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RECORD OF THE ONE HUNDRED AND FORTY-EIGHTH PLENARY MEETING

Held at the Neue Hofburg, Vienna, on Friday, 24 September 1971, at 10.50 a.m.

President: Mr. OTERO NAVASCUES (Spain)

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* A provisional version of this document was issued on 7 October 1971.

** GC(XV)/469.

THE RECORD

CLOSING DATE OF THE SESSION

1. The PRESIDENT pointed out that, under Rule 8 of the Rules of Procedure, the General Conference had to fix the closing date of the session, on the recommendation of the General Committee.
2. The General Committee had considered the matter and had authorized him to recommend on its behalf that 27 September be fixed as the closing date, subject to all business having been disposed of by then.
- 3. The General Committee's recommendation was accepted.

GENERAL DEBATE AND REPORT OF THE BOARD OF GOVERNORS FOR 1970-71 (GC(XV)/455, 466) (continued)

4. Mr. KRASIN (Byelorussian Soviet Socialist Republic) said that the participants in the Third International Conference on the Peaceful Uses of Atomic Energy at Geneva had all recognized that atomic energy could be widely used for peaceful purposes and had predicted that nuclear power would soon undergo extensive technical development. At the Fourth Geneva Conference many papers and exchanges of view had confirmed that mankind had indeed acquired mastery over a reliable, safe and economic form of power and had established a new technical foundation for promoting economic prosperity.
5. Having carefully studied the documents submitted by the Board of Governors to the General Conference and having listened attentively to the statement by the Director General [1] and those of various delegates, his delegation associated itself with the view that the Agency had done much during the past year to promote the introduction of nuclear science and technology and the application of atomic energy for peaceful purposes in many countries, particularly the developing ones. The Agency's Secretariat had indeed laid the foundations in record time for the International Nuclear Information System (INIS) - the first international information system in the world.
6. His delegation noted with satisfaction the successful work done by the Board's safeguards committee, which had drafted a model agreement between States and the Agency in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) [2], and welcomed the fact that the first actual agreements had been concluded and that others were being negotiated by a number of countries. It was essential to speed up the conclusion of safeguards agreements.
7. His delegation was opposed to the excessive increase in the Agency's budget for 1972. However, it approved of the increased expenditure on safeguards in connection with NPT.
8. Turning to the principle of the universality of the Agency, he pointed out that so far a sovereign European State - the German Democratic Republic - had not been admitted to membership. The purposes and problems of the Agency could only be fulfilled and solved if the principle of universality laid down in the Statute was observed. As was well known, Article IV of the Statute stated that any State, whether or not a Member of the United Nations, which accepted the Statute could become a Member of the Agency. That provision was entirely relevant to the German Democratic Republic, which met all the conditions of the Statute relating to admission to membership and whose policy accorded with the purposes and principles of the Charter of the United Nations. The German Democratic Republic was an industrially developed country, and its achievements in the realm of the peaceful uses of atomic energy were recognized the world over and could make a valuable contribution to the solution of problems facing the Agency. The German Democratic Republic was able and ready to use its advanced nuclear power industry and technology in the interests of co-operation. The Byelorussian delegation wholly endorsed the German Democratic Republic's right to be admitted to membership of the Agency.
9. The Twenty-fourth Congress of the Communist Party of the Soviet Union, held in March-April 1971, had summed up the results of the eighth five-year plan of economic development in the Soviet Union (1966-1970) and had established the objectives for the ninth five-year plan. The principal aim of the new five-year plan was to ensure a considerable improvement in the material and cultural living standards of the people by means of a rapid rate of development of socialist production.
10. The past five-year plans had marked a period of rapid development of Soviet science and technology, but quicker progress in that sphere remained one of the principal aims. A great deal had been done in Byelorussia towards laying the proper foundations for improving scientific and technical standards in many spheres of production. There were now 176 scientific institutions employing 22 000 scientists, a number which had increased by 7000 during the past five years alone. At the present time one scientist in four was a Candidate (Master) or a Doctor of Science.
11. In giving practical form to the directives of the Twenty-fourth Congress of the Communist Party of the Soviet Union and the Twenty-third Congress of the Communist Party of Byelorussia, Byelorussian scientists had achieved substantial successes in the peaceful uses of atomic energy. At present a large number of institutes, medical centres,

[1] GC(XV)/OR, 144, paras 5-35.

[2] Reproduced in document INFCIRC/140.

enterprises and institutions were using atomic energy for peaceful purposes.

12. Based on the results of work carried out during the past few years, a paper had been presented at the Fourth Geneva Conference about a new idea for the use of dissociating gas as a coolant in atomic power stations with fast-breeder reactors; there were grounds for hoping that the innovation would considerably improve the technical and economic characteristics of such power stations.

13. Highly qualified workers in nuclear physics and nuclear power were being systematically trained in Byelorussia. Ten to twelve Candidates (Masters) of Science graduated each year from the Nuclear Power Institute of the Byelorussian SSR Academy of Sciences alone.

14. At the present time work was proceeding in Byelorussia on the radiosterilization of medical instruments. Work had started and would continue on seed irradiation before sowing aimed at increasing yields and improving the quality of agricultural products, and on the irradiation of food commodities for purposes of improved preservation. Work was in course on the modification of materials through radiation.

15. Byelorussia was taking part in international exchanges of experience gained in the peaceful uses of atomic energy. During the past year scientists and technicians from Hungary, Poland, the United States and other countries and the Agency had visited the Nuclear Energy Institute of the Byelorussian SSR Academy of Sciences.

16. Byelorussia was taking an active part in the carrying out of many activities in the Agency's programme. During the past year experiments had been completed at the Nuclear Energy Institute of the Byelorussian SSR Academy of Sciences under a cost-free contract with the Agency in the field of medical radiology. Work was proceeding on a cost-free contract concerning the development of technical control facilities for the Department of Safeguards and Inspection. Representatives of Byelorussia were taking part in the collection and evaluation of nuclear data.

