the new and developing countries, and the Agency could not show them a better example of the benefits of nuclear energy. His delegation welcomed the suggestion in the report of the preliminary assistance mission to Morocco that the possibility of eradicating certain insects by sterilization should be studied.

56. For some time a number of Member States had held that bilateral agreements ran counter to the Agency's aspirations. That was a short-sighted view, since bilateral agreements were the first step towards multilateral agreements

and global co-operation. The Agency should encourage all forms of scientific and technical co-operation, on any scale; from such beginnings would come the ultimate realization of the dreams on which the Agency had been founded.

57. Mr. SCHUMANN (Union of South Africa) conveyed the good wishes and congratulations of his delegation to the President on his election. South Africa was happy that the General Conference had elected a distinguished scientist to preside over its proceedings, and hoped the precedent would be followed in future. It had consistently argued that the most important of the factors essential for success was that the Agency should be primarily a technical body. One element in fostering the Agency's scientific prestige, and so enlisting the help of the world's scientists, was to ensure that the President of the General Conference was a scientist of recognized standing. South Africa also firmly believed that an eminent scientist who happened to be a national of an atomic Great Power should not on that account be regarded as ineligible for the Presidency.

58. South Africa was also glad that the General Conference had welcomed the representative of another African State, and hoped that next year more African countries would apply for membership. Collaboration with other African countries in agriculture, transport, medicine, meteorology and many other branches of science had long been an essential feature of South Africa's external relations, and it looked forward to continuing and developing that collaboration with a growing number of African countries.

59. The prospect that an increasing number of African States would apply to the Agency for membership during the next two or three years naturally raised the question of adequate representation for Africa on the Board of Governors, a problem alluded to in 1959 by the delegates of Morocco[11/] and Tunisia[12/]. In 1956, when the Conference on the Statute had been debating the composition of the Board, it had been the understanding of a number of delegates that one of the three "floating" seats would in practice be allocated to Africa. In other words, Africa had been regarded as entitled to one elective seat in addition to qualifying for an elective regional seat for the area of Africa and the Middle East.

11/ GC(III)/OR.30, paragraph 30.

12/ GC(III)/OR.31, paragraph 76.

60. At that conference South Africa had firmly pledged itself to support an African candidate for one of the three floating seats, and it had consistently remained true to that pledge. Suggestions had been made that Article VI of the Statute should be amended to provide for separate representation of Africa as an area; that problem, however, could not effectively be considered until the Statute came up for review. Until then it would be desirable to bear in mind the understanding reached in 1956.

61. South Africa was pleased to note that the Agency's relations with the United Nations had continued to develop harmoniously, and hoped that the Agency would increasingly take over from the United Nations responsibility for matters within its own jurisdiction, provided, of course, that full use was made of the great experience the United Nations had acquired. For example, although the third United Nations International Conference on the Peaceful Uses of Atomic Energy would necessarily have to be sponsored by the United Nations, the Agency should play a more active and prominent role in its organization than had been possible at the 1958 Geneva Conference. The General Assembly, at its current session, should give full weight to the views of many Agency experts that it would be preferable to hold the next Geneva-type conference in 1963 rather than 1962. From experience gained at the 1958 Geneva Conference, it was also South Africa's considered opinion that the unwieldy size of the Conference militated against efficiency, and that ways and means should be considered for limiting the number both of papers and of delegates and observers. An entirely separate conference devoted to radioisotopes and their applications might be considered.

62. As its own resources developed, the Agency could gradually assume some of the responsibilities of the United Nations for monitoring and measuring radioactivity.

63. In many ways the present general picture of atomic energy differed greatly from what had been expected by the authors of the Statute, in which the main emphasis had been placed on international sponsorship and development of nuclear power projects, and on the establishment of a system of international supervision to ensure that assistance should be applied solely for peaceful purposes.

64. For a number of well-known reasons, the development of nuclear power projects had not proceeded as rapidly as once expected. Accordingly, with the

emergence of greater economic and technological realism, the Agency had come to take a more sober and long-term view of its functions. Emphasis was now being placed on the development in various countries of a sound basis of technological experience, which would be essential when the time came to embark on atomic power projects.

