



International Atomic Energy Agency

General Conference

GC(VI)/OR.66
10 December 1962
GENERAL Distr.
ENGLISH

SIXTH REGULAR SESSION

OFFICIAL RECORD OF THE SIXTY-SIXTH PLENARY MEETING

Held at the Neue Hofburg, Vienna,
on Thursday, 20 September 1962, at 10.45 a.m.

President: Mr. RAFFOUR (Ghana)

CONTENTS

<u>Item of the agenda*</u>		<u>Paragraphs</u>
10	General debate and report of the Board of Governors for 1961-62 (continued)	1 - 118
	Statements by the delegates of:	
	Japan	1 - 9
	Yugoslavia	10 - 19
	Romania	20 - 30
	United States of America	31 - 69
	Pakistan	70 - 79
	Sweden	80 - 87
	Austria	88 - 101
	Byelorussian Soviet Socialist Republic	102 - 118

* GC(VI)/207.

The composition of delegations attending the session is given in document
GC(VI)/INF/56/Rev.2.

GENERAL DEBATE AND REPORT OF THE BOARD OF GOVERNORS FOR 1961-62
(GC(VI)/195, 204) (continued)

1. Mr. UCHIDA (Japan) said that the most significant point dealt with in the Board's report was long-term planning. Although it was rather early to decide the contents of the programme, it could already be said that it would be necessary to draw up a balanced programme of activities, perhaps even to adopt a priority system, and to simplify the working methods of all the organs of the Agency in the interests of efficiency and economy.
2. In providing technical assistance the Agency had taken full advantage of the resources of the United Nations Special Fund and the Expanded Programme of Technical Assistance, and such co-operation between organizations within the United Nations family should be encouraged.
3. The question of safeguards had lost nothing of its importance. He recalled that his Government was at present negotiating, with the Governments of the United States and Canada, the transfer to the Agency of the administration of safeguards provided for under bilateral agreements.
4. The Japanese Government appreciated the progress made in regard to the regulatory activities of the Agency. It was particularly interested in the adoption of international regulations on the disposal of radioactive waste into the sea, and hoped that the relevant draft convention would soon be completed.
5. With regard to financial questions, his delegation shared the view that the Agency's activities were hindered by the uncertainty of its Operational Budget and he hoped that the General Conference would adopt the draft resolution on that subject submitted by the United Kingdom and a number of other countries, including Japan.^{1/}
6. Reviewing recent developments in Japan in the utilization of atomic energy, he pointed out that the so-called "slow-down" in nuclear power programmes had resulted in an adjustment of the long-term national programme, providing for a better balance, and safer and more stable use of atomic energy for power generation. The long-term programme stressed not only power generation, but also research and development in the industrial uses of radiation sources. A radiation chemistry research centre was under construction.

^{1/} GC(VI)/208 and Add.1 and 2.

7. Japan had 13 reactors in operation or under construction. One of them - the JRR-3, a research reactor of 10 MW thermal output using natural uranium and heavy water, which had been designed and constructed entirely by Japanese scientists and technicians - had gone critical on 12 September. The Agency had helped Japan to obtain 3 tons of natural uranium for that reactor. In that connection, he wished to express his gratitude for the assistance and encouragement given to Japan by the Agency, the Government of Canada and other Governments. Another reactor, of the boiling water type with 46.7 MW thermal output, was due to go critical at the beginning of 1963, and the first Japanese power reactor, of the improved Calder Hall type, with 595 MW thermal and 150 MW electrical output, which had been under construction since the previous year, would go into service in 1965.

8. So far as international co-operation was concerned, his Government had, with the help of several countries in the region, worked out a plan for an international radioisotope centre for the countries of Asia and the Far East, to be established with the Agency's co-operation. Pending the implementation of that plan, a training course on the application of radioisotopes, for fellows from countries in Asia and the Far East, would be held in Japan in 1964. In 1963 Japan would be host to the Agency's symposium on the application of radioisotopes in hydrology.

9. His Government planned to convene in 1963 a conference of countries in Asia and the Far East for the promotion of peaceful uses of atomic energy - another example of the effort Japan was making to further the Agency's objectives.

10. Mr. NAKICENOVIC (Yugoslavia) said that, thanks to new advances and the experience gained in large-scale nuclear power plants, the utilization of nuclear energy for peaceful purposes had now reached a phase in which there were sufficient data for a more realistic appraisal of its future prospects.

11. It was high time for the Agency to define its practical policy in terms of its statutory tasks. In view of the part it should play, he was glad that in the application of radioisotopes in agriculture and medicine, in radiation protection, in regulatory activities, and especially in the organization of scientific meetings, the Agency's work had been both useful and successful.

12. The fellowship programme had also been successful, mainly because it offered excellent training and the opportunity of specialization to young experts. It was regrettable that the funds available for it were tending to decrease, but it was a matter for satisfaction that the procedure for awarding fellowships had been speeded up, and that more fellowships were being provided for subjects which had hitherto received relatively little attention.

13. Under the Statute, the Agency was authorized to concentrate its efforts on nuclear power, with due regard to the needs of the under-developed areas of the world. The results were not very striking, however, and there too the Agency must define its policy more clearly.

14. By 1970, at the present rate of development, considerable experience would have accumulated in the operation of nuclear plants of various types and sizes. The number of countries planning to utilize nuclear power in the near future would continue to increase. But the undertaking was long-term. In the case of a developing country, it required 10 years of preparatory work, systematic, rational and effective. The Agency had a major part to play and should do more than it had in the past. Nuclear demonstration plants on an international basis would be a step in the right direction.

