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President: Mr. OTERO NAVASCUES (Spain)

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## THE RECORD

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

1. Mr. OMAR (Kuwait) said he wished to express his appreciation to the Director General and the staff of the Agency for their highly efficient contribution to the success of the Fourth International Conference on the Peaceful Uses of Atomic Energy (Fourth Geneva Conference), which had proved beyond doubt the role that nuclear science was, and would be, playing in the progress of mankind in developed as well as developing countries.

2. Kuwait had joined the Agency in 1964 at a time when the Agency's attention was being devoted to nuclear power and desalination. Both those topics were of great interest to Kuwait, which met the bulk of its water requirements by means of desalination processes involving the use of conventional power and desalination plants. The need for both power and water had risen sharply in the 1960s with the expansion of urbanization, the development of industrial complexes, especially the petrochemical industry, and the marked growth of the population, which had increased by 50% between 1965 and 1970. Although Kuwait was considered to be one of the largest oil-producing countries, its Ministry of Electricity and Water had, in 1966, started to explore the possibility of introducing nuclear power. The Agency had been of assistance in that respect, as had the Chairman of the Pakistan Atomic Energy Commission, whom he wished to thank for the personal contribution he had made to the study of the matter.

3. The intention of the authorities to establish a national atomic commission, about the structure and authority of and regulations for which the Agency had recently been consulted, was a reflection of the increasing interest in nuclear energy. The establishment of such a commission would promote all the applications of nuclear energy in Kuwait and enable it to enter the nuclear power field.

4. Kuwait's first practical experience of nuclear energy had been with the applications of radioisotopes in medicine. Thanks to continuous encouragement from the Ministry of Health and to the generous allocation of funds, there had been a tremendous expansion in that field of medicine in Kuwait since work had first started in it in 1963. In 1969, a new Centre had been completed with a capacity to provide radiotherapeutic services for the population of Kuwait and for patients coming from Gulf States with which Kuwait had signed agreements. Treatment and hospitalization were provided free of charge. The Centre had gained a wide reputation in the area and was attracting patients from other neighbouring countries as well.

5. A computer programme had been developed in connection with dose distribution in cobalt and radium therapy. The Agency was currently assessing the cobalt therapy programme. A com-

puter programme in connection with cancer had also been developed and was functioning in the country. At the moment, the computer installed in the Kuwait Planning Board was being used, but the Ministry of Health would have its own by the end of the following year, which would lead to further development in the radiotherapy computer programme and in radioisotopic studies.

6. The radioisotopic laboratory was carrying out many of the clinical investigations, although some difficulty was being experienced in obtaining short-lived isotopes. By the following year the laboratory should be in possession of a gamma-tomographic camera with an attached computer system, which would enable it to expand and develop its work considerably. His personal thanks were due to the Agency expert whose recommendations had made it possible for such an expensive piece of equipment to be obtained.

7. The authorities in Kuwait believed that the standard achieved in the Centre had reached the level where training in radiotherapy, radiation physics and isotopic applications would be welcome.

8. The Centre was also responsible for the implementation of the recommendations of the International Commission on Radiological Protection in all medical diagnostic radiological facilities, whether belonging to the Ministry of Health or to private clinics. With the help and co-operation of the Radiological Protection Service at Sutton, Surrey, United Kingdom, the Centre was carrying out personnel monitoring of all occupationally exposed personnel, whether in the medical, industrial or research fields. By 1972 a national radiological protection service would be functioning in Kuwait.

9. Although the medical applications of nuclear energy seemed to be the main applications in Kuwait at the moment, research in underground water and agriculture had been carried out. Moreover, the Physics Department of the relatively recently established Kuwait University was expanding its section on radiation and nuclear physics and was contemplating purchasing a small research reactor. Kuwait had been co-operating and would continue to co-operate with the Middle Eastern Regional Radioisotope Centre in Cairo, which had been responsible for the study of underground water in Kuwait and was providing training facilities, but it would like to see a greater expansion in that Centre's work.

10. The experience of Kuwait might be of interest to many developing nations which were just entering the field of nuclear energy applications. Many problems had to be surmounted, especially with regard to providing national technical personnel. A great effort should be made in that respect if national nuclear programmes were to be carried out and developed. The Agency had played a great role in that regard and it should continue to do so. Furthermore, developed nations interested in exporting their nuclear facilities should put emphasis on nuclear technical assis-

tance in their cultural agreements with developing nations.

11. The study by the Secretariat on the prospects for and financing of nuclear power plants in developing countries[1] was most interesting, as had been the discussions at the Fourth Geneva Conference. The provision of funds for nuclear power plants in developing countries was the most important of many existing problems, and it was up to the nuclear industries of the developed countries to continue in their endeavour to reduce the capital cost and also to seek national and international funds if they wished to exploit the considerable market available in the developing countries.

12. His delegation appreciated the efforts being made by different national authorities and by the Agency to control radioactive waste disposal. He had been impressed by the United States delegate's statement that nuclear power would prove to be the cleanest source of energy.[2] The contribution the Agency was to make to the Conference on the Human Environment to be held in Stockholm in 1972 under the auspices of the United Nations was welcome.

13. His delegation was concerned at the annually increasing budget of the Agency and, in particular, that only 0.7% of the 17.9% increase in the 1972 budget was allocated to programmes other than those connected with safeguards, the bulk of the increase being absorbed in administrative expenses. Although Kuwait would contribute its share to the proposed budget, it would find it difficult to accept any future rise that was not reflected in scientific programmes and technical assistance.

14. His delegation welcomed the decision of the European Atomic Energy Community (EURATOM) to negotiate an agreement with the Agency in connection with safeguards and hoped that the negotiations would come to a successful conclusion. That decision had been made possible by the work of the Board's safeguards committee, which should be congratulated on its effort. His delegation hoped that the States which had not yet ratified the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)[3] would do so in the near future.

15. In conclusion he welcomed the agreement between the Agency and the League of Arab States[4]. He hoped that the implementation of that agreement would promote the progress of nuclear technology in the Arab countries.

16. Mr. von BÜLOW (Denmark) recalled that for the past year his country had held a seat on the

Board of Governors, and had thus been able to help in solving a number of interesting problems including those related to safeguards agreements in connection with NPT. The latter work had enabled the Secretariat to accelerate negotiations with individual parties to NPT regarding the control arrangements which would have to be made. His delegation also congratulated the Board's safeguards committee on its willingness to compromise and wanted to thank the Director General and his staff for their efforts. His Government had supported the conclusion of NPT and had been one of the first to ratify it. It was confident that the agreement reached in April 1971 on the structure and content of the agreements required in connection with NPT would contribute to the effective implementation of safeguards. It was his conviction that the control system resulting from the work of the safeguards committee would be both reliable and economic, and he hoped that it would be given wide application throughout the world.

17. In compliance with Article III of NPT Denmark had in August 1970 expressed a desire to open negotiations with the Agency on a safeguards agreement. Those negotiations would probably be completed within a few months. In that same context his delegation also welcomed the pending negotiations on an analogous agreement between the Agency and EURATOM.