65. South Africa agreed with that approach and had full confidence in the future of atomic power - a significant view since in Southern Africa power from conventional sources was still relatively cheap. The Union, for instance, had almost inexhaustible supplies of inexpensive coal, and power could be produced appreciably more cheaply by conventional than by nuclear methods. None the less, South Africa had recently embarked on a comprehensive and costly research and development program.

66. He welcomed the announcement by the Governments of the Soviet Union and the United States, referred to in paragraph 20 of the Board's annual report (GC(IV)/114), that they were making arrangements for co-operation in the exchange of information on the peaceful uses of atomic energy, and exploring the desirability of joint projects; the Agency would be the repository of the reports and assist in the consideration of possible joint projects.

67. At previous sessions of the General Conference the South African delegation had deprecated the tendency to use the Agency as a forum for the prosecution of political ends. It would be a great step towards mutual goodwill and confidence between the world's two leading atomic Powers, so vital to the success of the Agency, if their two Governments would, before the Board's next annual report was submitted to the United Nations General Assembly, ensure the practical implementation of that agreement on a wide front.

68. Mr. NAKICENOVIC (Yugoslavia) said his delegation noted with satisfaction that marked progress had been made during 1960. More realistic appraisals had been made of the opportunities for the useful applications of nuclear energy, both present and future. A clearer appreciation had been shown of the best way to assist the less-developed countries to prepare for the use of nuclear energy, and of the need to establish the international standards and legislation indispensable to the development of nuclear energy for peaceful purposes throughout the world.

69. Insufficient emphasis had as yet been placed, however, on one of the Agency's main functions: the co-ordination of worldwide efforts to solve the research and development problems still delaying wider application of nuclear energy.

70. With its very limited resources, the Agency had nevertheless managed to supply useful assistance to a number of countries in developing their national programs. Some of its technical assistance activities had achieved positive results: for instance, the training program, with its growing number of fellowships, and the scheme for the exchange of scientists and experts, which should be expanded.

71. The integration of nuclear power into electricity supply systems had raised problems which varied from country to country. The Agency had already undertaken systematic studies of those problems; it should now begin to examine the use of nuclear power in individual countries, particularly in less-developed regions.

72. By means of contracts and symposia the Agency had increased its efforts to promote research on various outstanding questions. It should also stimulate to a greater degree the technological investigation of the uses of nuclear energy.

73. His delegation welcomed the Agency's efforts to promote the use of radio-isotopes in medicine, biology and agriculture, but deplored the fact that their application in industry had so far been neglected.

74. In 1960 the Agency had only partially discharged its duty of disseminating information. Despite declarations made at the third regular session of the General Conference, the countries most advanced in atomic energy had not apparently made available to the Agency any recently declassified information. Work on the drafting of standards and regulations and of international provisions of a legal nature should be accelerated, particularly in cases where scientific criteria had been established.

75. Several important problems concerning the Agency's role as a technical supplier remained unsolved. Projects had been handled slowly and ineffectually. It was time serious consideration were given to the drafting of simple and flexible procedures. The safeguards problem should be solved

as liberally as possible; rights and obligations should be so framed that safeguards could be rapidly attached and applied without undue difficulties to the parties concerned.

76. The time had come seriously to consider amending the Statute, particularly because the conditions under which it had been drafted had changed. For instance, it was clear that the new independent States in Africa should be adequately represented. Moreover, the principle by which Governors were designated and elected favored certain countries, thanks to a criterion which had not been justified even when the Statute had been adopted, and which later developments had refuted. Generally speaking, the Agency should be allowed to operate more rapidly and effectively. For that purpose the procedures of the Board, and the relationship between the Conference, the Board and the Secretariat, should be re-examined. Given a well co-ordinated mechanism, the Agency would be better able to fulfill its statutory functions, advance its activities and increase world confidence in the major role which it must play in the development of the peaceful uses of nuclear energy.

77. In accepting the Board's annual report, and approving in principle the programme and budget for 1961[13/], the Yugoslav delegation hoped that the Agency would receive larger contributions, in keeping with its increasingly responsible tasks of promoting research and developing the worldwide practical use of nuclear energy for peaceful purposes. Yugoslavia would continue to support wholeheartedly the Agency's aims and activities.