15. It must also plan on a long-term basis, particularly for nuclear power, and attempt more systematically and effectively to give effect to the resolution adopted at the fifth session.^{2/} The necessary conditions for the execution of the plan would have to be created, the Agency's role being defined in terms of the Statute and the realities of the world situation.

16. With the funds at its disposal, the Agency could not be expected to participate in large-scale projects but must devise other ways and means of promoting nuclear power.

17. New, more suitable forms of assistance to the developing countries were needed. Research contracts and fellowships, experts and equipment, should be combined in a single coherent programme designed to achieve specific objectives. If that were done, the technical assistance provided would be far more effective. In view of the disproportion between administrative expenditures and operational costs, a more rational structure of the Secretariat would also help.

^{2/} , GC(V)/RES/105.

18. Finally, a large measure of responsibility for the Agency's difficulties in formulating policy and implementing the decisions of the General Conference devolved on the nuclear powers, which could provide considerably more assistance to the developing countries through the Agency. Unfortunately, the Agency was still too often a forum for political dispute.

19. It was regrettable that the peaceful development of atomic energy was still overshadowed by military programmes. The armaments race was quickening, and more and more nuclear tests were being carried out. His Government considered that an agreement on general and complete disarmament was indispensable, and would continue to oppose all nuclear tests irrespective of who performed them. If the principal powers concerned obeyed the dictates of common sense and if the constructive solutions proposed by the non-aligned countries were adopted, agreement on the prohibition of nuclear tests would be possible. The task of the Agency would then become much easier.

20. Mr. HULUBEI (Romania) stated that the Agency had a number of solid achievements to its credit thanks to the competence and efforts of those who had honestly tried to forge it into an instrument of international collaboration.

21. He recalled the historic moment when, in the General Assembly of the United Nations, Member States had unanimously demanded universal and complete disarmament as the only means of saving humanity from destruction in a nuclear holocaust. His Government was taking part in the work of the Eighteen-Nation Committee in Geneva, and its representatives, while favouring universal and complete disarmament, were prepared to give their support to any other measure which might bring about a relaxation of world tension before it was too late. The Agency had an effective contribution to make in that regard. It had also an important role to play in ensuring that the infinite resources made available by modern science were placed at the disposal of the developing countries.

22. Reviewing the Agency's activities, he was pleased to note the improvements that had taken place. The main scientific and technical problems were being solved with increasing competence and fairly good results were being achieved in the training of experts.

23. He also welcomed the efforts to draw up a long-term plan - a matter of major importance for the Agency's future work. The general outline of the plan appeared to be acceptable. The details should now be worked out and adapted to national long-term programmes, and a start should be made by tackling specific problems. The plan should come up for consideration by the Board; in that connection, a useful and specific proposal had been submitted by the Soviet Union on behalf of the socialist countries.^{3/}

24. The establishment of a radioisotope centre in Cairo was welcome. The exchange of scientific and technical information should be stepped up and studies made to determine the best means of harnessing nuclear power to serve the real interests of Member States.

25. Technical assistance was still not in line with the actual desires and needs of Member States. It was to be regretted, for instance, that the number of fellowships awarded by the Agency had decreased. In 1961 the number of fellowships had decreased by 13% and the appropriation by 34% as compared with the previous year. On the other hand, the number of experts recruited and dispatched to different countries had increased by 53%. That tendency was not to be deplored, but the work of the experts would be more useful if geared to a general long-term plan that aimed at creating favourable conditions for the development of nuclear power rather than being nothing more than a way of meeting occasional requests from countries. In any case, it would be more rewarding to train home experts by means of fellowships. Although the budget had increased, the amount of technical assistance granted had diminished; 16.7% of the budget had not been implemented, and funds in non-convertible foreign currencies had not been fully used.

26. Too much was being spent on research contracts at present and there, too, the absence of a long-term plan made itself felt. The increase of 17% on the 1962 budget could have been avoided had the increase in salaries not been insisted upon and 60% of the expenses of operating the Laboratory charged to the Regular Budget.

^{3/} GC(VI)/OR.65, para. 39.

27. His delegation was unable to support the draft amendment to Article XIV of the Statute; it would violate the principle of voluntary contributions, accepted from the very outset and successfully applied in other international organizations, the United Nations and its specialized agencies.
28. His country jointly sponsored the specific proposal which aimed at satisfying the urgent needs of the developing countries.
29. Romania had a whole array of scientific and technological resources at its disposal for work on nuclear physics and was prepared to make available the results of its experience in reactor physics, the chemistry of radioactive substances and radiochemistry, nuclear interactions at medium and very high energies, neutron physics and corpuscular spectrography. It had also constructed a great variety of equipment and installations with a view to basic research and the peaceful uses of atomic energy.
30. Under the joint programme of technical assistance already announced, Romania could offer fellowships, experts, and nuclear physics equipment of various types to a total value of 500 000 lei.
31. Mr. SEABORG (United States of America) recalled that 20 years had passed since the beginning of the atomic age. During the summer of 1942 the first visible, weighable amounts of plutonium had been isolated, and on 2 December 1942 Dr. Enrico Fermi and his colleagues had produced the first controlled nuclear chain reaction.
32. In the ensuing two decades there had been an enormous development of atomic energy in the peaceful service of mankind. The earliest and most extensive development had been in the use of radioisotopes, which were now produced on a large scale and had become an indispensable tool in agriculture, medicine, industry and science. The exploitation of radioisotopes for human welfare had, however, only begun.
33. Nuclear research facilities had multiplied in the advanced countries and had started to appear in the developing nations. There were now over 200 research reactors around the world, about 30 of them in the developing countries. The number of radioisotope laboratories was also increasing at an impressive rate.