17. All that was clear proof that Byelorussia regarded the peaceful uses of atomic energy as a powerful means of achieving technical progress in the spheres of power, medicine, agriculture and many other sectors of the economy.

18. He hoped that the Agency would successfully deal with the vast problems facing it and assured the General Conference that Byelorussia would, to the best of its ability, promote the favourable outcome of the Agency's efforts.

19. Mr. de LOJENDIO (Spain) said that the industrialization in progress in Spain in recent years had resulted in a substantial increase in the number of electric power stations installed. As the sources of hydroelectric power would soon be exhausted, and Spain was short of fossil fuels,

the production of electricity by nuclear means was a necessity for the country. Since 1968 a 153-MW(e) power station of the pressurized-water reactor type had been in operation.

20. In 1969 a National Electricity Plan had been drawn up, in connection with which forecasts of power requirements had been made for the coming years. The plan envisaged a total installed capacity of 41.6 million kW in Spain in 1980, of which 8 million kW would be nuclear capacity. The corresponding figures for 1983 had been 54.8 million kW total capacity and 14 million kW nuclear capacity. The plan was revised every two years. The revision recently carried out had increased the figures for 1983 to a total capacity of 60.6 million kW and 18.2 million kW of nuclear capacity; according to the latest forecast, 30% of the electricity-generating capacity in Spain in 1983 would be of the nuclear type.

21. That meant that as from 1972 contracts would be placed for some 1500 MW(e) annually in nuclear power stations, representing an annual sum in excess of \$300 million.

22. In its programmes the Nuclear Energy Board had emphasized the following sectors: the fuel cycle, reactor technology, water desalination and isotopes.

23. With respect to prospecting for radioactive source materials, a development procedure had been followed that was similar to that of other countries. The main emphasis had been placed on prospecting for deposits where promising results had been obtained previously. Activities had been increased in aerial prospecting, which was regarded as a fast and selective method, and other techniques, such as geophysical and geochemical methods, radon-content prospecting, etc., had been reviewed and developed. During the past year aerial prospecting had been carried out over an area of 41 200 km².

24. Minehead leaching installations had continued to treat 36 000 tons of mineral annually. The Andújar uranium plant was still producing concentrates at a rate of 60 tons of U₃O₈ annually.

25. The M-1 reprocessing plant had treated fuel from the Swiss reactor Saphir under sub-contract for Eurochemic; the operation had been completed at the end of 1970.

26. Experimental work was being continued in the JEN-1 and JEN-2 reactors, both of the swimming-pool type, and in the CORAL-1 fast reactor. The project for increasing the capacity of JEN-1 to 10 MW was in the process of being implemented.

27. With regard to water desalination, work was being continued in experimental flash distillation and electrolysis plants, with very positive results. Because of their experimental nature, the plants concerned were very flexible.

28. The number of users of isotopes in December 1970 was 844, involving a total of 333 facilities. The figure for utilization of isotopes, as at the same date, had reached 13 858.82 curies. Comparison of that figure with those for previous years showed that the utilization of isotopes was increasing in Spain at an annual rate of more than 25%. A large percentage of the radioisotopes and also of stable isotopes produced by the Nuclear Energy Board was exported. In Spain, the main applications were research, industry, medicine and agriculture and, in particular, food irradiation, which would assume great importance once official authorization was given for the consumption of irradiated potatoes.

29. The Institute of Nuclear Studies had continued to devote attention to basic research. It had also provided training for fellows from the Agency and various Spanish institutions. The total number of fellows now catered for by the Institute of Nuclear Studies varied between 80 and 90.

30. In the matter of nuclear power production, mention should be made of the commissioning and integration into the grid of the nuclear power station of Santa María de Garoña, a power station of the boiling-water reactor type having a capacity of 460 MW(e). It was at present the largest light-water nuclear power station in Europe.

31. The first refuelling of the "José Cabrera" Nuclear Power Station had been carried out.

32. The construction of the Vandellós Nuclear Power Station, at Tarragona, which belonged to the Spanish-French company HIFRENSA, was proceeding normally, and it was hoped it would be commissioned at the end of the current year.

33. The nuclear power stations at Lemóniz (two units of 850 MW), Almaraz (two units of 850 MW), Zorita (one unit of 500 MW), Ascó (two units of 850 MW) and Irta (one unit of 500 MW) were in various stages of construction.

34. Among the matters before the General Conference there was one that his country had always considered to be of particular importance, namely technical assistance. That form of assistance was of great value in extending the benefits of nuclear energy to those regions of the world which were most in need of rapid economic and technological development. The Spanish delegation, which the previous year had been in favour of an increase in the target for voluntary contributions to the General Fund, had noted with satisfaction that the Board had approved a proposal to raise the target to \$3 million for 1972. [3] Spain would contribute \$28 500.

35. In examining the draft budget, the Spanish delegation noted with satisfaction that while the total budget would increase by some 18% in

comparison with that of the previous year, technical assistance would be increasing at a somewhat faster rate of 20.1%, which showed that Spain's concern was shared by the Board and the Director General. Nevertheless, the percentage of the budget devoted to technical assistance would still be lower than it should be.

36. The cost of safeguards would increase by some 38.6% in comparison with the corresponding appropriation during the past year, thus increasing from 10.25% to approximately 12% of the total budget. Spain hoped that the adoption of new safeguards methods would make possible a significantly lower rate of increase under that item during the coming years. For that reason his country had collaborated with the Agency in studying methods that could yield greater savings in safeguards costs while maintaining the same level of effectiveness.

37. He wished to express his delegation's satisfaction that it had in the end been possible to readjust the salaries of the Agency's staff in the Professional category. The staff which, under the leadership of the Director General, was pursuing with efficiency and zeal the objective of introducing nuclear energy in Member States, merited the esteem of the international community. Unfortunately, the limitations in budget growth had restricted the increase in order to achieve a strict balance between the available resources and the wishes of the Agency's governing bodies.