18. He realized that in connection with the implementation of the safeguards system a number of technical and practical aspects were still under consideration. A Danish consultant had been assisting the Agency in analysing safeguards methods and in improving safeguards techniques. He wished to express his Government's willingness to provide all assistance that the safeguards inspectorate might desire in that respect.

19. His delegation also welcomed the agreement on the financing of safeguards and hoped that it would eventually be accepted by all countries. He was particularly glad to note that the agreement provided that all parties to NPT should contribute to the cost of safeguards, including States not members of the Agency, because all countries would benefit from the safeguards system. He hoped the system would induce States that had not yet signed NPT to do so in the near future.

20. At its fourteenth regular session, the General Conference had adopted a resolution relating to the amendment of Article VI of the Agency's Statute.[5] Although the resolution had not been unanimously adopted, his Government had acted in accordance with the wishes of the majority of Member States, and had accepted the amendment.

21. His Government was of the opinion that all the Agency's activities deserved full support and it therefore accepted the proposal of the Board to raise the target for voluntary contributions to the General Fund to \$3 million. As in previous years,

[1] GC(XV)/458, Annex.

[2] See document GC(XV)/OR. 144, paras 57-63.

[3] Reproduced in document INFCIRC/140.

[4] The draft agreement is set out in document GC(XV)/452, Annex.

[5] Resolution GC(XIV)/RES/272.

Denmark's contribution to the Fund would be in the same ratio as its contribution to the Regular Budget.

22. He welcomed the Agency's work on the dissemination of information concerning the possible peaceful uses of nuclear explosions, but he wished to emphasize the need for thorough consideration of the ecological problems relating to such explosions. He was therefore looking forward with interest to the results of the Agency's studies in that field, in connection with its functions under Article V of NPT.

23. His delegation also welcomed the world-wide debate regarding man's influence on his environment, and noted that nuclear energy had an exceptionally good record in regard to both pollution and safety. Nuclear energy authorities had been making great efforts to ensure that radioactive waste would be permanently isolated from man and his environment, and it was his belief that the knowledge thus gathered would help in the solution of other environmental problems. He therefore strongly supported the participation of the Agency in the 1972 Stockholm Conference on the Human Environment. His Government would support any reasonable initiative in that field on the part of the Agency, for instance the establishment of a register for releases of radioactive materials to any sector of the environment, when there was a risk that other countries might be affected. Denmark had accepted the 1958 Geneva Convention on the High Seas, which dealt in Article 25 with nuclear pollution of the sea.

24. During the past year Denmark had further intensified its collaboration with the Agency and had been able to help, in particular, in perfecting the use of ionizing radiations in the sterilization of medical products.

25. During the past five years, in particular, there had been fruitful co-operation between the Agency and Denmark in regard to radiation bacteriology and radiation techniques.

26. No nuclear power station had as yet been ordered in Denmark, but it seemed likely that a decision to do so could be expected within a few years. A group of Danish utilities had just announced its intention to establish a group to elaborate a project for the first atomic power station in Denmark. The activities of the Research Establishment Risø, created in Denmark about 15 years ago, had spread to cover a broad field within the nuclear sciences, and close co-operation had developed between the Danish Atomic Energy Commission and the Agency, for instance in food and agriculture programmes, radiation biology, solid-state physics and radiation damage.

27. Co-operation with other countries had also steadily increased, and mention should be made of the close relationship between the Nordic nuclear research centres.

28. As in previous years, Denmark would collaborate in the Agency's fellowship programme and

would again provide a number of cost-free fellowships at the Research Establishment Risø. His Government would also keep in mind the possibility of providing further financial assistance to the International Centre for Theoretical Physics at Trieste.

29. Finally, he wanted to congratulate the Director General on the success of the Fourth Geneva Conference, a success which was largely due to the efforts of the Director General and his staff.

30. Mr. GOLDSCHMIDT (France) said that in 1970-71 the Agency had been concerned primarily with the forthcoming application of safeguards in those States which had signed NPT.

31. Although France was among the States which had not signed NPT, it agreed that the Agency should assume responsibility for the safeguards provided for in the Treaty and had participated, as a Member of the Board, in the work of the Board's safeguards committee. In a relatively short time, bearing in mind the complexity of the problem, the committee had managed to formulate a model agreement for the application of safeguards under the new conditions created by NPT.

32. Moreover, France had just agreed with its partners in EURATOM that the latter should negotiate, together with the five Member States which had signed NPT and were therefore directly concerned, an agreement enabling the Agency to verify EURATOM's safeguards for the application of NPT in the territory of those States.

33. France was convinced that the Agency would not fail during those negotiations to take fully into account the effectiveness of EURATOM's existing safeguards system.

34. Questions of safeguards should not be allowed to obscure the other important aspects of the Agency's work, especially technical assistance and the safety and protection problems arising out of the remarkable industrial development of nuclear energy currently taking place.

35. The Agency was particularly fitted not only to participate in the formulation of safety standards but also, by virtue of its international technical reputation, to counter unjustified, alarmist propaganda campaigns.

36. In the field of technical assistance, the Agency's efforts had in 1971 again exceeded those of the preceding year, especially as regards agricultural applications of isotopes and radiation.

37. With respect to the day-to-day running of the Agency, he recalled that in 1970 the Director General had pointed to the disturbing increase in staff costs relative to the amounts expended on programme activities. Unfortunately, the trend had not been reversed; hence, as in 1970, his delegation shared the Director General's concern and suggested once more that he be authorized to make the choices necessary for achieving a better

distribution of expenditure. Only in that way would it be possible to arrive at a reasonable budgetary level and an acceptable growth rate on the one hand and to maintain a balance between the Agency's statutory tasks on the other. Approval of the budget as presented would be tantamount to immediate confirmation by the General Conference of the arrangements which had been approved by the Board in April, despite the French objections, and which provided for the establishment of two separate scales of contribution to the Regular Budget, one applying to safeguards expenditure and the second to other expenditure. The French delegation had always been of the opinion that the cost of safeguards should not be borne by the Agency and that if it was not somehow included in the sales prices of nuclear materials subject to Agency inspections, it should be reimbursed by the States with which the Agency concluded safeguards agreements. Any other solution was entirely artificial - including the solution which made arbitrary distinctions between various States Members of the Agency but disregarded the obvious distinction between countries party to and not party to NPT.

38. During the long discussions in the Board's safeguards committee, the French delegation had emphasized that three essential conditions would have to be met if it was to accept a compromise formula.

39. First, the provisions of paragraph C of Article XIV of the Statute would have to be taken into account. However, they had clearly been ignored in the proposed formula, which conflicted with the basic principle set forth in that paragraph, where it was stated that in fixing the costs of safeguards implementation "the Board of Governors shall deduct such amounts as are recoverable under agreements regarding the application of safeguards between the Agency and parties to bilateral or multilateral arrangements".

40. Secondly, for reasons of principle, the French delegation had always maintained that a distinction should be made between States Members of the Agency which were parties to NPT and those which, like France, had not acceded to it. That had not been done, so that under the proposed formula all Members of the Agency without distinction would have to meet obligations entered into only by some. Paradoxically, the provisions of paragraph C of Article XIV of the Statute would be applied in financing inspections in States which, while being parties to NPT, were not Members of the Agency and consequently not bound by the Statute.