34. Though the pendulum of opinion had oscillated between extreme optimism and an equally unwarranted pessimism, there was no doubt at the present time that nuclear power would soon play a major role in the activities of mankind. For special projects, where there were no other appropriate means and where cost was not a significant factor, nuclear energy had already demonstrated its usefulness. The satellite TRANSIT IV-A, for instance, which had been in orbit for nearly 15 months, was equipped with a thermoelectric generator fuelled with plutonium-238. Weighing about five pounds, the generator had produced over 23 kWh of electrical energy in 12 months, the equivalent of the energy from about a ton of storage batteries. Other nuclear-powered thermoelectric devices were operating as automatic weather stations in the Arctic and Antarctic regions and as navigational units off the shores of the United States. A compact, 1500 kW reactor had been in operation at McMurdo Sound in Antarctica since July, and others were under development for use in remote terrestrial locations and in space. Finally, the Savannah, the first nuclear-powered merchant ship, had made its first voyage.

35. Nuclear power stations were beginning to go into operation in many countries and their number was rapidly increasing. Development programmes were being prepared or carried out in a dozen countries and large-scale nuclear power generators should soon be competitive in places where the cost of fossil fuels was high.

36. During the last two decades atomic energy had greatly contributed to human knowledge. Radioisotopes had enriched man's understanding of such diverse matters as his own evolutionary and cultural history, his genetic heritage, the chemistry of photosynthesis, the lifetime of blood cells in the body, the structures of chemical compounds, and the rate of mixing of the waters of the oceans. Accelerators and reactors had given a new insight into the nature of matter. Technology had greatly developed; in many countries, large numbers of persons of great talent were devoting their lives to discovering new ways of doing things. In some of the newer nations important beginnings were also being made.

37. The development of atomic energy had been marked by greater international co-operation in research, in training and in the acquisition of facilities and, in that regard also, the Agency had had an important role in recent years.

38. However, the peaceful development of atomic energy was not the only feature of the past two decades: there had been other no less significant processes. Their sources could be traced back to the various great movements of liberation in recent centuries. Man had rebelled against authoritarian domination and proclaimed the liberation of the mind, the conscience and the human person, emphasizing the individual and claiming for him rights not previously known. If man had thus succeeded in freeing himself, it was mainly due to the scientific progress which enabled him to accumulate a real knowledge of nature and thus increase his power over his environment.

39. During the past twenty years the search for knowledge and its systematic exploitation had become a conscious part of the social effort of many nations. A large proportion of national resources had been devoted to scientific research. As a result, huge new industries had arisen and communications, transport, agriculture and medicine had been drastically changed, with deep repercussions on political systems, economies and social institutions. However, if those benefits were to be preserved and further extended the reservoir of fundamental knowledge would have to be continuously enlarged.

40. What was now taking place was a transition of some societies into a truly scientific phase; they were dependent upon science for survival and systematically used science to solve material and social problems. The technological nations were at various stages of that transition. Most of the developing nations had not had the advantage of nearly two centuries of technological evolution but recognized that modern knowledge and skills could increase the well-being of their people. They hoped to acquire such knowledge and skills with the help of the Agency, other international organizations and individual friendly States; thanks to that assistance, their development could certainly be speeded up.

41. In the decades to come - assuming that the nations were able to live in peace - a world society built upon a scientific-technological basis was possible, in which famine would be abolished and the reasonable material needs of man everywhere met. Unfortunately, it must never be forgotten that man's new power, if misused, might destroy the promise of a better life. In that connection, the Agency had an opportunity to build the substantive basis to support the political co-operation for which the United Nations had assumed

responsibility. The American people were second to none in their desire for peace throughout the world. The United States Government was firmly convinced that effective disarmament offered the only real security for mankind. However, an examination of disarmament issues in the General Conference could only serve to complicate the task of the Eighteen-Nation Committee on Disarmament and the General Assembly in dealing with that crucial problem.

42. The Agency's role was primarily technical; it was well designed to help the developing nations to acquire more quickly the skills and capabilities necessary for the new age, and well placed to provide objective analyses and guidance in its field. It could contribute to the solution of many problems that knew no national boundaries - disease, hunger, the protection of the oceans and the atmosphere against unregulated waste disposal - problems which could be handled only by the combined efforts of all the countries concerned.

43. Member States should be willing to attack problems outside the immediate sphere of atomic energy if the talents and facilities associated with the Agency were needed - as, for example, the United States had done in connection with research on the desalinization of salt water.

44. In long-term perspective, the Agency clearly had a great potential power for increasing the well-being of mankind. It must build up substantive, productive, enduring programmes that would encourage men's work and help those who needed help in their struggle to reap the benefits that science and technology could provide. That in turn would help to lay the foundations necessary to achieve the ideals of the United Nations, and would contribute in a real way to man's adaptation to his new environment.

45. In the light of those larger possibilities, what should be the goals of the Agency in the years ahead? He personally considered that they should follow those of the Development Decade, suggested to the United Nations in 1961 by President Kennedy and endorsed by the General Assembly, and aim at enabling the developing peoples of the world to achieve in a short time what others had achieved in a century or more. As President Kennedy had said, "... under the framework of the resolution, the United Nations' existing efforts in promoting economic growth can be expanded and co-ordinated. Regional surveys and training institutes can now pool the talents of many. New research, technical assistance and pilot projects can unlock the wealth of less developed lands

and untapped waters. And development can become a co-operative and not a competitive enterprise - to enable all nations, however diverse in their systems and beliefs, to become in fact as well as in law both free and equal nations."

46. On the threshold of an unlimited future, in which atomic energy would play a major role, it was necessary to examine in more detail how the Agency could contribute to it.