38. Mr. MEDINA (Philippines) said he shared the fervent hope of all developing countries that more could be done to accelerate the peaceful application of atomic energy, especially in the developing areas of the world. His delegation had consistently expressed its concern at the inadequacy of the Agency's technical assistance programme to meet the growing needs of the developing countries. It appreciated the value and effectiveness of technical assistance on the basis of its experience as a recipient and was aware of the difficulties the Agency had to overcome in financing its technical assistance programme. For that reason he would appeal to the more affluent Member States to increase their voluntary contributions to the Agency so as to enable it to be more responsive to the expanding needs of the developing countries in regard to the peaceful uses of atomic energy.

39. His Government, for its part, had been offering fellowships to other developing countries through the Agency and would continue to do so if that venture were successful.

40. His Government fully recognized the benefits of the Agency's technical assistance to his country, whose nuclear energy activities had, to a great extent, been developed with such assistance. Moreover, that assistance had largely contributed to the enactment of "The Atomic Energy Regulatory and Liability Act of 1968", which governed the licensing and regulation of the construction and operation of nuclear power stations.

[3] See document GC(XV)/460, para. I.11.

41. His country had endeavoured to make optimum use of the assistance so that it would have a positive impact on its economic, social and cultural development. He hoped that the positive effects of such assistance would extend beyond the national boundaries.

42. He was pleased to inform the Conference that his country, as a direct consequence of its policy and programme and of the sympathetic attitude of the Agency, had some modest achievements to its credit. The scientific community there had recognized the high research capabilities of the Philippine Atomic Research Centre and the ability of its nuclear scientists. The application and utilization of radioisotope techniques had spread extensively and were widely accepted. The Philippines was now able to conduct national training courses, particularly in radioisotope techniques and the uses of radioisotopes in agriculture, industry and medicine, in which scientists from neighbouring countries had participated. The Agency's scientific and technical staff and experts included Filipinos, and as a result of the Agency's assistance in initiating and executing projects in atomic energy research and development, his country was now in a position to undertake collaborative projects on a regional basis.

43. The fact that similar situations obtained in most of the other developing countries could, however, lead to an erroneous appraisal of the adequacy of the technical assistance so far provided. Considering the effectiveness of assistance, it might reasonably be expected that there should eventually be a gradual reduction in dependence on assistance from the Agency. However, developments usually came about as a result of earlier assistance and they, in turn, gave rise to new requirements which developing countries were not able to meet immediately. That was particularly true of the introduction of nuclear power in developing countries. Several developing countries had already conducted comprehensive feasibility and preinvestment studies on the introduction of nuclear power, which had brought to the fore the problem of financing. Whereas the relevant investigations and organizational work could be carried out by the countries concerned, outside assistance had to be sought for financing the projects. The General Conference had requested the Director General to make a comprehensive study of the subject, [4] and the resulting estimates, based on available data, of nuclear power demands in developing countries and related foreign capital requirements, confirmed that the great majority of the developing countries expecting to commission their first nuclear plant between 1975 and 1980 could not absorb the large units (600-1100 MW(e)) now offered by manufacturers. Since nuclear power reactors of the small and medium range (100-500 MW(e)) were less competitive than the larger-sized ones, one would have to wait till the grid systems expanded

sufficiently to absorb them, or accept nuclear power in the system at a relatively higher cost. It was therefore necessary for the Agency, under Article XI, B of the Statute, to assist Member States in securing the required financing on the most favourable terms to carry out such projects.

44. He suggested that more emphasis be placed on supporting studies on reducing the costs, increasing the availability and improving the competitiveness of nuclear power reactors of the size range which could currently be used in the grids of developing countries. The market for such reactors was very small, but it must be borne in mind that each additional and relatively more economic megawatt of capacity installed in a developing economy would have a greater impact than in highly developed ones. It was not enough to prove technical and economic feasibilities; the suppliers' decisive role in the nuclear power programmes of developing States should be studied and even guided.

45. It was disconcerting for potential newcomers in the field of nuclear power that, although over 300 reactor-years of experience in the design, construction and operation of plants with a capacity below 500 MW(e) were available, manufacturers were moving over to increasingly larger sizes for economic reasons. Although manufacturers in the United States evinced a limited interest in power reactors with a capacity below 500 MW(e), countries like the Federal Republic of Germany, Sweden, Japan, Belgium, Italy and the Netherlands might soon become the major suppliers of intermediate-size nuclear plants.

46. Suggesting that the Agency undertake action aimed at drawing attention to that important aspect of introducing nuclear power in developing countries, he urged all potential suppliers to extend their maximum support and co-operation to such activities of the Agency as the co-ordinated programme of research on technical and cost assessment of intermediate-size nuclear power reactors and comprehensive and detailed market studies. He was sure that the Agency would continue to be the effective catalyst in bringing together potential users, suppliers and lending organizations.

47. Supporting the increase in the target for voluntary contributions to the General Fund to \$3 million for 1972, he expressed concern at the understanding of many Members of the Board that that target should remain unchanged until 1974, especially since the Director General had confirmed that the target of \$3 million for technical assistance was equivalent only to the 1962 level for such assistance, which clearly indicated that the Agency had failed to carry out one of its principal functions under Article III, A, 2 of the Statute. In that connection he expressed the hope that the current international monetary problems and the measures taken or to be taken by developed countries in that regard would not, in any way, aggravate the already stringent situation

[4] By Resolution GC(XIII)/RES/256.

concerning the Agency's technical assistance programme.

48. The year 1971 was a memorable year for the Agency not only as a result of the entry into force of NPT but also because of the beginning of the United Nations Second Development Decade. Article IV of NPT specifically urged all parties to it to promote the further development of the peaceful applications of nuclear energy, with due consideration for the needs of the developing areas of the world. Resolution 2626 (XXV) of the General Assembly of the United Nations, relating to the International Development Strategy for the Second United Nations Development Decade, called on all Governments and international organizations to join in a concerted effort to assist the developing countries in attaining the levels of development indicated in the resolution. The Agency should accordingly draw up a programme of action to enable it to play a concrete role in its area of competence. The Agency's programme for 1972 and the following years should be restructured in a manner that would enable the Agency to participate actively in the international strategy for the Second Development Decade and meet the requirements of Article IV of NPT. The 1972 programme, in his opinion, was inadequate, since the Agency's non-safeguards activities would remain static, if they were not indeed considerably decreased. He urged that remedial measures be taken in order to ensure a balance between the growth in the safeguards and non-safeguards activities of the Agency. In that connection, he requested the Member States, particularly the more affluent ones, to make additional resources available to the Agency so that it could discharge its principal functions under the Statute, conform to the spirit of Article IV of NPT and fulfil the objectives of the international strategy for the Second Development Decade.