41. Thirdly, the cost of applying safeguards to activities subjected unilaterally by nuclear-weapon States to Agency inspections should be borne by those States and not, under any circumstances, by other Members of the Agency, whether or not they were nuclear-weapon States and whether or not they had signed NPT. Such inspections were nowhere provided for in NPT. None the less, if a nuclear-weapon State, for reasons of its own, considered it desirable to subject activities of its

choice to Agency inspections, the French delegation would in no way object, provided that the operation was paid for by the nuclear-weapon State in question. However, there was no such provision in the proposed formula, which would therefore require all Members of the Agency to meet obligations entered into unilaterally by nuclear-weapon States.

42. Furthermore, the establishment of two different scales of contributions to the Regular Budget conflicted with the Agency's Statute. Accordingly, as it could not endorse such an arrangement, France intended to adopt a line of action which followed logically from its legal position: in its future contributions to the Agency's budget it would assign for safeguards an amount - to be determined each year - which would no doubt correspond closely to the proportion of the Regular Budget normally contributed by France, but which would also reflect a small deduction made as a matter of principle. The deduction in question would correspond to what should not, under any circumstances, be financed by the Agency, but would of course take into account the importance of the safeguards to be entrusted to the Agency under agreements of which the first was to be concluded in the very near future.

43. Independently of its participation in the Agency's activities, France continued to be aware of the need to participate in international enterprises - both bilateral and multilateral.

44. His country was accordingly looking forward to the completion, within the framework of its nuclear co-operation with the Soviet Union, of the large bubble chamber, which - in conjunction with the powerful Serpukhov accelerator - would undoubtedly soon yield results of great value for man's understanding of the fundamental nature of matter. In the same context, he wished to note that the high-flux Franco-German reactor at Grenoble had recently gone critical. Moreover, German, Italian and French electricity producers had decided to build and operate jointly two fast-neutron nuclear power stations each of 1000 MW(e), the first based on the experience which would be gained with the French 250-MW prototype plant, Phénix, scheduled to start up in 1973, and the other on the similar German-Belgian-Dutch prototype power station for which construction work was just beginning.

45. In addition, France was deeply conscious of the need to take early measures aimed both at avoiding a shortage - by the end of the decade - of the enriched uranium essential for the generation of nuclear power and at ensuring sufficiently diversified sources of supply. As to the present, his country was in that respect fortunate in having concluded with the Soviet Union in 1971 an enrichment contract representing a considerable addition to the supplies obtained from the United States. Looking to the future, France had also officially offered to make available to interested countries its advanced technology in isotopic separation by gaseous diffusion, with a view to establishing one or more multinational plants for

civilian use. Several countries had already expressed interest in the offer and as a first step technical-economic feasibility studies would be carried out in collaboration with specialized sectors of industry in the interested countries. On the basis of such studies, France's future partners would be in a position to take - as a second step - informed decisions on participation and financing, so that by the end of the decade work would have been completed on the first multinational plant, in which France hoped - in the light of the offer recently made by the Government of the United States - that the most advanced technologies available could be combined.

46. Mr. STRAUB (Hungary) said that although the fifteenth regular session of the General Conference was being held in an improving international climate, some parts of the world were still afflicted by tension and wars which brought unhappiness to millions of people and prevented many countries from benefiting from the progress of science and technology. The forces striving for peace were working hard for a meaningful European security conference, and the time had come to move on from bilateral consultations to multilateral talks in preparation for a successful conference.

47. It was in that spirit that the Hungarian delegation had come to participate in the work of the General Conference. Over the two years that Hungary had been represented on the Board, his delegation had had an opportunity to appreciate the cautious and responsible approach taken by the Board to the very important problems arising during that period. The new Board, with the able assistance of the Secretariat, would undoubtedly cope in the same conscientious way with the problems which remained to be solved.

48. If the Agency was to fulfil its obligations, it had to be truly international. It was heartening to see that co-operation between the Agency and the Council for Mutual Economic Assistance (COMECON) was improving. One aspect of that co-operation was the exchange of information, and the relevant report was before the General Conference. The Complex Programme recently adopted by COMECON also included further development of the use of atomic energy. It was regrettable, however, that the Agency was still weakened by the absence of one of the countries participating in the Complex Programme - the German Democratic Republic.

49. The work of the Agency since the previous General Conference had been by and large satisfactory. It had done its best to fulfil the obligations devolving upon it as a result of the entry into force of NPT. The Hungarian Government had ratified NPT and entered into negotiations with the Agency for the conclusion of the requisite agreement.

50. His delegation, like many others, had shown concern at the budget increases over the last few years. While it was clear that the dynamic growth of the budget gave the Agency the means of ful-

filling its manifold obligations, the increases arising from unnecessary administrative expenditure and changes in monetary systems were unacceptable. The fact that the revaluation of currencies required additional contributions from countries, including his own, made one wonder whether it was wise to go on calculating the budget in United States dollars.

51. A very important section of the Agency's work was the programme of technical assistance. Its size and value in terms of funds had been under constant discussion, but its wise and equitable distribution was equally important.

52. Having examined the Agency's programme for the coming years[6], his delegation wished to reiterate its conviction that the Agency should act first and foremost as a clearing-house for information and as a co-ordinator, while the actual scientific and development work should be carried out through national activities and not so much in the Agency's laboratories. The latter should serve more as a quality control service.

53. With regard to the work on food and agriculture, the shift of emphasis foreseen for next year[7] was to be welcomed. In the life sciences sector, a better selection of programmes had led to a proper focus of attention on the most relevant problems. In view of intensified international efforts, the panel planned on environmental monitoring programmes and assessment of the significance of environmental contamination would definitely be of great value. It was also gratifying to see that the programme provided for the furnishing of assistance to Member States on legislation relating to the consumption of irradiated food and similar activities.

54. Mr. USMANI (Pakistan) said that although Pakistan had started rather late, its young scientists and engineers had successfully brought KANUPP - the Candu-type 137-MW(e) nuclear power plant at Karachi - to criticality on 1 August 1971. Thanks to the generous technical and financial assistance provided by the Canadian Government, Pakistan was the first country outside Canada where a heavy-water moderated, natural-uranium fuelled nuclear power reactor would soon be producing electricity for industrial, commercial and domestic consumption. As a base-load station, KANUPP would be generating power at about 4 to 5 paisas (8 to 10 mills) per unit (kWh) which would be competitive with power from conventional thermal stations. Experience with KANUPP, India's experience with the two boiling-water reactors at Tarapur, each of 190 MW(e) capacity, and experience with Zorita - a pressurized light-water moderated and cooled reactor - in that capacity range, in Spain, had proved beyond doubt two facts: that under conditions prevailing in developing countries, small nuclear power reactors could produce power at

[6] See, in particular, the programme for 1972 in document GC(XV)/460.