78. Mr. BINSON (Thailand) referred to the considerable assistance, through experts and fellowships, granted to Thailand by the Agency. On its side, Thailand had always fulfilled its financial commitments to the Agency, and would welcome the symposium on the use of radioisotopes in the study of endemic and tropical diseases, scheduled to take place in Bangkok in December 1960. With Agency guidance and technical assistance, a 1 MW research reactor was being built in Bangkok under a bilateral agreement between Thailand and the United States. It would be completed about the end of 1961.

79. As soon as the Agency was ready to assume the responsibility, Thailand would request it to administer safeguards, irrespective of whether the facilities concerned were made available through the Agency or under bilateral agreements with other countries. Thailand would also request nuclear material from the Agency in the near future.

13/ GC(IV)/116.

80. Mr. SCHULTE-MEERMANN (Federal Republic of Germany) said his Government had noted with satisfaction the Agency's considerable achievements in the past year with a relatively modest budget. Certain aspects of the Agency's work were of particular importance, and most important of all perhaps was effective technical assistance. The missions sent to a number of countries had been most valuable. They had helped to establish scientific research centers, to draw up nuclear programs, and to solve problems connected with training and with the use of isotopes in agriculture and medicine. The scale of such activities should be increased. The offers of equipment that had been made were also valuable, as was the fellowship program. His Government had been happy to note that a large number of Agency fellowship-holders were working in German research centers. It would provide a number of Type II fellowships for 1961.

81. Much interest also attached to the Agency's studies on reactor design, particularly the design of small and medium-sized reactors. He welcomed the fact that the Agency was paying more and more attention to nuclear power and was trying to obtain a general idea, on a world-wide scale, of the existing situation and the prospects for the future.

82. As in 1959, the Agency had organized a large number of scientific conferences and symposia. The Federal Republic had been glad to welcome the participants to a symposium on the effects of ionizing radiation on seeds and their significance for crop improvement[14/], and would be glad to act as host to other Agency conferences.

83. The Agency had awarded a considerable number of research contracts in the past year, and various institutes in his country had participated in that program. It was gratifying to see that the Agency was concentrating on contracts relating to its primary responsibilities, such as health protection and technical assistance. In that way the Agency would avoid overlapping with the work of international agencies created especially for research work. The tritium research project[15/] seemed particularly important, and his Government was making available a sum of $10 000 to help in carrying it out. The Agency was also to be congratulated on the rapid progress in the construction of the laboratory at Seibersdorf.

14/ Held at Karlsruhe from 8 to 12 August 1960.

15/ See GC(IV)/116, paragraph 188.

84. Another very important task of the Agency was to ensure health protection by drawing up regulations of world-wide scope and getting them accepted by all Member States. For that reason the publication of the Agency's "Standards of Safety for Agency Operations" was particularly valuable. Its work on regulations for the safe transport of radioactive materials was likewise of great interest.

85. It also seemed necessary to standardize by means of an international convention national regulations on the question of liability for nuclear damage. That applied particularly to the case of damage caused by nuclear-propelled ships, where the damage was likely to concern several States. His Government was glad to be able to collaborate with the Agency in that work.

86. The financial policy of the Agency seemed sensible and modest. The 1961 budget envisaged only a very slight increase on the 1960 budget, in spite of the Agency's increased responsibilities. His Government had therefore no reservations to make on that subject. It hoped that the voluntary contributions to the General Fund would reach the target which the Board had fixed. The Federal Republic proposed to make a modest increase in its own contribution to that fund.

87. Mr. REE (Republic of Korea) congratulated the Agency on the excellent work it had done, particularly for the less-developed countries. The work of the preliminary technical assistance mission which had visited Korea in 1959 had been much appreciated. During the current year a mobile radioisotope laboratory had been sent to Korea to demonstrate the techniques of handling radioisotopes for medical, agricultural and chemical purposes. Altogether, 158 persons would complete the courses provided by the laboratory.

88. In response to his country's request, the Agency had also sent to Korea a health physicist and a geologist, who had given a great deal of valuable advice.

89. The fifteen Agency fellowships awarded to Koreans would be of great value in training scientists and technicians, and he hoped that at least the same number of fellowships would be awarded to Koreans in 1961.

90. The establishment of regional training centers and the award of research contracts were other ways in which the Agency could assist less-developed countries. It had taken the first steps towards establishing a regional training center in Latin America, and was contemplating another in the Arab world; similar action should be taken in other areas, particularly the Far East.

