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Held at the Neue Hofburg, Vienna, on Wednesday, 28 September 1977, at 10.10 a.m.

President: Mr. ETEMAD (Iran)

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\*\* GC(XXI)/591.

**THE RECORD****GENERAL DEBATE AND ANNUAL REPORT  
FOR 1976 (GC(XXI)/580) (continued)**

1. Mr. FELICKI (Poland) observed that, historically speaking, 20 years was not a long period. Considering, however, the changes which had recently taken place in the world, the preceding 20 years had been a period of unusual economic and social development. The world's population had nearly doubled, reaching a figure of 4000 million, world income had trebled and industrial production had increased by a factor of 3.5. The development of nuclear energy had been spectacular. Whereas prior to the creation of the Agency only one 5-MW(e) experimental nuclear power plant had been in operation, in the Soviet Union, there were now 230 such facilities, with a total installed capacity of 110 000 MW(e).

2. That development had not taken place without difficulties, most of which were due to the military origin of atomic energy. During the past 20 years it had nevertheless been possible to take some steps directed against the military applications of atomic energy. Treaties providing for partial or total banning of nuclear weapons had been concluded. One of the most important such instruments was the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)[1], which conferred a new and vitally important role on the Agency. Thus changes had progressively occurred in the Agency's activities. From an essentially technical world organization at the outset, observing trends in research and applications and promoting the exchange of information and the preparation of standards and recommendations, it had come to be concerned with nuclear power plants and their fuel cycle and with radiation protection and the safety of nuclear facilities, and it had acquired a reputation for a high standard of competence.

3. Owing to the development of nuclear energy and the growth in the number of facilities producing and reprocessing fissionable material, the Agency had been obliged to turn its attention to the problem of safeguards. The application of safeguards, which had been entrusted to it under NPT, had strengthened its role as an instrument for maintaining security in the world. It had been claimed by some that the system of safeguards was in the interest of a small group of the most developed countries. Poland did not share that view. The importance of peace was a factor independent of the degree of industrial development achieved and the steps taken towards establishing universal peace were in the interest of all countries.

4. Another of the Agency's functions was to provide technical assistance to developing countries and, in that sphere too, it had extended its activity to matters of nuclear power. The

great dynamism characteristic of the past 20 years had subjected it to several tests from which it had emerged with honour. The founders of the Agency had demonstrated wisdom and far-sightedness in drafting the articles of the Statute, which had always proved timely.

5. The conditions under which nuclear energy developed would determine future trends in the development of the Agency. Apart from fulfilling its well-established role as a clearing-house for scientific and technical information in the atomic field, the Agency should concentrate on three sectors. First, it should ensure that the fissionable material produced for peaceful purposes was not diverted for military ends. He fully agreed with the Director General's view that the Agency's Safeguards System as defined in document INFCIRC/66 should be replaced in the countries which had not acceded to NPT by a new system covering all nuclear activities. He was also in favour of introducing supplementary systems for ensuring non-proliferation, such as the establishment of regional fuel cycle centres, the storage of plutonium under IAEA control and the like, in the application of which the Agency should play a predominant part. Second, the organization should continue to carry out research and to prepare standards and recommendations on the reliability and safety of nuclear reactors and fuel fabrication facilities, devoting particular attention to the problems of radioactive waste management and radiation protection. Lastly, the Agency should intensify its assistance to the developing countries.

6. In consideration of the growing needs, the Polish Government had decided to increase its voluntary contribution to the Agency's technical assistance programme by 50%, bringing it to a total of 1.5 million zlotys. He welcomed the re-appointment of Mr. Sigvard Eklund as Director General for a further term of four years. His (Mr. Eklund's) knowledge and experience were a guarantee that the new tasks facing the Agency at the beginning of the next 20-year period would be carried out with success.

7. Poland, together with other socialist countries, was celebrating the 60th anniversary of the October Revolution, which had proclaimed the ideals of brotherhood and co-operation among nations; it would do everything in its power to give practical expression to the idea of international co-operation in the peaceful uses of nuclear energy.