[7] Ibid., paras V. 4. 1-V. 4. 9.

competitive rates, and that nuclear power plants could be technologically managed by a small but highly trained corps of nuclear engineers and scientists. In answer to the assertion that the capital cost of nuclear stations of small sizes was very high, he observed that the extra capital investment in a nuclear plant could be recouped within 5 to 10 years and that, from a banker's point of view, the extra capital invested earned quite a handsome return. What was "economic" in the United States need not necessarily be so in Pakistan or other developing countries and vice versa. Pakistan paid a high price for electricity because the cost of conventional fuels (imported oil) was higher than 100 cents (US) per million Btu (British thermal units). Moreover, all countries paid a certain price to learn a new technology. If, therefore, nuclear power had a long-term future in a developing country, the first station might justifiably be small and carry a penalty if need be. The argument that developing countries should wait till their grids could absorb nuclear stations of 600 MW and above was puerile because by the time that happened it would be claimed that nothing less than 1000 MW was economic. As the advanced countries had made arrangements to finance the Agency's safeguards activities, they should also find a way of helping the developing countries to finance nuclear power.

55. It was time for reactor manufacturers and financing institutions to have an unprejudiced second look at the prospects of small and medium-sized nuclear power reactors as alternative sources of energy in developing countries with small grids in areas of high-cost fuel, and for the Agency to be more energetic in helping the developing countries than in the past.

56. The Agency was not and should not become the police headquarters of the nuclear world, but it was a great organization for promoting nuclear technology. To lure the poor developing countries by saying that in the application of isotopes in agriculture and medicine lay their salvation, was to hoodwink them because radioisotopes were only a means to an end. The energy of the atom transformed into electricity alone could accelerate the pace of economic development, as the Agency should recognize. It should also be recognized that the developing countries needed the Agency more than the advanced countries, and the Director General should, therefore, be more dynamic and should come out with a bold "Atoms for Power" programme in developing countries during the coming 10-15 years.

57. He welcomed the convening of a panel of experts to advise the Director General as to the ways and means of undertaking a survey of the energy situation in the developing countries. To expedite matters the survey should be limited to a representative group of about 15 countries where research reactors were operating and where the nucleus of trained manpower already existed. The countries surveyed should meet all the cost of the survey in their territories, which would greatly reduce the cost. International financing agencies could surely be persuaded to help finance the balance.

58. If energy was the key to economic development, water was the key to human survival and social development. As the world population grew, the demand for basic essentials of civilized life like water would have to be met not "at a cost" but "at any cost". The Fourth Geneva Conference had shown that with breeder reactors in prospect, reactor technology had reached a point when the atom could be an unlimited source of energy. Fortunately the oceans could provide a limitless source of water if only sea-water could be desalinated on a large scale. Although the technology and processes of desalination had not yet been developed to produce large quantities of water in a single unit, undoubtedly within the next decade big desalination units capable of producing 100-200 million gallons of water a day would become technically and economically feasible. For such large sizes, conventional fuels would obviously be too unwieldy and expensive. "Atoms for Water" should lead to dual-purpose nuclear power-cum-desalinating plants operating along the shores of some of the arid areas of the world in the current decade. The Agency should be more active in the nuclear desalination field and promote, through international and multi-organizational co-operation, the establishment of at least three dual-purpose nuclear plants, one in the Americas, one in North Africa and the Middle East and one in South Asia and the Near East, so that operating experience might be gained. He asked the Director General to examine seriously the question of setting up an international centre or school for desalination where scientists and technologists from developing countries could work on the research and development problems connected with various desalination processes under the guidance of colleagues from the advanced countries. Surely, if the Agency could establish an International Centre for Theoretical Physics and two laboratories, it could sponsor an international centre for desalination.

59. They had come a long way to tame the atoms for peace by trying, through international treaties and through the Agency's safeguards system, to limit the number of nuclear-weapon States to five. Whereas the Test Ban Treaty of 1963 was a step towards preventing vertical proliferation of nuclear weapons, NPT was designed to prevent horizontal proliferation. In the interests of peace, the nuclear-weapon States should take one more step and agree to sign a comprehensive test ban treaty to stop the production, testing and use of nuclear weapons. He also wished that the nuclear, the near-nuclear and other non-nuclear-weapon States would adhere to the spirit and letter of NPT because in that approach alone lay the salvation of humanity. Unfortunately a false sense of prestige and misplaced arrogance prevented that approach from being universally accepted. It was particularly disturbing to find some of the poorest developing countries refusing to sign NPT and diverting their scarce resources of talent and money to produce and explode a nuclear device ostensibly for "peaceful purposes", which was tantamount to producing and exploding a nuclear weapon. Surely if nuclear explosions for "peaceful purposes" became technically and

economically feasible - an exercise which could be undertaken by the nuclear-weapon States for the benefit of all concerned - the saner way would be to seek the services of the Agency as conceived in NPT regardless of whether a non-nuclear-weapon State was or was not a party to the Treaty. Any other course would not only wreck NPT but would start a mad race among the non-nuclear-weapon countries to produce nuclear weapons in the guise of nuclear devices for so-called "peaceful purposes". A very heavy responsibility rested on the nuclear-weapon States and the Agency to strive by every possible means to prevent such a race. If that were not done, some countries, in areas of tension, might be able to manufacture the nuclear devices and others might have the means and resources to acquire them. He was surprised that the nuclear-weapon States and the Agency were ignoring the trend in some non-nuclear-weapon States to produce nuclear devices for "peaceful purposes". A nuclear explosion was a nuclear explosion and it would destroy NPT if it were made by a non-nuclear-weapon State. Did the great Powers want NPT to be wrecked, and could they exercise enough pressure to prevent the possession of nuclear devices or weapons by non-nuclear-weapon States? There might be some merit in demarcating "nuclear free zones" in non-nuclear regions of the world. If that were possible the United Nations should bring the countries concerned to a round table to define such zones.

60. The fruits of nuclear technology could not be harvested unless the "haves" and "have-nots" became "partners in development". The more materially advanced countries must stop asking the developing countries why they wanted an atomic energy programme, because the developing countries could, with greater justification, ask why billions of dollars were being spent on going to the moon and on weapons. A constructive dialogue that would generate respect for each other's point of view was needed, as well as the pooling of moral and material resources for the healthy economic development and social welfare of the human race as a whole.

61. Mr. ANDRZEJEWSKI (Poland) said that during the past year the work of the Agency had been dominated by three problems: preparation of safeguards agreements in connection with NPT, technical co-operation, and preparation of the Fourth Geneva Conference. It had also devoted considerable attention to matters of environmental protection.

62. Representatives of the Polish Government and Polish scientists had participated actively in the Agency's work in the spheres mentioned and also in its other scientific and technical activities. He wished to congratulate the Director General and his staff on having discharged their duties so satisfactorily.

63. The Agency's role in and on behalf of the international community had been extended considerably during the past year, mainly as a result of the important control functions which had

been entrusted to the Agency in connection with NPT. Poland and a number of other countries considered that NPT was an essential partial step towards disarmament. NPT had now been signed by over 100 countries, which was evidence of the wide support it enjoyed. The socialist countries and certain others were making intensive efforts to enhance the universality of NPT. As far as implementation of NPT was concerned, it was extremely important to take effective action against any proliferation of nuclear weapons. Hence the importance of the practical application of the safeguards provided for in Article III of NPT in respect of non-nuclear-weapon States, especially those which had nuclear facilities at their disposal.