47. The question had been submitted to a group of experts in the United States headed by Ambassador Smyth. Although the specific recommendations were still under review, he could say that the general thesis of strong United States support for the Agency was fully accepted by the Government. The programme must, of course, be dynamic, changing in accordance with the needs of Member States. It must be continually under review in order to ensure the most productive use of Agency funds and talents. In that connection he welcomed the spirit of the statement of the Soviet delegate in his general description of a proposed new programme of technical assistance to the developing countries. He felt that the Board should study the detailed proposal as soon as it was made.

48. Recent events seemed to indicate that nuclear power was emerging from the experimental stage. Nuclear power plants were in operation, under construction or planned in Europe and in North America. Japan had two nuclear power reactors under construction and others were being considered. India planned to construct a large power reactor near Bombay, and a number of other countries were actively studying nuclear power programmes.

49. It could accordingly be expected that many nuclear power reactors would be built during the next decade. In view of the growth of populations and the enormous needs for energy, it seemed clear that nuclear reactors would constitute a significant fraction of the world's power capacity in a quarter of a century.

50. The Agency's role in encouraging the worldwide development of nuclear power could be much larger than its present or immediately-projected programmes suggested; in fact that could be its outstanding contribution to the Development Decade. In certain respects it had made an excellent start. Its studies of

potential nuclear power needs in Finland, Pakistan and the Philippines had won an excellent reputation for their objectivity and competence and it would no doubt be called upon to make similar studies elsewhere. It could help to identify the areas where fuel costs were high and nuclear power accordingly likely to be competitive, recommend suitable types of power plant for particular countries, and advise and assist in siting and in the evaluation of hazards. As power technology improved in the advanced countries, the Agency must be prepared to an increasing extent to provide experts and expert advice, materials and equipment, training of plant-operating personnel, and to spread information and provide cost studies.

51. The Agency would render an important service if it helped interested countries to arrange for the financing of their power projects, by providing expert advice and evaluations which could be used by financing agencies such as the International Bank for Reconstruction and Development, the United Nations Special Fund, various national aid programmes and private loan institutions. There were naturally many other ways in which the Agency could contribute to the development of nuclear power.

52. The Government was considering whether the uranium enrichment facilities in the United States could be made available for toll enrichment, on a service basis, of natural uranium delivered by other countries. The United States was prepared to sell, through the Agency, the material for enriched reactor fuel. It had already announced that fuel could be made available on a long-term basis. Foreign users were charged the same price for fuel and re-processing as domestic users. With a view to bringing nuclear power closer to economic feasibility, the price of fuel was reduced as soon as reductions in cost justified it, and prices had been lowered twice in the past two years.

53. During the next decade the world must learn to live in safety and without fear of atomic energy, and many aspects of that adjustment could best be handled by an international organization such as the Agency. There must, for example, be additional assurances that fissionable materials designated for peaceful purposes would not be diverted to military uses. The necessity of further strengthening safeguards had been considered in the United States by the Smyth Committee and the study was continuing in consultation with other Member States.

54. It was worth recalling that the United States had volunteered to place four reactors under Agency safeguards, and that the first inspections had been carried out during the preceding year. That had been done in order to demonstrate the acceptability of the Agency's system. The inspection had provided some initial international experience and should assist the Agency in further developing its work on safeguards. While it was premature to undertake a review of the system, serious work must soon begin on safeguards procedures for large power reactors; uniform international protection must be provided against the diversion to military purposes of materials which were provided for the peaceful generation of power.

55. Uniform international regulations must also be developed to ensure protection against radiation. Work on the safe disposal of radioactive waste, for example, continued to be a matter of urgency. The Agency's international character made it particularly well suited for studies, in co-operation with the Member States concerned, on deep sea disposal and the effects of disposal in long international waterways. It was significant that the Agency was continuing to develop suggested practices for sea disposal. The United States was prepared to participate financially in joint research projects in the field of waste management that were of international interest.

56. His Government supported the Agency's efforts to encourage the full utilization of research reactors, particularly those in the developing countries. He would again like to emphasize - as he had at the fifth regular session^{4/} - the many uses to which a co-operative international high-flux reactor could be put. The Agency's Symposium on the Programming and Utilization of Research Reactors had certainly done much to publicize the need for worldwide co-operation. Its regional meeting in Bangkok in December 1962 was important and would be attended by a number of United States experts.

57. Radioisotopes continued to provide one of the most useful ways of deriving immediate benefit from atomic energy. The Agency's programme was sound, and he hoped that an unflagging effort would be made to extend the application of radioisotopes in medicine, agriculture and industry; the Agency, for example, could serve as a focal point to increase interest and co-operative work in food irradiation and the disinfection of grain.

^{4/} GC(V)/OR.50, para. 8, (27) and (28).

58. Trained intellects were, without doubt, the most valuable resources of any nation. It was especially important, if the Development Decade was to have real meaning, that the intellectual resources of the developing nations should be cultivated to the greatest extent possible. The Agency had recognized that need through its training and technical assistance programmes, which were among the most beneficial of its activities. To many countries, such assistance had provided the most immediate evidence of the Agency's usefulness.

59. In the light of the considerable experience it had now gained with the fellowship programme, the Agency should review the selection and placement procedures in order to ensure that, to the greatest possible extent, the programme would meet the needs of the developing countries. It must continue to see that applicants were well qualified, that their study programmes were carefully planned, and that the time required to place them was reduced to the minimum. The fellowship programme should be carefully integrated with other forms of technical assistance, particularly the provision of equipment and experts, so that the fellowship-holders would be able to make the best possible use of their training.