49. Commending the successful work of the Board's safeguards committee in formulating material for the safeguards agreements to be concluded in connection with NPT and in reaching agreement on arrangements for financing the safeguards activities of the Agency, he said that those arrangements [5] took into account the concern of developing countries with regard to the increasing financial responsibilities which might devolve upon them as a result of the growth in safeguards activities and, at the same time, provided a stable source of funds for such activities.

50. Since the Asian region had achieved significant progress in the peaceful uses of atomic energy and now carried out a greater volume of activity involving the use of radioactive materials, his Government considered that the introduction of health and safety measures against radiation accidents, within the framework of regional co-operation, should receive greater attention.

51. Referring to the current preoccupation with problems related to the environment, he

[5] See document GC(XV)/462.

stressed that the Agency's nuclear techniques and know-how in investigating and ultimately reducing the pollution caused by industrial operations should be utilized to the maximum in the universal effort to combat environmental pollution. The Agency should also review from time to time its health and safety standards covering every type of activity in which nuclear energy was used for peaceful purposes, particularly its Regulations for the Safe Transport of Radioactive Materials [6], to ensure that the use of nuclear energy did not further aggravate the already serious problem of environmental contamination.

52. In conclusion, he wished to inform the Conference that the Philippines was substantially raising its voluntary contribution to the General Fund.

53. Mr. PASECHNIK (Ukrainian Soviet Socialist Republic), recalling that reference had already been made by delegates to several aspects of the Agency's work since the last session of the General Conference, said that many important events had taken place during that period. For the Ukrainian people as for other peoples of the Soviet Union the past year had been marked by the adoption of the new five-year plan by the Twenty-fourth Congress of the Communist Party of the Soviet Union. The new plan constituted a scientifically-based programme of further economic and social development aimed at improving the well-being of the peoples of the USSR.

54. Mankind could not remain indifferent to the diversion of enormous resources to the nuclear arms race - according to United Nations figures over \$200 000 million were being spent annually. Naturally the peoples of the world were concerned at the unremitting growth in the stockpile of nuclear weapons in the world. Clearly, the prohibition of nuclear armaments would release enormous sums of money which could be used to improve standards of living everywhere, and if those quantities of nuclear materials now being allocated to military purposes could be fashioned not into weapons of destruction but into instruments of production, that would constitute a solid foundation for the faster development of nuclear power.

55. For that reason it was particularly important to implement the decisions already taken by States to prevent the spread of atomic weapons throughout the world, which in turn depended largely on the Agency discharging its functions effectively.

56. His delegation fully endorsed the action being taken by the Board and the Agency's Secretariat to institute the Agency's control system as quickly as possible.

57. Referring to the use of atomic energy in the Ukrainian economy, he said that an extensive

[6] STI/PUB/148 (1967 Edition).

programme for the construction of nuclear power stations was being carried out, and those stations would play an increasing role in meeting power requirements.

58. A high rate of industrial development naturally called for a rapid increase in power generation, and indeed the rate of electric power production in the Ukraine was very high. During the past 25 years power production had doubled every six to seven years and in 1970 had reached 138 million kWh. The "conventional" sources of energy were no longer adequate to meet requirements, and Ukrainian power engineers were constantly concerned to draw systematically upon new sources of power. At present nuclear power stations with water-moderated and cooled reactors and with uranium-graphite reactors of large unit capacity were being planned and constructed in the Ukraine. The design, construction and operation of nuclear power stations with reactor units of 1000 MW and over were planned. The proportion of power output represented by nuclear stations was expected to rise to 10% during the present decade. That period should also see the attainment of full power and full operational status by the Chernobyl nuclear station. In addition, there were plans in hand for the first reactors at further nuclear stations with a design capacity of 2000-4000 MW. Design studies for large, high-efficiency dual-purpose units generating electricity and supplying water for irrigation of arid areas were being carried out in various regions of the Ukraine.

59. Considerable success had been achieved in the industrial uses of isotopes and radiation sources. Radioisotope facilities were being most widely used in the coal, metallurgical, engineering, chemical and other branches of industry. In a number of towns, specialized isotope laboratories were developing and introducing new types of radioisotope equipment. Promising radiation-induced mutants of many plants had been obtained, as well as highly-productive bacteria. Radioisotope laboratories were operating at medical institutions where the diagnosis and treatment of different organs was being carried out and the functional condition of the organism and problems of metabolism were being studied.

60. Along with the practical utilization of atomic energy in the national economy, considerable attention was being given to scientific research in that field, which was being carried out at various institutes of the Academy of Sciences and at universities. Ukrainian nuclear centres were strengthening their contacts with foreign research centres, and arrangements had been made for the systematic exchange of information on nuclear data with the Agency. Input was being prepared for INIS.

61. The Ukraine was becoming, more and more, a venue for scientific conferences and meetings. Two international conferences on high energy physics and a symposium on radiation biology had taken place in Kiev. In a

few days' time a conference on plasma theory would start its deliberations, and the Ukraine was prepared to act as host to a panel on neutron physics and nuclear data.

62. Referring to the programme of technical assistance for developing countries, which to some extent encouraged work on the peaceful uses of atomic energy in those countries and thereby contributed to their general economic development, he said that his delegation had some criticisms regarding both the way in which such assistance was allocated in its different forms, which was not always sufficiently rational, and the choice of countries to which the assistance was given.