64. For those reasons, the delegation of Poland had repeatedly stated its satisfaction that the Board's safeguards committee had worked out the basic principles for the safeguards agreements which the States party to NPT would be required to conclude with the Agency. Poland, along with other States Members of the Agency, greatly appreciated the results of that committee's work, as approved by the Board. The principles formulated by the committee represented a gigantic step towards full implementation of NPT.

65. The conditions thus established enabled all States concerned to initiate and continue negotiations aiming at the conclusion of safeguards agreements with the Agency in accordance with Article III of NPT. Poland had worked out with the Agency the text of an agreement on the application of safeguards; it had been the first country to start negotiations and it was making intensive preparations in connection with the Polish system of nuclear material inventories and control. He could assure the Conference that Poland would be ready on the technological side to assume its obligations under Article III of NPT. He expressed the hope that the procedures for ratification and conclusion of safeguards agreements would be speeded up and urged all States concerned to bend every effort in that direction.

66. The fact that the Agency had been granted means of applying safeguards and its future activities in that connection would represent an unprecedented event: the application for the first time in history of multilateral international controls on armament reduction in a sphere as important as that of the uses of nuclear energy. The favourable prospects for a reduction of tension in Europe created even better conditions for the ratification of NPT and for negotiations with the Agency.

67. For those reasons it was all the more paradoxical that one of the German States, a party to NPT, was being prevented from joining the Agency. The delegations of Poland and the other socialist countries had repeatedly drawn attention to the fact that the German Democratic Republic should become a full Member of the Agency, since it was a sovereign State with great economic, scientific and technological potentialities, especially in the field of nuclear energy. He pointed out that

the German Democratic Republic enjoyed growing international support and recognition, that it held a respected position in the scientific world and that it could contribute greatly to the work of the Agency. He was convinced that there would be a change in the present situation and that the Agency would become a truly universal organization, in the interests of all its Members.

68. The Agency's technical co-operation activities had increased during 1970, thanks to the new method of working in the Secretariat and to the 25% increase (compared with 1969) in the funds available to the Agency for that purpose. It had been right to allocate additional funds for supplying equipment and installations and for fellowships, as those were the most effective forms of assistance to developing countries. Similarly, the available funds had been judiciously apportioned among the various applications of nuclear technology, preference having been given to the practical application of isotopes and other nuclear techniques in industry, agriculture and food production. The Polish delegation noted with satisfaction that the funds available to the Agency under the United Nations Development Programme (UNDP) had increased by 51% over those for 1969, evidence that nuclear technology was playing an increasing part in the measures undertaken by developing countries to accelerate their technical and economic development.

69. It was perhaps too early to attempt to draw up a general balance sheet for the Fourth Geneva Conference, but even at the present stage he could state that for Polish scientists it had provided an opportunity to engage in a large-scale exchange of information and views. He wished to congratulate the Director General, Mr. Zheludev, Scientific Secretary of the Conference, and the staff of the Agency for the excellent organization of the Conference, which was doubtless an important step in the development of the peaceful uses of nuclear energy and of international co-operation in that sphere.

70. As regards the human environment, Poland had from the very start indicated its support of an international study of that problem and it viewed with satisfaction the growing role of the Agency in co-ordinating on an international scale the steps taken in relation to radiological protection of the environment, high-activity waste management and nuclear safety, as well as the application of nuclear techniques in work of a general nature designed to combat pollution.

71. In addition to its work on radiological protection in all branches of industry, transport, scientific research and so on, the Agency had from the outset devoted particular attention to the protection of the environment, so that the nuclear industry was among the industries least hazardous to the natural environment. The Director General had expressed the same view at the Fourth Geneva Conference, and Poland would therefore continue its support of such activities. Similarly, it would examine with interest the project for setting up a central registry of all waste disposal into the

environment. If such a register should be established, the Agency should certainly be assigned the responsibility of centralizing the data relating to that part of the register concerned with radioactive waste.

72. In Poland, the year just past had been rich in events of great importance for the subsequent development of the Polish nuclear programme. For example, the Polish Government had decided to carry out the construction of the country's first nuclear power station, which would be supplying the power grid ten years hence. Poland, which possessed extensive coal resources, had no pressing need to proceed along that course. In addition, the construction of a high-flux reactor for use in materials analysis was going ahead actively; that reactor would, among other things, provide a basis for preparatory work connected with the Polish programme for the development of nuclear energy.

73. Poland was also about to commission a linear electron accelerator which had been supplied by the Soviet Union and in connection with which an extensive programme for research and for sterilization of drugs and medical instruments had been worked out. Work was continuing on nuclear techniques and their applications in materials analysis and in industrial processes as well as on geological and hydrological research.

74. He wished to point out that in the field of nuclear energy and its various applications, fruitful co-operation between the socialist countries was continuing within the framework of COMECON, and Poland had been a beneficiary of that co-operation.

75. The Polish delegation had no serious objection to the programme proposed by the Board; nevertheless, it wished to express its concern at the implications of recent developments in the western monetary system for the budgets of the international organizations, as well as at the increase in the administrative costs of the Agency's Secretariat and, in particular, staff salaries.

76. His delegation wished to associate itself with those delegations that had approved the Board's report for 1970-71[8]. That report had been drawn up in a clear and competent manner and presented a correct picture of the Agency's activities during the period in question.

77. Lastly, he wished to state that Poland was very satisfied with the spirit in which its collaboration with the Agency had taken place and that it was ready to continue and extend that collaboration in all spheres, on the principle that the activity of the Agency, especially during the recent period, was an important element in the preservation of peace and international security.

78. Mr. ALBA ANDRADE (Mexico) said that, in the past few days, the Fourth Geneva Conference had highlighted the many problems involved in

[8] GC(XV)/455.

extending the peaceful uses of atomic energy, particularly in developing countries. The Conference had also shown how important it was to promote international co-operation at an accelerated pace.

79. Such co-operation, by its very nature peaceful, would require a continuing effort to achieve nuclear disarmament. The nuclear arsenals were, and would continue to be as long as they existed, the supreme folly of a civilization bent on self-destruction.

80. From the time of the conclusion of the Treaty on the Antarctic in 1959 till the entry into force of NPT on 5 March 1970, no favourable opportunity had been missed, and a spirit of conciliation had consistently prevailed. Even so, the results obtained so far could not be said to provide a complete solution to the grave problems still confronting the world.

81. The second period of meetings of the General Conference of the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL) had just been held in Mexico to deal with problems of that kind.

82. Ambassador Benites Vinueza, Secretary General of OPANAL, had made the following statement in his report to the Conference:

"When we consider that seven States of the Latin American region, some of them possessing vast territories and large populations as well as great economic and industrial potential and advanced technology in the nuclear field, have not joined OPANAL, although most of them are signatories [of the Treaty for the Prohibition of Nuclear Weapons in Latin America], we must confess that OPANAL cannot fully execute its functions or achieve in full the aims for which it was created." [9]

83. Speaking to the General Conference of OPANAL on 7 September, the Mexican Ambassador, Mr. García Robles, had noted that nearly eight years had gone by since the General Assembly of the United Nations, in its resolution 1911 (XVIII) of 27 November 1963, had noted with satisfaction the initiative taken for the prohibition of nuclear weapons in Latin America. Mr. García Robles had observed further that it was worth recalling the aims which since that time had been declared before the most representative body of the world organization and which subsequently had been taken up in the preamble to the Treaty.