60. The United States would continue to receive Agency candidates and would endeavour to place fellows where appropriate. It might be mentioned that the Cambridge electron accelerator, which had gone into operation on 14 September 1962, would be made available to suitably qualified scientists from other countries, including Agency fellows.

61. The offer to donate up to \$50 000 worth of special nuclear materials for use in Agency research and medical therapy projects was being renewed for 1963.

62. Both the conferences and the publications of the Agency had been generally valuable. For example, the Conference on Plasma Physics and Controlled Nuclear Fusion Research was widely praised in the scientific world and the Plasma Physics Journal was held in the highest regard. The various symposia organized by or in co-operation with the Agency had provided the developing countries with useful information on radioisotopes. The Agency's prestige would be further enhanced if it continued its programmes of conferences and publications in carefully selected areas.

63. During the preceding session the United States delegation had expressed the view that a third international conference on the peaceful uses of atomic

energy might be held in 1963 under the Agency's auspices.^{5/} In the meantime the Scientific Advisory Committee (SAC) had recommended that the third conference be held in 1964 and sponsored by the United Nations with Agency co-operation and assistance. In view of that recommendation, he urged all delegates to recommend that their Governments should support a resolution to that effect at the present session of the General Assembly, which would give the Agency major executive functions. A conference of that kind in 1964 would entail some curtailment of the Agency's programme of meetings for the same year.

64. In view of the practical limitations of its resources, the Agency should explore means of helping Member States in ways that did not call for additional expenditure on a large scale. Could not the Agency, for example, serve as the starting point for new international co-operative ventures and as a forum for States interested in facilities that were often too expensive for a single nation? The Agency could provide secretariat services and do some of the required studies.

65. Welcome progress had been made towards ratifying the amendment to Article VI of the Statute, whose purpose was to increase the membership on the Board of the countries of Africa and the Middle East.^{6/} It was to be hoped that Governments which had not yet accepted the amendment would take the necessary steps to do so during the present session.

66. The United States also strongly supported the earliest resolution of the Agency's financial difficulties. The present system was not satisfactory and long-term planning was unlikely to give the desired results until the Agency's programme rested on a solid financial foundation, namely a budget based entirely on assessed contributions. There seemed to be widespread support for that solution among many Governments of the technologically less advanced countries, and the studies proposed for the Board to undertake would no doubt result in a formula which would meet the needs of the Agency while accommodating Member States that had special financial difficulties. The problem must be solved as soon as possible; the Agency could not be expected to grow sufficiently to cope with the tasks ahead when, year after year, the operational funds which were budgeted were not forthcoming.

^{5/} GC(V)/OR.50, para. 8, (35).

^{6/} GC(V)/RES/92.

67. Mankind's prospects and the Agency's potential for serving man, twenty years after the release of atomic energy, brought several thoughts to mind.

68. The explosive growth of knowledge during the period in question had had two main results. First, men had obtained the power, through science and technology, to create their own environment, to abolish want, and to enhance the dignity and meaning of individual human life. Secondly, there was the paradox that that same power was so great as to become a new factor in the environment, testing man's capacity to maintain a high civilization. The mechanisms most essential for human adaptation to that new factor were strong and effective international organizations which could maintain and strengthen working relationships between nations. By its very character, the Agency must be one of the most important in strengthening such relationships and in spreading the benefits of science and technology around the globe, and it must not be allowed to falter in that task.

69. The fulfilment of that mission depended, however, upon the vision of its Member States and the extent to which they gave it their moral and financial support. No one nation, no handful of nations, could make a world organization succeed. Each, so far as lay within its power, must lend strength to the Agency, not only in return for the benefits it might now receive but perhaps even more for the much larger rewards that lay ahead as the world community moved further into the atomic age.

70. Mr. SALAM (Pakistan) said that, for the developing countries, the Agency could have only one criterion of success: the extent to which it contributed to their own development. They were not unduly worried, therefore, by political controversy in the Agency or organizational defects in the Secretariat. The real trouble was that, in present circumstances and from the point of view of the general development of countries which were still relatively backward, the scope of the Agency's activities was all too narrow.

71. No one doubted the great role the Agency would play in the world of tomorrow but, as the Director General had emphasized, that world, for the majority of developing countries, was at least ten years away. If things went on as they were, all the assistance most countries would have received would consist of banks of Geiger counters, the training given to some students in reactor calculations, and possibly Agency help in obtaining fuel for research reactors. That really was not all that the developing countries needed.

72. It had not been recognized at the time the Statute was being drawn up that, to benefit fully from atomic science, a country must already possess a very wide range of scientific competence. However, most national atomic energy commissions had soon realized that they must act as focal points for the development of the natural sciences in general. The Pakistan Atomic Energy Commission was training mathematicians, physicists, engineers and biologists not only for its own institutes but also for other scientific bodies in the country. The Agency must recognize the necessity of doing likewise. Atomic science involved practically all the other scientific disciplines and it was necessary to call on them in exploiting atomic energy. That opinion, he believed, was shared by some of the most eminent experts in atomic energy.

73. His delegation accordingly urged that the Agency should widen the scope of its activities, if necessary modifying the Statute in such a way as to make it possible to utilize the costly superstructure the Agency had built up to give the smaller countries that thorough grounding in the natural sciences which, as the delegate of the Soviet Union had so eloquently emphasized, was essential to their overall development.

74. His delegation was not thereby suggesting that the Agency should compete with other United Nations organizations or scientific bodies. It did feel, however, that the Agency had the materials, the men and the means to do precisely that job, and that by so widening the scope of its activities the Agency would escape a sterile future as a mere nuclear broker; it would also gain the prestige in the scientific community which it sorely needed.