63. The international exchange of scientific and technical information, which had received great impetus through the inauguration of INIS, and the programme of scientific conferences, symposia and panels were very important. That aspect of the Agency's work helped to speed up scientific research in developing countries, contributed to the efficient exchange of scientific and technical information between countries with an advanced atomic industry, and strengthened international co-operation among scientists, as demonstrated recently during the Fourth Geneva Conference.

64. In speaking of the Agency's activities from a practical standpoint, mention should be made of its financing and particularly its budget. He considered that the rate of budgetary increase was excessive and unjustified.

65. The Agency was in its very essence clearly a universal organization, and as laid down in the Statute any State could become a member which affirmed its willingness to collaborate with the Agency and respected the purposes and principles of the United Nations. Such universality was one of the fundamental prerequisites of the Agency's efficient operation. Unfortunately, the principle had not yet been fully applied and consequently some sovereign States could not become members of the Agency. He had in mind the German Democratic Republic, whose peaceful foreign policy fully accorded with the purposes and principles of the United Nations and which had made great progress in the peaceful uses of atomic energy. As a sovereign State, the German Democratic Republic could and should become a Member of the Agency in accordance with Article IV. B of the Statute, and his delegation hoped that the question of that State's membership would be settled in a positive manner.

66. Finally, he emphasised once again that the Agency's main task was to further the peaceful uses of atomic energy and to develop and strengthen the spirit of international co-operation. The Agency could make a significant contribution to the relaxation of international tension. Its activities should be directed towards finding the most effective means of carrying out that noble task.

67. It was vitally important for the Agency to discharge the obligations laid upon it by NPT in regard to safeguards functions. A major aspect of that activity should be the prompt conclusion of safeguards agreements between States and the Agency.

68. Mr. REITBAUER (Austria) said that at the outset he would like to thank the Director General and all the members of the Secretariat for their excellent work during the past year. The work load of the staff had been extremely heavy during that period, since in addition to the normal activities relating to technical assistance, safeguards and panels and symposia, the staff of the Agency had participated in the preparation of the Fourth Geneva Conference. As all knew, the discussions in the Board's safeguards committee had entailed additional work especially for the Department of Safeguards and Inspection and the Legal Division. It was therefore a pleasure to express his delegation's sincere appreciation for the excellent services rendered by the Secretariat.

69. The Board had been right to place the problems connected with NPT and the achievements of its safeguards committee first in its annual report to the Conference. [7] His Government had warmly welcomed the setting up of that committee in April 1970 and was pleased that it had successfully accomplished a task of great legal and technical complexity. As the Director General had already mentioned in his opening statement, Austria had signed a safeguards agreement with the Agency in connection with NPT [8] some days previously. When Parliament reconvened after the forthcoming elections, the agreement would be one of the first topics to be dealt with, and it was hoped that it would enter into force before the beginning of March 1972.

70. As the Foreign Minister, Dr. Kirchschräger, had said on the occasion of the signing of the agreement, neutral Austria had always welcomed initiatives and steps towards disarmament and greater international security. It had therefore been among the first States to sign and ratify NPT, because it regarded the conclusion of NPT as an event of unique significance, which should enhance the security of the world, give new impetus to international co-operation in the peaceful uses of nuclear energy and further efforts towards disarmament. However, NPT, like many other international agreements, would remain ineffective without instruments for its implementation. Adhering as usual to the basic principle of scrupulous respect for obligations accepted, Austria had entered into negotiations with the Agency on the agreement as early as had been possible. Although Austria believed in principle that it was up to States and the Members of the Agency to decide for themselves about when to enter into negotiations with the Agency and to conclude a safeguards agreement in connection

with NPT, it hoped that its example would be followed by other States. His delegation therefore welcomed the official announcement by the delegate of Italy that the Council of Ministers of the European Communities had given a mandate to the European Atomic Energy Community (EURATOM) to negotiate with the Agency an agreement in order to enable five of the EURATOM States to implement their obligations under Article III of NPT. [9] It was convinced that the announcement would give new momentum to the negotiation of safeguards agreements with the Agency.

71. The Fourth Geneva Conference had offered an excellent opportunity for scientists, administrators and economists from all over the world to examine progress and programmes in the field of the peaceful application of nuclear energy and their impact on the human environment. The Austrian delegation very much hoped that the results of the discussions during the Conference would be taken up and further developed by future Agency panels and symposia.

72. As many delegates probably knew, Austria's first nuclear power plant, a 700-MW(e) boiling-water reactor unit, was to be constructed at Zwentendorf on the Danube, some 40 kilometres west of Vienna. Preparations were already being carried out on the site and it was expected that construction would be started early in 1972 and that the plant would be operating in the second half of 1976.

73. As in other countries, the announcement of the decision to build a nuclear power station had aroused objections from people who were without doubt inspired by honest motives. But despite the fact that leading scientists had found nuclear power plants "cleaner" than fossil-fuelled ones and less harmful to the human environment, despite the fact that the Agency had published numerous scientific papers in which the same conclusion was reached, Austria was encountering the psychological phenomenon of the average citizen still ridden by fears which associated atomic energy with mass destruction; a lot of work would be required to convince him of the advantages and benefits of that new source of energy and to remove his anxieties.

74. The Austrian delegation believed that the moment had come when the Agency should not only continue its scientific work on the improvement of radiation protection standards and on the possible environmental effects of atomic power plants, but should also aid Member States in their efforts to inform the public objectively about the nature of atomic energy, of its advantages and possible dangers. An Agency-sponsored information campaign for leaders of opinion, for journalists, teachers and people active in adult education in the various countries could very well contribute to removing the overall attitude of distrust towards the atom and could lead to discussions on the advantages and

[7] See document GC(XV)/455, paras 1-7.

[8] Reproduced in document INFCIRC/156.

[9] See document GC(XV)/OR.145, para. 33.

disadvantages of atomic energy on a more objective basis.