91. Mr. BURCKHARDT (Switzerland), after congratulating the President and Vice-Presidents on their election, said his delegation was pleased to see the Board had come down in favor of economy in the 1961 budget. At the present stage, expenditure should be stabilized as far as possible and, in any case, a balance must be maintained between administrative expenses and the objectives which the Agency could reasonably pursue.

92. As regards the operational budget, his Government had decided to maintain its voluntary contribution for 1961 at 50 000 Swiss francs. Among those activities which deserved special mention were the preparatory work on civil liability, which seemed to meet a long-term need, and the expert work on reactor safety, from which Switzerland had derived some benefit already. He thanked the Board, the Director General and the Secretariat for the difficult tasks which they had accomplished in that respect.

93. Mr. ORTIZ TIRADO (Mexico) congratulated the President on his election.

94. All delegations to the fourth regular session of the General Conference were vitally concerned that the Agency should continue to be governed by the principles which had inspired its establishment. Technical and economic difficulties had been met with, but the future could be faced with confidence if a sincere spirit of international co-operation existed. It was clear from the Director General's opening statement that, despite difficulties, much had been accomplished, and the Agency was approaching a period of consolidation. It now largely depended on Member States themselves to ensure that the Agency achieved the aims for which it had been founded.

95. The Board's annual report showed that the year which had just ended was the Agency's first really normal working year. Its activities could be considered under two main headings: those which were intended to be of special benefit to the less-developed countries, and those which were undertaken in the interest of all Member States. Certain major preoccupations were reflected in the fact that, of the 41 research contracts awarded in 1959, 29 concerned radiological protection[16/]. On the other hand, 36 countries had benefited from the advice of missions which had helped them to plan their atomic energy programs. The award of 378 fellowships during the first six months of 1960 brought the total number awarded to 973. Although far from satisfying

16/ See Annex K to the Annual Report to the Economic and Social Council of the United Nations for 1959-60 (INFCIRC/17).

all needs, those activities represented very considerable progress, particularly if account were also taken of the work done on the technical and economic aspects of nuclear power production, and the exchanges of technical information which had taken place at numerous conferences and meetings of experts.

96. In any new evaluation of plans to expand the production of electric power, account must be taken of the continuous increase of known oil reserves and the decreasing capital costs of electricity production from conventional sources, while costs involved in long-term plans for nuclear power production remained constant.

97. At the second regular session of the General Conference his delegation had welcomed the proposal to take part in the Expanded Programme of Technical Assistance,[17] and it was now evident that that co-operation had proved extremely fruitful. The number of requests for technical assistance received by the Agency - including requests for technical assistance missions - had exceeded expectations, confirming the point of view his delegation had always held, namely that, for most countries, technical assistance was vital if they were to develop national atomic energy programs.

98. As his delegation had often pointed out, fellowships should be granted in such a way that the holders, when they returned home, would be able to work in teams. Account should also be taken of the need to train technicians as well as professional staff.

99. The Board had provisionally approved a system of safeguards and put it forward for consideration by the Conference. It was based on the relevant provisions of the Statute and would enable any State requesting assistance to know in advance what type of safeguards the Agency would apply. The requirements of the system should be regarded as maximum requirements, and it should be possible to apply less stringent safeguards where appropriate by means of an agreement between the Agency and the Member State concerned. Safeguards were necessary to ensure that materials or equipment supplied by the Agency were not used for non-peaceful purposes, but at the same time the sovereign rights of States must be respected. As the Governor from Mexico had stated in the Board, safeguards could be applied only in accordance with the spirit and letter of the relevant provisions of the Statute and in conformity with the way in which those provisions had been interpreted at the

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17/ GC(II)/OR.20, paragraph 39.

Conference on the Statute. Otherwise it was likely that many States would refrain from requesting assistance which involved safeguards, or from asking that safeguards should be applied to their bilateral agreements with other States. Mexico could not agree to any regulation or administrative rule which went beyond the stipulations of the Statute.

100. The Mexican National Nuclear Energy Commission continued to pay special attention to scientific and technical training and education, and sent many trainees abroad. Eight universities now had professors qualified in atomic energy techniques. Courses which had been started in 1958 were training technicians for the great responsibilities they would be required to undertake in connection with the application of modern techniques in medicine, industry and agriculture. More than 300 technicians had been trained and their numbers increased every year. Training had been greatly facilitated by the mobile isotope laboratory loaned by the Agency to Mexico for three months. It was hoped to bring all sections of the population within the scope of the nuclear training program through the universities and various educational institutions and centers.