84. His delegation believed that those aims still retained all their validity.

85. There could be no doubt that Latin America would measure up to the moral and legal commitments laid upon it by its mission of peace, which

[9] OPANAL document CG/45, para. 9 (Spanish only).

it had freely accepted, and that it would do so, as he sincerely hoped, within the shortest possible time.

86. With regard to the three nuclear Powers which had still not ratified Additional Protocol II of the Treaty for the Prohibition of Nuclear Weapons in Latin America, his delegation could do no better than repeat, and record its profound belief in, the sentiments which the Secretary-General of the United Nations had conveyed through his distinguished personal representative to the delegations taking part in the second period of meetings of the General Conference of OPANAL. The Secretary-General had declared his

"fervent hope that all Powers possessing nuclear weapons, in response to the invitations of the General Assembly, will demonstrate without delay their resolve to respect the lofty principles and noble objectives of the Treaty".

87. Mexico was endeavouring at present to concentrate and organize its human and material resources and to follow steadfastly a path leading to sustained and rapid improvements in nuclear science and technology, an area where improvements were essential if the country was to accelerate its economic and social development.

88. On the first day of September, faced with the country's present problems, including those brought on by a rapid growth of population, President Echeverría had said, in his first report to the Congress of the Union, that Mexico was "in the midst of a period of change", and that "the destiny of Mexico lies in our capacity to look to the future". To that end Mexico, in the President's own words, would have to

"strengthen political democracy, reform the educational system, promote science and technology, improve the distribution of income, make the conditions of life more human in the urban centres as well as in the more remote areas, integrate the country's peripheral territories, modernize farming, make the best possible use of natural resources, continue to 'Mexicanize' the economy, decentralize industry and make it more efficient, increase overall productivity, make the public administration more flexible, increase the national product and productive investment, stimulate foreign trade and reaffirm the values of Mexican culture".

89. Among the new instruments enacted for such purposes since the present Government had taken office was the law of 29 December 1970, by which the National Council of Science and Technology had been established. The Council's main functions were to advise the federal executive authority regarding the establishment, execution and evaluation of a national policy in science and technology, and to advise, in consequence, on the planning, programming, co-ordination, orientation, promotion and guidance with regard to activities associa-

ted with science and technology, as well as on the relationship of such matters to national development and foreign relations.

90. Mexico's resources in nuclear science and technology were limited. Not all the country's institutions had, in sufficient quantity, the basic elements required for their work, although its nucleus of research workers - scientists and technologists alike - consisted of valuable and highly-qualified people. The country lacked specialists in areas vital to its development. In view of all those facts Mexico had resolved to redesign its programmes, to improve internal and external co-ordination, to promote inter-institutional collaboration, to set itself attainable and realistic objectives and to establish priorities such that efforts would be concentrated in the first instance on the problems of greatest moment for the country's economic, social, scientific and technological development. Mexico hoped, moreover, in furtherance of its purposes, to receive as much assistance as possible from the Agency.

91. The growing requirements of Mexico's programmes meant that the present scientific infrastructure would have to be expanded, and the Nuclear Centre of Mexico, officially inaugurated on 27 November 1970, with an investment of \$13 million, marked a most useful step in that direction.

92. The new programme of the National Nuclear Energy Commission (CNEN) established objectives and basic lines of action. It foresaw also a number of realistic alternatives which could be selected as required, in co-operation with the competent bodies, with a view to tackling the Commission's tasks in good time.

93. In 1967 the Mexican Federal Electricity Commission (FEC) had begun studies for the construction of a first nuclear power plant with a nominal capacity of 600 MW(e), a matter about which the Agency had been informed at the time.

94. CNEN had not only taken part in the various stages of the study conducted by the FEC but was also represented, along with other competent public bodies, in the Power Commission attached to the Office of the President, where the development of uranium and other new energy sources, as well as the alternatives available for the better utilization of such resources, were being studied in detail.

95. At the same time CNEN had taken part in evaluation procedures for the selection of the first nuclear power plant. Its collaboration in that sphere had been guided by the aim of establishing criteria which would lead to a well-founded decision, a decision which by its very nature must aim at securing the best possible results from a long-term policy and establishing a firm basis for the development of nuclear electric power in Mexico.

96. The full extent of those new prospects was indicated by the fact that the FEC expected to

install a nuclear power capacity of between 1200 and 1500 MW(e), because of the considerable economic and technological advantages which nuclear plants enjoyed over other forms of power generation.

97. Mexico's nuclear power might well reach 20 000 MW by the end of the century, quite apart from the nuclear energy required for desalination, which might amount to 10 000 MW in view of the growing water requirements of the towns, industry and agriculture.

98. In support of the studies required to obtain authorization for the first nuclear power plant, under the development programme to which he had referred, CNEN had been able to rely on the collaboration of the Agency, which he was pleased to acknowledge with gratitude. The Agency had already sent two technical advisory missions and had judged the site proposed by the FEC at Laguna Verde, 70 kilometres north of Veracruz, to be feasible.

99. In his first report as Head of Government, President Echeverría had recognized that Mexico

"depends excessively on hydrocarbons, a fact which obliges us to diversify our sources of energy. For this reason the programmes of expansion of the petroleum and electric power industries envisage the possibility of using other sources of energy".

The President had added that

"the possibility of making use of nuclear energy for creative purposes is being thoroughly studied. Mexico has known reserves of uranium, and the geological indications lead us to assume the existence of other deposits. The experience of other countries has been made use of and all the technical and financial factors have been evaluated, which will permit us to take a sound decision when the time comes".

100. To initiate, promote and develop nuclear technology in Mexico - those were the aims which guided his country's programme and determined its future plans.

101. The Mexican Government was preparing well-defined technical assistance programmes in areas of vital importance for the country's nuclear development, and the aid which it hoped to receive from the Agency would be essential.

102. During their recent visit to Mexico, Dr. Eklund, Director General of the Agency and Dr. Goswami, Deputy Director General had had an opportunity to witness the working spirit characteristic of Mexico's activities and to hold meetings in the course of which the requirements of the country's development had been examined in a preliminary way. Mexico had had particular pleasure in welcoming them and wished to thank them for the helpful and co-operative spirit they had shown.

103. He had felt - though he feared he might have spoken at too great length - that a description of Mexico's future plans was called for. That was all the more true because Mexico had invited the General Conference to hold its sixteenth regular session in Mexico City in 1972: fairly detailed information about the country which was offering its capital for the next session of the Conference was surely in order. It would be a great honour for Mexico to have the next session of the Conference held for the first time in a Latin American country.