75. Although the Austrian delegation attached the greatest importance to the implementation of NPT through safeguards, it wished to emphasize that the original aims of the Agency, namely "to encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world", must remain as important as the new task the Agency had assumed in connection with NPT. It would therefore support the draft resolution proposing to raise the target for voluntary contributions by Member States for the purpose of technical assistance from \$2.5 million to \$3 million in 1972. [10] At the same time it realized that the latter sum would not fully meet the expectations of the developing countries, but it certainly represented an improvement on previous years. Subject to parliamentary approval, the Austrian authorities envisaged a corresponding increase in Austria's contribution to the General Fund; in that sense, a pledge had already been made.

76. That led him to the proposed budget for 1972 and to the two draft resolutions concerning the increase in the appropriation for the Regular Budget expenses in 1971 by reducing the level of the Working Capital Fund. [11] The Austrian delegation was aware of the financial difficulties of the Agency caused by salary increases for the staff, the general increase of costs, and problems encountered in the world's monetary market. It would vote for the two draft resolutions, as well as for the draft resolution relating to the new method of contribution to the Regular Budget in connection with the application of safeguards. [12]

77. However, his delegation fully comprehended the concern expressed by the Director General in his opening statement about the budgetary situation of the Agency. [13] The fact that there was no room for programme increases in the budget while staff costs and the budget figure continued to rise was obviously a matter for worry. His delegation therefore appreciated any steps taken or envisaged to rationalize the work of the Agency through redeployment of staff or any other measure.

78. He was able to report further progress in regard to the planning and construction of the Agency's permanent headquarters. On 18 December 1970, members of the Federal Government and the City Council of Vienna, under the chairmanship of the Federal Cancellor, Dr. Bruno Kreisky, had decided,

after intensive consultations with both the Agency and the United Nations Industrial Development Organization (UNIDO) and after reaching an understanding about certain modifications, to choose the project of the Austrian architect Johann Staber for execution. On 16 February 1971, an agreement on the size of the project and the termination of Austria's obligations with respect to the Agency had been reached between the Foreign Minister and the Director General of the Agency, which had come into force by an exchange of letters of 8 June 1971. On 3 May 1971, the Federal Government and the City of Vienna had established a joint stock corporation with the task of executing the project in the most efficient way and in the shortest possible period.

79. Immediately after the conclusion of the aforementioned agreement, the Agency had been invited to submit a study relating to functional requirements within the mutually agreed space programme. Shortly afterwards, the Agency had responded to that request, and had made available all pertinent details, thus providing basic data for detailed planning.

80. On behalf of the Austrian Government, he wished to express gratitude to all those in the Agency, and in particular to the Director General, Dr. Eklund, and his Deputy, Dr. Hall, who had contributed so much, in a spirit of mutual understanding and through efficient collaboration, to advance progress in that vast project.

81. On previous occasions his delegation had stressed the importance of the Agency as the centre and principal international forum for discussions on the application and the development of the peaceful uses of the atom. Although in the past the Agency had been unchallenged in that role, the trend towards commercialization of nuclear power and increasing trade in nuclear materials would certainly have an impact on the activities and perhaps also on the position of the Agency. Vigilance and careful attention to those developments would be required if the Agency was to maintain its co-ordinating role in the field of the peaceful application of nuclear energy.

82. Mr. QUIHILLALT (Argentina) said that the Conference was that year losing Dr. Glenn Seaborg, who had been one of its most outstanding delegates and Chairman of the United States Atomic Energy Commission. Dr. Seaborg had the Argentine delegation's gratitude and best wishes in his future tasks.

83. Argentina was continuing to implement its nuclear plan at a good rate and within the time limits foreseen. The basic objective of that plan was to contribute to the well-being and safety of the population.

84. Steady progress was being made in the building of a nuclear power station, using natural uranium. That project would be followed shortly by a second station, for which the type of reactor had not as yet been determined. A third

[10] See document GC(XV)/460, Annex VII, draft resolution B.1.

[11] See draft resolutions A and B set forth in document GC(XV)/457.

[12] See the draft resolution set forth in document GC(XV)/462.

[13] GC(XV)/OR.144, paras 31 and 32.

plant, possibly with a capacity of 1000 MW, was expected to be in operation by the end of the present decade.

85. The work being done by the Agency during the current year and also the Board's annual report were highly satisfactory. Much of the credit was due to the Board which, under the admirable chairmanship of Mr. Trivedi, had worked to good effect, and also to the Secretariat and the Director General, whose competence, hard work and diplomatic tact were vital factors.

86. Argentina had had the satisfaction of welcoming Dr. Eklund on a visit that year; the visit had proved highly useful in improving co-operation between the Agency and his country.

87. Argentina was to be the venue for two important international meetings organized in collaboration with the Agency: the Regional Training Course on the Use of Radiation in Sterilization and Treatment of Biomedical Products and the Latin American Regional Seminar on Input Preparation for INIS.

88. He was pleased to state that he was authorized by his Government to announce that Argentina would make a voluntary contribution to the General Fund corresponding to its fixed percentage for 1972.

89. The advances in nuclear energy activities made in Argentina over the past few years had been made possible largely by the help received from international sources and in particular from the Agency. He accordingly felt bound to express once again his gratitude for that support.

90. Mr. MARIKO (Niger) said that his country, which was a producer of uranium, could not fail to take an interest in the activities of the Agency and the specialized agencies in the United Nations family. The inadequate development in the case of the great majority of the world's population was such a disquieting fact that the sum total of human endeavour, knowledge and intelligence should be mobilized in order to combat it in all its manifestations.

91. Bilateral technical and financial assistance had fortunately been supplemented over the past decade by aid from the United Nations, the specialized agencies, and the Agency. The Republic of the Niger, which was a beneficiary of development aid provided by the United Nations organizations, wished to express its gratitude to the Director General of the Agency and all those who had assisted him for the work they had done.

92. Because of its distance from the shores of the Atlantic and the Mediterranean, which greatly increased shipping costs for imported fossil fuels, and the serious difficulties created by its climate and the vast areas of desert covering most of the national territory, the Republic of the Niger set great hopes on assistance from organizations in the United Nations family. More specifically,

prospecting for ores, irrigation, cattle breeding, and the training of personnel, especially in scientific work, were activities that occupied a prominent place in all plans for economic and social development.