75. It was in precisely that spirit that the Pakistan delegation had co-sponsored, in 1960, a resolution proposing the creation of an international centre for theoretical physics under Agency auspices. Theoretical physics, needing no elaborate experimental equipment, was a discipline in which a scientist even from a small country could leave his imprint, making as deep, incisive and penetrating a contribution as anyone else. The reply to the frequently-asked question whether more high-level theoretical physicists were needed was emphatically affirmative; it was through such men that the tradition of true science took roots and grew. His delegation very much hoped that the Agency would agree to create the centre.

76. Where were the funds to come from? It seemed not a little ironical that a world which could afford \$120 000 million for stockpiling armaments could not find more than a grudging \$6 million for the work of an organization like the Agency. The real affliction of humanity was too much science on one side and not enough on the other. Dared one hope that one day a way would be found to redress that imbalance in science and its financing? It might be well to consider the United Kingdom proposal to integrate the budget as a possible way of increasing the total funds available.

77. By 1965, 14 research and power reactors of over 25 MW each would be in operation in countries outside the so-called nuclear club. Those reactors could be used for the manufacture of atomic weapons, and neither the repeated assurances given by the countries in which they were situated nor the bilateral agreements under which they were operated could entirely eliminate that risk. He accordingly appealed to such Member States to agree voluntarily, in a spirit of international co-operation, to submit the operation of the reactors to the observation of resident teams of scientists. As the Director General had said, if that were not done now it never could be done.

78. So far as the working of the Agency was concerned, his delegation believed that all technical assistance activities should be placed in the charge of a single Deputy Director General appointed exclusively for the purpose. At present, items like fellowships, the supply of equipment, the assignment of experts and so on were all dealt with in different parts of the Secretariat, and no measure of co-ordination could hope to make that system really efficient. The only solution was to group all such activities in one service. Incidentally, not a single one of the four Deputy Directors General came from a developing country, so that the majority of Member States were deprived of an opportunity of having their problems personally appreciated at the highest level in the Secretariat.

79. There was also a regrettable dispersion of technical resources. His delegation, with a view to obtaining maximum results, would prefer to see the Agency's financial resources concentrated on one or more selected programmes in each country.

80. Mr. BRYNIELSSON (Sweden) said that, as an outgoing Governor, he would like to begin by commenting on the work of the Board. The substantial

decrease in the number and length of its meetings, while saving time and money, had by no means meant that the Board was neglecting its responsibilities. There had on the contrary been a year of concentrated work in which the outgoing Chairman and the Director General had played a very important part. It was to be hoped that the existing trend would continue and that the Conference would follow suit, and it was with that in mind that his delegation had proposed to the General Committee that the sixth session be shortened to the minimum that was consistent with proper deliberation.^{1/} By being more businesslike and more matter-of-fact the Agency would increase its prestige and facilitate its own work. Efforts were being made all over the world to make atomic energy competitive. However, it must be competitive not only economically but also from the psychological point of view. An atmosphere of reluctance, fear and bureaucratic red tape still surrounded the peaceful atom, and it should be eliminated to the greatest extent possible. Atomic energy must become ordinary and undramatic. The Agency had an important role to play in that regard. It could be really useful to all its Member States by concentrating on problems which demanded international co-operation, such as the establishment of accepted rules for health and safety, waste disposal and transport, and so on. That in turn would help to dispel unfounded fears and make atomic energy acceptable as a form of energy like any other. As many countries lacked the necessary experience to deal with the transport of nuclear materials, he suggested that the Agency might look into the possibility of establishing a permanent expert committee which Member States could consult and which could help in drafting, implementing and amending the necessary international standards.

81. As the Director General had pointed out, all the available sources of energy must be taken into account in planning a country's power supplies for the ten or twenty years to come. A study of the advantages of combining different sources of energy was being carried out in Sweden and seemed likely to provide interesting data which would be made known in due course to the Agency.

82. Careful planning in the utilization of available sources of energy was no less important in the developing countries. The Agency could do them an important service by offering its assistance in power planning, not only with

^{1/} GC(VI)/GEN/22.

a view to promoting the use of atomic energy, but as an unbiased adviser. Hence the desirability of including experts in all aspects of energy in Agency field missions. The attention of the United Nations and its agencies should be drawn to the important services the Agency could offer.

83. Technical assistance was one of the most important, if not the most important activity of the Agency, and the Director General's report showed that the Secretariat was fully aware of the fact.^{8/} Nevertheless, the Agency had apparently been unable on several occasions to answer requests for urgent assistance from Member States because the Director General could take no decision without the Board's prior consent. The Director General should be given more liberty of action, and a contingency fund should be set up to deal with such cases.

84. It was even more important that the necessary financial means should be put at the disposal of the Agency. The annual report showed that the aid given by the Agency had slowed down in 1961 because voluntary contributions had been insufficient. If the Agency was to survive as an active instrument of international co-operation, the present situation must be put right. He reserved the right to refer to the problem again when the proposed United Kingdom amendment to the Statute - which, incidentally, his delegation had received very favourably - came up for discussion.

85. In Sweden atomic energy would be called upon to play an increasingly important part as a source of power during the next decade. It was estimated that by 1980 the production of nuclear power in Sweden would probably reach between 3000 and 4000 MW electric; for a country like Sweden that was a bold programme.

86. In 1963, the first Swedish prototype natural uranium, heavy-water reactor would go into service at Ägesta. It would produce 55 MW thermal, 10 MW electric and would be largely experimental. In 1968, a heavy-water reactor rated at 150 to 200 MW electric would be installed at Marviken. Probably at the beginning of the next decade a full-scale 400 to 500 MW station would be commissioned, followed by one or two more of the same size to be commissioned in successive years a few years later.

^{8/} GC(VI)/OR.63, para. 39.