104. Mr. de CARVALHO (Brazil) said that his delegation wished to congratulate the Director General and the staff of the Agency on the results obtained in the past year, in spite of well-known difficulties concerning the availability of funds. In that connection, he would like to make some comments on the Agency's programme and its impact on the development of nuclear energy in Brazil.

105. In order to cope with fast growing power requirements in Brazil, which had been increasing at the rate of 12.6% per year in most regions in the last five years, a 600-MW(e) plant, powered by a pressurized water reactor, was to be built in Angra dos Reis, State of Rio de Janeiro. It would be in full operation by 1976 and would be integrated into the Central South grid, which already had 9000 MW(e).

106. A group of Agency experts, working with Brazilian groups, had conducted an extended survey of industrial capacity; the resulting report, just published by the Agency, had shown that private industry in Brazil was capable of manufacturing several reactor components which otherwise would have to be imported.

107. Moreover, a partially private-owned company was to be set up to engage in the fuel cycle industry, from the mining of uranium ores to the fabrication of fuel elements, and subsequently in the reprocessing of reactor fuels.

108. His country was very grateful to the Agency for lending its support to the project submitted to the Special Fund of UNDP aimed at the further development of agricultural education, research and production through the application of nuclear techniques, which was to be implemented at the Agricultural Centre of Piracicaba. Brazil was also participating in the food irradiation project sponsored by the Agency and the European Nuclear Energy Agency.

109. In the field of dosimetry the specialized laboratory in Brazil was enjoying continuous and increasing co-operation with the Agency.

110. The institution of the International Nuclear Information System (INIS) and its continuous progress was one of the outstanding services rendered to the Member States by the Agency. Brazil's own Nuclear Information Centre was already taking full advantage of the material made available by the Agency. It was its intention to increase continuously its participation in INIS.

111. In spite of the increase in the target for voluntary contributions to the General Fund, it was evident that progress in technical assistance was being curtailed by price increases and inflation throughout the world. It was indeed very sad that in terms of real value the technical assistance programme for 1972 could be at a lower level than the programme developed ten years earlier. His delegation emphasized that point, because Brazil's voluntary contribution had always been proportional to its share of the Regular Budget.

112. His country had decided the previous year to increase its voluntary contribution from \$20 500, which was in accordance with the United Nations ratio, to \$30 000, and it would maintain the same level for 1972, although it had been asked to contribute only \$21 900.

113. It was well known that there was an important potential market for small and medium-sized nuclear power plants in the developing countries, and the Director General had mentioned the initiation, by the Agency, of a market study on the future demand for such nuclear power plants with a capacity below 500 MW(e). [10] The Agency had also completed an admirable study of the economic feasibility of smaller power reactors, and his delegation would like to suggest that interested countries might send to the Agency a letter of intention, presenting their preliminary plans for the installation, in the next decade, of nuclear plants in the range, say, from 100 to 300 MW(e).

114. Turning to the question of safeguards, he stated with the utmost emphasis that Brazil was not opposed to safeguards. It had a trilateral agreement with the United States of America and the Agency for the application of safeguards, which had been in effect for some years. [11] He was glad to report that his country was quite satisfied with the work of the Agency's inspectors, who visited it regularly. In the light of Brazil's experience, he suggested that the Inspector General might give some attention to the possibility of enlarging, whenever feasible, the role played by the inspectors. In Brazil, the control function of the inspectors had been complemented by what might be called a liaison exercise, which had been very useful to both parties.

115. He also declared that the Government of Brazil had decided to contribute to the financing of safeguards provided for in Article III of NPT, considering that such a service rendered by the Agency to Member States was in accordance with its statutory objectives.

116. But the burden imposed by safeguards upon the Agency's budget might have the paradoxical result that the more the Agency tried to achieve its goal the less resources it would have available to perform its functions.

[10] GC(XV)/OR. 144, para. 19.

[11] See document INFCIRC/110.

117. The expenditure on safeguards, which could be expected to increase with the development of nuclear energy for peaceful applications, was solely needed to prevent the diversion of fissile materials for military purposes. That meant that such expenditure was mostly directed to guaranteeing the maintenance of the military status quo of the nuclear Powers, with no benefit whatsoever to the non-nuclear nations.

118. His delegation suggested, therefore, that the nuclear Powers should contribute a small percentage of their annual budget for nuclear weapons to the fostering by the Agency of the peaceful uses of atomic energy.

119. Turning to the question of the environment, he said that in a world where unfortunately there were millions dying of starvation, and very few of pollution, more and more power was needed to improve health and increase prosperity. That could only be achieved by the use of nuclear energy. However, man was in a much better position than his ancestors to combat pollution, since science and technology had been developed to deal with ecological problems and it was certain that those problems could be solved, not only in the case of atomic energy, but in that of several other pollutants which had for centuries constituted a danger to mankind that was much more harmful than atomic energy.

120. Unfortunately, the question of pollution was not just a technical problem. One could distinguish, in the widespread discussion of the question, two different aspects, firstly, the real existence of pollution, which nobody wanted to disregard and, secondly, the exaggeration of the problem, which could result from passion, ignorance and dishonesty. It was possible to cope with passion and ignorance by means of unemotional discussion and a good programme of public information. Dishonesty, either personal, or originating from group interests, could not be combated directly, but it would achieve its purpose less and less if people were enlightened by means of a steady and adequate information campaign.

121. In that connection, he was sure that the Agency could be most effective, since its authority stemmed not only from its universally recognized technical capability, but especially from the fact that it was a neutral body closely co-operating with other United Nations organizations which were concerned with furthering health, prosperity and peace throughout the world.

122. He was pleased to inform the General Conference that his Government had completed the constitutional process for the ratification of the amendment to Article VI of the Statute. It was expected that the instrument of acceptance would be deposited within the following two weeks. He expressed the hope that the necessary two-thirds majority of Members would ratify the amendment in the near future, so that the membership of the Board would have a better geographical distribution.

123. In conclusion, his delegation wished to pay a special tribute to Dr. Glenn Seaborg, who was taking his leave of delegates after ten years of particularly rewarding co-operation.

124. Mr. BIGGAR (Ireland) thanked the Board and the Director General for an excellent annual report and welcomed the new procedure whereby it would also serve as the Agency's report to the General Assembly of the United Nations. [12] Such a rationalization of procedures was welcome at a time when the duplication of material in international organizations was a problem.

125. His delegation was particularly gratified that the Board's safeguards committee had elaborated a model agreement on safeguards to be used in the negotiations between the Agency and non-nuclear-weapon States party to NPT in drawing up agreements under Article III of NPT. That an agreement had been reached after such long and protracted negotiations, particularly on the clauses relating to the financing of safeguards, was an achievement greatly redounding to the credit of all the States which had participated in the committee's work and the excellent services of the Secretariat.

126. The task of implementing NPT had given the Agency a new and vital role, and his Government was confident of the Agency's ability to fulfil that role effectively in co-operation with the Member States concerned. For the first time since the ending of the Second World War and the beginning of the nuclear age, an international organization would be involved in providing the international inspection and control machinery for a major arms control measure of unparalleled importance, and he expressed satisfaction at the way in which the new and difficult challenge was being met by the Agency.