93. He was convinced that the peaceful use of atomic energy had important implications for economic development programmes relating to such diverse matters as agriculture, cattle breeding, medicine, and electricity production both for urban consumption and as a motive force in irrigation and industry. His country urged that the assistance programmes worked out for the developing countries should be directly related to the development plans of the countries themselves.

94. The various forms of development aid reinforced the efforts being made by those countries to improve living conditions. But that aim would never be universally attained while South Africa and Portugal still practised racial discrimination against the African populations of South Africa and Namibia in the first case, and those of the Cape Verde Islands, Guinea-Bissao, Angola and Mozambique in the second case.

95. Mr. ŞAHINBAŞ (Turkey) said that his delegation considered the Fourth Geneva Conference to have been a success and to have provided a valuable contribution to the progress of nuclear science and technology. A conclusion to be drawn from it was that the atom would be the major source of energy during the forthcoming decades, constituting a lesser pollution hazard to man and his environment than conventional fossil energy sources. It had also become evident that the nuclear sciences would acquire wider applications in medicine, agriculture, industry, hydrology and mineralogy during the years ahead. Further, the atom would constitute the major energy source for the conversion of sea-water into fresh water. All the developments mentioned indicated that nuclear science and its ever-increasing applications would become an integral part of the daily life of all the world's inhabitants within the next few decades.

96. In view of the rapid rate of development of nuclear science, it was the belief of the Turkish delegation that the Agency would have intensive and extensive work to do, and not only in the exchange of information and control of the diversion of nuclear material to non-peaceful purposes. It would have to facilitate the introduction of nuclear technology in wider areas of the world and the establishment of a world-wide nuclear law system, and would be called upon to play at least the role of a catalyst in the financing of nuclear projects.

97. It was not possible to speak of the increasing role to be played by the Agency without also paying due regard to the budget. Turkey shared the Director General's view that a situation in which programmes remained static while costs continued to increase was not a healthy one.

98. It was important that a balance be maintained between the Agency's various activities. Turkey therefore welcomed the increase in contributions to the General Fund foreseen the previous year. Nevertheless, the Agency was still a long way from striking a balance between expenditure on its positive activities, represented first and foremost by technical assistance, and its purely safeguarding activities; a proper balance would perhaps show an emphasis on the former.

99. With regard to the safeguards agreements to be negotiated with the Agency pursuant to Article III of NPT, the Turkish Government had expressed its views on certain principles and considerations in a document submitted to the Board's safeguards committee. During that committee's meetings, the Turkish delegation had also expressed its views on the apportionment of safeguards costs. It would be inspired and guided by those views during the negotiations with the Agency on such matters, particularly in view of the consultative role of the committee.

100. The Turkish Government had recently completed the formalities with regard to the ratification of the amendment of Article VI of the Statute [14], and Turkey could therefore be included in the list of countries having ratified it.

101. He paid tribute to Dr. Glenn Seaborg, to whom nuclear science and the Agency owed much, and wished him continued success in the new stage of his academic life.

102. U VUM KO HAU (Burma) said he shared the optimism expressed by the Secretary-General of the United Nations in his message to the General Conference concerning a complete ban on nuclear tests and the cessation of the nuclear arms race. [15] He considered that the statement of the Director General and the statements by Dr. Glenn Seaborg [16], who had prophesied mankind's future up to the year 2000, Mr. I. D. Morokhov [17] and others were of particular importance to developing countries, which were solely interested in the peaceful uses of atomic energy. It was encouraging that atomic energy would be immensely useful for agricultural and industrial purposes.

103. During the decade and a half since the first General Conference in 1957, considerable progress had been made in harnessing the atom for peace and for the progress and happiness of mankind, and his delegation had derived great benefits from the Agency's experience during the period.

104. Being a country in whose economy agriculture and forestry predominated, Burma

[14] Set forth in Resolution GC(XIV)/RES/272.

[15] Reproduced in document GC(XV)/OR.144, para. 4.

[16] Ibid., paras 37-63.

[17] Reproduced in document GC(XV)/OR.145.

had started late in atomic and scientific fields. Nevertheless, its young sons had taken an active part in world affairs as international civil servants.

105. Since the programme and objectives of the Agency were mainly technical and of a peaceful character, his Government would prefer its membership, as well as that of other similar international organizations engaged in technical and humanitarian work, to be universal and not restricted by the political status of countries.

106. Although his country's voluntary contribution to the General Fund would remain unchanged in the current year, that by no means implied a lack of interest in the Agency or unwillingness to co-operate with it.

107. Mr. MUTUALE (Democratic Republic of the Congo) said that, in 1972, his country expected to commission its new research reactor which would have a capacity of 1000 kW in steady-state operation and 1500 MW in pulsed operation. The reactor would be an integral part of the TRICO Nuclear Centre which the Democratic Republic of the Congo was making available to the countries of Central Africa as a regional training centre.

108. Completion of the reactor would be possible thanks to additional assistance from the Agency and, through it, from the United States Atomic Energy Commission.

109. As far as the operation of the Agency and its assistance to the developing countries was concerned, he thought that the staff reduction of more than 20% which the Agency had been able to make in the technical assistance section should also be made in other sections, thus making possible very considerable savings of funds which could be used to advantage in providing more effective assistance to the developing countries. It would also be desirable that the experts which the Agency sent to his country should be better provided with equipment and that such equipment should be supplied more rapidly, together with the documentation necessary for its use.

110. The Agency's requirements in respect of staff recruitment were understandable but even though it was natural to maintain the criteria of scientific and technical qualification, it was discriminatory towards young countries, such as those of Africa, to require 10 years' experience in the work concerned: that amounted to the exclusion of those countries from participating at present in the building up of the Agency's staff.

111. Although the production of nuclear power was "cleaner" than generation by fossil fuel stations, it was quite evident that the production of electric power from hydraulic installations was even "cleaner". Hence it was regrettable that many African countries, and in particular the Congo, should have at their disposal an enormous hydroelectric capacity (30 000 MW for the Inga site alone) and yet not have enough customers,

despite the fact that the price of electricity could go as low as 3 mills per kilowatt/hour.