101. Prospecting for radioactive ores, and their exploitation and processing, were matters which received constant attention. Reserves of uranium-bearing ores were conservatively estimated at 275 000 tons, with an average 0.2% uranium oxide content. New deposits were continually being discovered in various parts of the country. Experience in processing such ores had been gained in a small pilot plant, and it was planned to set up one or two semi-industrial pilot plants.

102. Mexico currently had the following laboratories: radioisotopes (with electronics and chemistry sections); crystallography; plasma; actinometry; radioactive wastes; radioactive standards; electronics; and an inorganic chemistry laboratory and pilot plant. A genetics and a nuclear engineering laboratory were also to be established.

103. The Agency had agreed to a request to send a special mission in October 1960 to advise on the Mexican nuclear energy program. He hoped the Director General would visit Member States more often, and he was very glad to announce that the Director General had accepted an invitation to Mexico.

104. Mr. CROVETTO (Monaco) recalled that in November 1959 the Agency had held in Monaco a most successful international conference on the disposal of radioactive wastes, a subject which was closely connected with the question of the safety of marine life.

105. To promote further study of that subject, his Government had offered the Agency, for a period of three years, the facilities of the Monaco Institute of Oceanography, to which had recently been added a center equipped with a laboratory for the use of applied radioactivity, particularly in the form of radioactive tracers in oceanographic studies. Those facilities included ships specially equipped for marine research. His Government had also offered to assume a large part of the expenses of that three-year program, beginning in 1961.

106. The proposal was at present being examined by the Board, and his Government hoped that an agreement would shortly be concluded with the Agency.

107. Mr. OLCAY (Turkey) said his delegation considered that, at the present time, the most important activities of the Agency were the provision of technical assistance, the drawing up of standards and regulations (particularly safety measures), the collection of information on atomic energy and the organization of scientific conferences.

108. With regard to technical assistance, his delegation wished to congratulate the Agency on its fellowship program, from which Turkey had considerably benefited.

109. Requests from Member States for equipment and experts were increasing every year but, for financial reasons, the Board was finding it impossible to meet them all. In 1959 the Director General had been authorized to allocate $125 000 for the supply of equipment. The United States Government had subsequently offered the Agency $200 000 for the same purpose. In the event, $300 000 had been spent on equipment, but much more could usefully have been expended, had the funds been available. Atomic energy equipment was always very expensive. Certain countries which already had sufficient qualified personnel therefore tended to submit requests for technical assistance relating solely to equipment. Such requests should not be refused on the grounds that they had not been accompanied by a request for experts, as was the Agency's existing practice. Each request should be treated on its merits.

110. In any case, in the field of technical assistance many difficulties still remained. Under the Statute the operational program and technical assistance were financed by voluntary contributions, but that system of financing was proving less and less satisfactory and efficient. Of the $1,5 million target for 1960, only $962 837 had been pledged by Member States by 31 August 1960.

111. On the one hand the operational program of the Agency was expanding in scope ($1.8 million for 1961) and requests for technical assistance were continually increasing. On the other hand, it was extremely difficult to draw up plans sufficiently far in advance if the exact total of the funds on which one could count was unknown. The Turkish delegation was of the opinion that the difficulty could be resolved only by a revision of the Statute.

112. The scientific authority of the Agency would depend above all on how far it succeeded in drawing up standards and regulations which were internationally accepted.

113. His delegation had noted with satisfaction that the Board had recently adopted international regulations for the transport of radioactive materials. It was also following with interest the work on regulations for the operation of reactors and for the registration and disposal of radioactive wastes. It was also interested in the proposals for international standards regarding third-party liability for nuclear damage on land.

114. Turkey had been particularly interested in the conclusions of the Conference on Small and Medium Power Reactors, which indicated that important reductions in the cost price of energy from nuclear sources were to be anticipated.

115. Although it was only some years previously that Turkey had begun work on the use of atomic energy for peaceful purposes, much progress had already been made. The advice and recommendations of the Agency's preliminary technical assistance mission which had visited Turkey at the end of 1959 would be of great value in making further progress along the same lines.

The meeting rose at 6 p.m.