127. Ireland had sponsored the resolution at the sixteenth session of the General Assembly which had initiated the work on NPT [13] and had been the first country to ratify the Treaty in July 1968. Ireland was and had always been fully committed to the objectives of NPT, seeing in them the embodiment of principles which were essential for increased security and political stability in the world. His Government was negotiating an agreement under Article III of NPT with the Agency and was confident of an early and successful outcome.

128. He hoped that the industrially developed States which had not yet ratified NPT, but whose nuclear potentialities were obvious, would now give serious consideration to ratification, particularly in view of the conclusion of a model safeguards agreement which very fairly met the satisfactory criteria of effectiveness and acceptability and ensured the protection of legitimate commercial interests. He welcomed the offer by the Governments of the United Kingdom and the United States of America to place certain of their peaceful nuclear activities under Agency safeguards. The willingness on the part

[12] See document GC(XV)/467.

[13] Resolution 1665 (XVI).

of those two States to involve themselves voluntarily in the detailed safeguards procedures was encouraging and should go a long way towards allaying the apprehension of those States which feared a commercial disadvantage in being made subject to safeguards.

129. With regard to the situation in Ireland, he said that while no considerable developments in relation to nuclear energy were expected in the immediate future, Ireland was interested in all developments in other countries, and was considering the possibility of the construction of nuclear energy plants to lessen its dependence on fossil fuels. Ireland had no coal or oil and, with hydro potential virtually exhausted, nuclear energy would become important in time. With that in mind, Parliament had recently approved legislation establishing a Nuclear Energy Board. The Board would keep constantly under review developments in other countries, so as to be in a position to offer expert advice to the Government on the action it should take at the appropriate time. A particular function of the Board would be to promote knowledge and research in nuclear science and technology. In addition, it would be responsible for the preparation of safety codes and regulations in accordance with internationally established norms. The legislation in question would enable his Government to provide for future developments in nuclear energy and to participate more fully in the Agency's future work.

130. That legislation would also permit his Government to implement the provisions of the safeguards agreement in connection with NPT at present being negotiated with the Agency. In addition, his Government was taking steps to enable it in the very near future to ratify the Agreement on the Privileges and Immunities of the Agency<sup>[14]</sup> and to ratify the amendment to Article VI of the Statute.

131. The Irish delegation had always expressed the view, particularly at the United Nations, that the Agency was the appropriate body to take on the role of the international service for nuclear explosions for peaceful purposes under Article V of NPT. As the technology involved was at an early stage of development, the specific functions of the service should evolve gradually after further international discussion. He therefore thanked the group of experts on the question of the international observation of peaceful nuclear explosions for their work. *Their attempt to formulate general principles and definitions* was a valuable contribution to the corpus of knowledge on the subject. The Board was to give further consideration to the matter in the light of the comments received from Governments on the report of the group of experts. He had also noted that discussions were continuing between the Governments of the United States and the Soviet Union on the technical and theoretical aspects of peaceful uses of nuclear explosions.

[14] The text of the agreement is reproduced in document INFCIRC/9/Rev. 2.

132. With the ever-growing installed nuclear capacity throughout the world, the problem of the disposal of nuclear waste, particularly in the marine environment, was causing increasing concern. It was an important aspect, though possibly at present not the most urgent, of the world-wide destruction of natural resources, which was becoming one of the most vital problems confronting civilized peoples. The protection of the world's flora and fauna was of importance to every human being and his descendants. The indications were that, while the volume of nuclear waste being discharged into the sea was increasing, precautions were being taken to prevent significant pollution. Nevertheless, the utmost vigilance was needed to prevent the situation from getting worse. For that reason, his Government welcomed the conclusion of the Panel on Procedures for Establishing Limits for Radioactive Nuclides in the Sea, which had been convened by the Agency in November 1970, and particularly welcomed the panel's reiteration of the recommendation for the establishment of an international register of all substantial releases of radioactive wastes from peaceful nuclear activities into the seas and oceans. He hoped that, when the findings of the group of consultants, which had met in July 1971, were made available, it would be possible to take positive action on the question as a matter of some urgency.

133. INIS had proved satisfactory, and he was confident that the Advisory Committee for INIS, which was to meet in November, would ensure an expansion of the service in line with the suggestions of the Board's Administrative and Budgetary Committee.

134. The Board's annual report again showed the very wide range of work performed by the Agency. The outstanding achievement in the matter of safeguards must not, however, overshadow the Agency's promotional work in providing technical assistance. His Government hoped that the new responsibilities undertaken by the Agency in connection with NPT would in no way impede the Agency's excellent and more traditional programmes in promoting the peaceful uses of atomic energy. A proper balance could be maintained between those two important aspects of the Agency's work. The recommended increase to \$3 million for 1972 in the target for voluntary contributions to the General Fund was to be welcomed on that account, and was particularly appropriate during the Second Development Decade. His Government had pledged a contribution to the Fund in accordance with the recommended target.

135. He welcomed the announcement that the Council of Ministers of the European Communities had authorized EURATOM to negotiate a safeguards agreement with the Agency in accordance with Article III of NPT; that was an important development in international co-operation.

136. Mr. ISARANGKUN Na AYUTHAYA (Thailand) said he was pleased to report that with the expert advice and technical assistance provided by the Agency, of which his country was highly apprecia-

tive, substantial progress had been made in his country's nuclear energy activities in the past year.

137. Thailand had always co-operated with the Agency and, by acting as host for technical meetings and training courses, had served the aims of regional and interregional co-operation. His delegation was pleased to note that a sub-regional co-operative project on neutron scattering was to be undertaken by the Agency and hoped that further valuable co-operative projects would follow.

138. Thailand was proceeding cautiously in connection with the introduction of its first nuclear power plant. The Agency was being requested to assess the safety of a proposed site in 1972, and it was expected that it would provide expert advice on legal regulatory procedures in the near future.

139. His delegation believed that through co-operation, much could be done to help realize the cherished hope for peace. Even more could be done if greater efforts were made to re-channel more of the available resources, whether in cash, kind or services, to peaceful uses. For that reason, his delegation felt that the proposal to increase the target for voluntary contributions to the General Fund, which were the very means by which the Agency could extend a helping hand to the developing countries, should be wholeheartedly supported.

140. The Thai Government hoped that the co-operative enterprises of the Agency, such as the

technical assistance programmes, the exchanges of scientific and technological information, as well as some other aspects of its work, would help build up mutual trust among the Member States. That, together with the need to inspire greater confidence among the non-member States, had become a fundamental prerequisite for the achievement of the long-term objective of a safe and prosperous world.

141. Thailand strongly approved of the Agency's safeguards system and was willing to share the financial burden involved in its maintenance.

142. With regard to the proposed amendment to Article VI of the Statute approved by the General Conference at its last session, he could report that Thailand had already deposited its instrument of acceptance with the appropriate authority. He hoped that other Member States would soon take the necessary action so that the amendment would come into force.

143. Speaking then on behalf of his own delegation as well as those of other Asian States, he said the generous invitation of the Mexican Government to hold the next session of the General Conference in Mexico City had been noted with pleasure. Acceptance of that offer was warmly supported.

● The meeting rose at 6.5 p.m.