112. The Congo would be glad to welcome large-scale consumers of electricity, such as the electro-chemical, electro-metallurgical and gas-diffusion industries.

113. In conclusion he wished once again to express his surprise that South Africa should have a permanent seat on the Board as a representative of Africa. That country was not entitled to represent Africa in any respect whatsoever; that was the definite and explicit view of his country and of the Organization of African Unity.

114. Mr. QUARTEY (Ghana) remarked that the current session of the General Conference was a quiet one in the sense that there had been few controversial or bitterly fought issues. At the same time, it would probably come to be seen, in retrospect, as a most significant landmark in the Agency's history. Among the subjects of greatest significance, NPT and the Agency's technical assistance programme were outstanding.

115. The Agency itself, as such, was not a party to NPT. Irrespective of the short-term effect of NPT, its really historic importance in the long term was likely to be that it marked the point in time at which various States with differing ideologies and divergent approaches to the materialistic world came together to achieve the common purpose of preserving the very existence of the human species. That was a matter of conjecture, however, and there might be little profit in pursuing that particular line of thought too far. But it was a matter of fact that the Agency was on the point of commencing safeguards operations in connection with NPT, subject to approval of the budgetary appropriations and particularly of the arrangements proposed for the financing of that work.

116. All were familiar with the safeguards duties assigned to the Agency under NPT. Clearly the effective discharge of those duties was vital to the implementation of the Treaty. All were agreed that the Agency was competent and particularly well-qualified to discharge the technical duties involved. In that sense, therefore, it was in a position to render a unique service to mankind. Paradoxically, and for precisely that reason, there was more than a possibility that the Agency might now signally fail a large number of its Member States in another area of activity.

117. In his statement in the plenary meeting, the Director General had referred to the regional training course which had recently taken place in Ghana. [18] The success of the course was a source of great pride to Ghana and his Government wished to record its sincerest thanks to the Agency for the invaluable assistance given in its running. The course had brought about a considerable change in thinking in certain

relevant governmental and scientific circles, both in Ghana and in a number of the other participating countries. His Government was anxious that that type of course should become a regular feature of its Atomic Energy Commission's programme, both at the national and regional levels. Assistance of that kind contributed immeasurably in providing the prerequisites for rapid and meaningful scientific and technological development in the developing countries. Ghana greatly appreciated the assistance given by the Agency in that respect.

118. In view of the importance it attached to that kind of assistance, one of Ghana's main interests in the Agency was its technical assistance programme. In that connection, it was a matter for regret that offers of technical assistance made by certain countries through the Agency, much as they might otherwise have been welcomed, were not being utilized because the domestic policies of those countries were morally unacceptable to by far the greater part of humanity. The Agency's own programme now appeared to be receiving a somewhat lower priority than other activities. Technical assistance was still dependent on voluntary contributions from Member States. The new target of \$3 million represented only approximately the level that the Agency had expected to reach in about the mid-1960s, although the number of developing countries among its membership had increased considerably, and their needs in technical assistance even more rapidly. Yet voluntary contributions had hardly ever reached even the modest levels set. His Government had again decided to give a larger voluntary contribution than the minimum expected of it by the Agency, as a mark of its determination to support the Agency to the maximum extent possible in its technical assistance work.

119. Ghana, as a developing country, was faced with problems in education, in medicine and in agriculture, problems that the more advanced countries might regard as relatively ordinary. But that was precisely why there now appeared to be a possibility of danger to the Agency. If the Agency now apportioned the major part of its financial resources to safeguards in connection with NPT and proportionally reduced its technical assistance activities, it might run the risk of diminishing its importance to the developing countries. Activities in connection with NPT were admittedly important in creating a safe world; but that objective was a comparatively long-term one, and for the developing countries by far the more important problem was the short-term one of present survival. In those circumstances, it was surely not unreasonable to ask the major Powers, nuclear as well as non-nuclear, to fulfil the expectations which they had raised, both explicitly and implicitly, during the negotiations leading up to NPT, i. e. that they would undertake, as part of NPT, to increase scientific and particularly nuclear assistance to the developing countries, and that NPT would be so devised as to operate without the developing countries incurring additional financial burdens.

[18] GC(XV)/OR.144, para. 20.

120. His Government was confident that the Agency would ensure, in discharging its duties in connection with NPT, that a balance would be maintained between funds for safeguards and technical assistance so that the operation of NPT would not involve additional financial burdens for Ghana, particularly at the present time; and on that basis it had already started negotiations with the Agency with a view to concluding a safeguards agreement.

121. In conclusion, his delegation wished to express its confidence in the continued existence and increasing usefulness of the Agency. And, bearing in mind that it was not unlikely that the next session of the General Conference would take place elsewhere, his delegation would like to take the present opportunity to thank the host country, Austria, for its unfailing hospitality.

122. Mr. ZEILINGER (Costa Rica) said he wished, on behalf of his Government, to commend the Director General and his collaborators for their highly capable and successful conduct of the Agency's affairs.

123. Costa Rica was a small country with a population smaller than that of the city of Vienna, and it was taking its first tentative steps in the unfamiliar atomic energy age. Its industries were in the development stage, and they needed

considerable help, particularly advice from such organizations as UNIDO and the Agency.

124. A factor of great importance was public health and the raising of health standards to obtain a better expectation of life. His country had recently acquired a cobalt bomb for therapeutic purposes, and it was intended that cured patients should be enabled to return to productive life. The way ahead was admittedly very long but at least a start had been made. There was still much in the way of experience to be acquired and it was hoped to have experts assigned for that purpose under the Agency's technical assistance programme. It was of particular importance to have the services of experts in dosimetry since more harm than good might be done if dose measurements were inaccurate. His delegation had learned also of the dosimetry service for checking dose measurements, organized by the Agency in collaboration with the World Health Organization. That was a service that would be very welcome in Costa Rica.

125. Lastly, he would wish the Director General and all his collaborators great success in their future work.

● The meeting rose at 1.5 p. m.