87. He hoped that the experience gained from that Swedish programme would interest the Agency and its Member States. With that in mind Sweden had begun discussions with the Director General with a view to putting two fellowships at the disposal of the Agency at the Ågesta prototype power reactor.

88. Mr. WALDHEIM (Austria) recalled that the General Conference had, at its preceding session, recognized that the still very high investment costs of nuclear stations and installations were hindering the realization of national nuclear power programmes and even the Agency's own work. Thus after years of illusory optimism it had become necessary to adjust activities to the more realistic assumptions now made about the future of nuclear power.

89. Austria had followed with particular interest the constructive work done by the Board during 1962 and complimented the Director General on what he had done to give effect to the resolutions adopted at the fifth session. The better spirit of co-operation that now prevailed could not but serve the interests of all Member States, and particularly the developing countries.

90. He warmly approved the recommendations contained in the Director General's report, sharing the opinion that the success of the long-term programme depended largely on generous support from all Member States; obviously, the Agency could not fully carry out its technical aid programme unless provided with the funds to do so.

91. General agreement on the United Kingdom draft amendment to Article XIV of the Statute could hardly be expected during the present session, and so he approved the United Kingdom delegate's suggestion that the question be referred to the Board for further discussion and report.

92. As the host country, Austria did not wish to pronounce on the question of holding the General Conference every two years only, but saw no objection to that arrangement if it appeared to be in the Agency's interests.

93. More should be done about the practical applications of atomic energy. Cost studies would certainly prove useful to certain Member States; above all, the smaller countries must clearly know the cost of a nuclear power programme. If their need for nuclear power was not urgent, limited resources might be better used on advanced reactor programmes.

94. Agency studies should take account of the advanced techniques for the generation of nuclear power. The Agency should also advise the developing countries on matters of power in general in order to help them to avoid investing in projects of doubtful value. The collaboration of power specialists from the various United Nations organizations should be enlisted and it might be desirable to set up a "Joint Power Division", which would be attached to the Agency.

95. In connection with training and the exchange of information, the Agency had organized scientific symposia and panels and, under the fellowship programme, many scientists and technicians had been enabled to acquaint themselves with various aspects of the peaceful uses of atomic energy.

96. The Austrian delegation knew very well how valuable that programme was, since numerous Austrian graduates and scientists had received specialist training under it in various atomic centres abroad. Austria was happy to be able, in its turn, to offer Agency fellows a year's training as from 1963 at the Seibersdorf atomic energy study centre, and hoped that young scientists from the developing countries would be able to take advantage.

97. Austria also intended to place the installations of the Seibersdorf centre (including the 5 MW ASTRA reactor) at the Agency's disposal part of the time for the purposes of a long-term training programme on the lines suggested by the Director General. That programme could start in 1963 in collaboration with the Agency's radioisotope laboratory, and the Austrian authorities would do everything in their power to ensure its success.

98. The Agency had acquired considerable experience in the application of atomic energy in agriculture, chemistry and biology, and seemed the body best suited to co-ordinate the scientific work of the other international organizations interested. Such co-ordination was bound to benefit Member States, and the Agency should take the leading role in that respect in all technical atomic energy activities.

99. The increasing applications of atomic energy seemed to justify holding a third Geneva-type conference on the peaceful uses of atomic energy, as recommended by SAC. The question must be considered by the United Nations, but the Agency would necessarily be deeply involved in any case.

100. With regard to legal matters, international regulations governing the transport of radioactive materials and the disposal of radioactive waste were undoubtedly of importance, and his delegation hoped it would prove possible to adopt the draft convention on civil liability of operators of nuclear installations at the diplomatic conference which, he was pleased to say, was to be convened in Vienna.

101. The Austrian Government welcomed the amendment to the Statute giving two additional seats on the Board to Africa and the Middle East. The number of Member States had considerably increased, most of them being only at an early stage with regard to the development of atomic energy. But that should not lead to controversy about the respective roles of the advanced and the developing countries within the Agency. Only by frank and close collaboration between all Member States could the Agency attain its noble objectives and serve the best interests of humanity.

102. Mr. CHEVTCHENKO (Byelorussian Soviet Socialist Republic) considered that atomic science had made considerable progress during the past year. Scientists from many countries were at present helping to set up new atomic power plants and develop better and more economical reactors, including fast-neutron and nuclear superheat models. The use of radioisotopes was being extended in medicine, agriculture, hydrology and industry. The Byelorussian Soviet Socialist Republic was paying very great attention to those matters. In May 1962, it had started up an IRT-2000 research reactor whose inauguration marked the first stage in setting up a nuclear power centre. The nuclear reactor at the Byelorussian Academy of Sciences served several institutes and was also used in teaching nuclear physics at the University.

103. Satisfactory arrangements had been made in the Republic for training specialists in nuclear physics, nuclear spectroscopy, radiobiology, the production of nuclear power and the utilization of radioisotopes in medicine, agriculture and industry.

104. All that showed that the Byelorussian Republic was truly able to help, in collaboration with the Agency, in carrying out the programme of assistance to developing countries proposed by the socialist countries.

105. Scientists from the developing countries would be welcome to come for training free of charge in Byelorussian scientific and research establishments

and to take advanced courses, lasting one or two years, in nuclear spectroscopy, the operation of research reactors and the utilization of isotopes in industry. Fellowships were offered to cover the training of scientists in nuclear physics. Specialists in the production of nuclear power, the utilization of isotopes in industry, and in theoretical physics could also be provided.

106. Experience in collaborating with the developing countries was already considerable. Thus, nearly 400 students from Asian and Latin American countries were studying at the State University and the Byelorussian Polytechnic Institute; a group of Indonesian specialists were familiarizing themselves with reactor start-up operations; and Iraqi scientists were shortly expected for training.

107. The Byelorussian SSR had always been in favour of widespread international co-operation, particularly within the framework of the Agency. Unfortunately, experience over the last five years had shown that the Agency's activities were subject to certain defects which hindered true international co-operation. That was particularly true of some of the Agency's essential functions as, for instance, the supply of fissionable materials and equipment to countries in need of them. The facts showed that there was much to be desired. The quantity of equipment hitherto supplied by the Agency to Member States was altogether inadequate and represented only 16% of the expenditure incurred on all Agency projects whereas, under the rules, it should not be less than 25%. Matters were no better with respect to deliveries of fissionable materials. The Agency failed to make use of all the fuel placed at its disposal mainly because Member States refused to accept the system of control and safeguards attached to the supply of fuels, a system that had been forced on the Agency by the Western Powers and was offensive to the prestige and sovereignty of developing countries.

108. Eighteen months' experience of the system of control and safeguards had entirely confirmed the view of many countries, of which the Byelorussian SSR was one, that the system could do nothing to help encourage the "practical application of atomic energy for peaceful uses". The system instituted by the Agency was doomed to failure from the beginning and the Secretariat did not now deny the fact.

109. The impossibility of applying the safeguards system was by now well known to its authors. A much-publicized United States project under which four reactors were placed under Agency safeguards was intended to persuade countries receiving Agency assistance that the system was really necessary. A superficial analysis of the American proposal, for which large sums were allocated in the Agency budget, sufficed to prove the contrary; they were four second-class reactors which, even without safeguards, would obviously not serve military purposes. On the other hand, the United States allotted to the production of nuclear weapons several much higher-powered reactors, none of which had been placed under Agency safeguards.

110. The training of scientists was another Agency activity that was of particular importance to the developing countries, as they now needed scientists for all purposes, and especially in connection with the peaceful uses of atomic energy. However, there had been a tendency of late for the Agency to reduce the training programme, a fact expressly recognized in the Board's annual report to the General Conference.^{2/} The argument put forward by the Secretariat in justification, i.e. that the Agency lacked the necessary financial resources because "voluntary contributions again failed to meet the target set", was not convincing. If the Agency lacked the money to supply technical assistance to countries in need of it, and more particularly for the training of scientists, why had the Secretariat for several years blocked the funds offered for technical assistance? Why were the voluntary contributions offered by certain States - particularly by the Soviet Union - not utilized in due time?

111. But, instead of ending an abnormal financial situation, it was now proposed to combine the administrative and operational budgets, thereby increasing the financial obligations of Member States. That was the purpose of the proposed United Kingdom amendment to Article XIV of the Statute, which the delegation of the Byelorussian SSR emphatically rejected, considering that its adoption would derogate from the established principle, recognized by the United Nations, that contributions for technical assistance should be voluntary. The transformation of voluntary into obligatory contributions would make it difficult for many States to participate in the Agency's work.

^{2/} GC(VI)/195, para. 2.

112. The Secretariat allocation of 70% to 75% of the funds appropriated for scientific and technical assistance to States forming part of the Western military and political blocs, while the neutral and socialist countries together received only some 25% to 30%, could not be considered tolerable..

113. Irrespective of whether a question was important or not, the policy of the Secretariat and its heads was framed in the interests of one group of States. In December 1961, the United States had only had to express the desire for an observer from the Agency to attend an underground atomic explosion in the State of Nevada for the Secretariat to send a representative there, without troubling itself about the fact that the Agency would thus lend its authority to the beginning of a new series of atomic tests of great power to be carried out by the United States, and by that very fact violate the Statute. The Secretariat was simply complying with the wishes of the United States, and it was only after strong protests by the Soviet Union and other socialist countries that that inadmissible course was abandoned.

114. The reason why the Agency had still not become a universal organization was that for many years the United States and its allies had opposed the admission of a group of socialist States whose social and political structure was not congenial to some Western countries.

115. The delegation of the Byelorussian SSR was firmly convinced that nothing would contribute more to the development of international collaboration in using atomic energy for peaceful purposes, or better promote the Agency's work, than a satisfactory solution to the problem of general and total disarmament. The Government of the Soviet Union spared no effort to reach such a solution. If that vital problem on which the fate of humanity as a whole depended had not been solved, it certainly was not the fault of the Soviet Union and the other socialist countries. The Western Powers, which did not wish to disarm, were alone to blame.

116. General and total disarmament would set free enormous material and spiritual resources which, in the present armaments race, served for the production of arms of massive destruction. It would free those resources for the development of atomic energy throughout the world, the supply of technical and economic assistance to developing countries and, in particular, would assist the latter to establish their own atomic industry and improve their methods of combating disease, thereby improving working and living conditions in many countries throughout the world.

117. An overwhelming majority of the world's population had come to recognize that general and complete disarmament would be of inestimable value to the whole of mankind. That had been underlined at the World Congress for General Disarmament and Peace, the most fully representative ever held on that matter of primary importance, which had taken place in Moscow in July 1962. Speaking before that Congress, Mr. Khrushchev, President of the Council of Ministers of the USSR, had said that disarmament and peace would set free countless productive resources now tied up by war industries; the immense resources hitherto swallowed up by military preparations could serve to meet mankind's countless and urgent requirements.

118. The Agency could not and should not stand aside from the problem of general and complete disarmament. It should make its contribution to achieving that vital goal. It should for example very carefully consider to what extent general and complete disarmament would help to quicken the pace at which atomic energy could be developed for peaceful purposes throughout the world.

The meeting rose at 1.5 p.m.