8. Mr. ABS (Holy See) said that his delegation had carefully considered the documents prepared by the Board and by the Director General and found them excellent sources of reference which would make it possible to hold a dialogue on issues to which the Holy See attached the greatest importance.

9. On the occasion of the Agency's twentieth anniversary, he recalled that the Holy See had not only followed the Agency's work with great interest during the past 20 years, but it had also

[1] Reproduced in document INFCIRC/140.

encouraged it in its task which was "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world".

10. The twenty-first session of the General Conference provided the Holy See with an opportunity to restate that it participated in the life of the Agency as part of its spiritual mission. The role of the Holy See in the Agency was to remind it of its moral obligations in order that it could carry out its responsibilities satisfactorily.

11. His delegation wanted to comment briefly on two of the topics on the agenda of the Conference, namely peace and nuclear energy as a factor of development.

12. With regard to peace, his delegation wished once again to express its well-grounded fears about the vulnerability of peace. As the Holy Father had pointed out in his message for the celebration of the World Day of Peace in 1976: "On this implacable theme, our feelings are of twofold nature, being both at variance one with the other. On the one hand, it is to be seen with pleasure and hope that activities are developing in the direction indicated by peace .... but unfortunately, at the same time we see the manifestation of phenomena contrary to the content and purpose of peace ...." Among some examples of efforts directed to peace was the decision taken by the General Assembly of the United Nations in 1976 to convene a special session on disarmament in 1978 and its condemnation of all nuclear weapon tests and its invitation to the parties to the Conference on Security and Co-operation in Europe[2] to implement fully all the provisions of the Final Act of that Conference.

13. However, the spread of nuclear technology and the technical knowledge regarding nuclear weapon production could have dangerous consequences. Moreover, in the competition to sell nuclear technology, plant and equipment, too little attention was given to the consequences for non-proliferation. Commercial interests and short-term political considerations consequently threatened to take precedence over the security of the international community as a whole.

14. With regard to disarmament, his delegation wished to express its anxiety at the scale assumed by the arms trade, which could be controlled only through a general commitment to diminish the role of force in international relations and through the effective control of arms and through coherent disarmament measures. One fairly alarming indicator was the continuous modernization of armed forces and the growing demand for armaments. It was, moreover, noteworthy that forecasts of the

market for armaments were prepared by commercial agents. More than 30 years after the end of the most destructive war in human history, the majority of nations continued to believe that military strength was the best means of preserving national security and promoting national interests. Paradoxically, they did not seem to be more secure as a result. Indeed, national insecurity seemed to be the more widespread sentiment.

15. The second point to which his delegation wished to refer was the general implications of nuclear energy in the technological, economic, political and social fields. Since the autumn of 1975, public interest in nuclear proliferation issues had been growing. In many industrialized countries, controversy over planned nuclear power plant construction had been directed mainly to the relationship between nuclear power and nuclear weapons. The International Conference on Nuclear Power and its Fuel Cycle (the Salzburg Conference), organized by the Agency in 1977 at Salzburg, had enabled a wide spectrum of views to be heard, according to the most pessimistic of which proliferation could only be avoided by complete renunciation of nuclear power.

16. The Holy See delegation encouraged the Agency to keep the nuclear debate open; it was convinced that in the close international links between nuclear industry and world security, no country could be an island. It was becoming all the more important to examine the implications of nuclear energy thoroughly, particularly if present-day society had no alternative, in order to determine the social and political conditions under which it might be used. Suppliers and recipients of nuclear technology must therefore work together to give nuclear power a meaningful role in the developing world.

17. He wished to draw attention to three aspects of the question, the first of which was the need to inform the public of the issues involved in the peaceful uses of atomic energy. Public debates were currently being held in Western developed countries. As nuclear technology was made available to the developing countries, the opportunity should not be lost to learn from the lessons of the past, to encourage the diffusion of information on nuclear energy and to inform public opinion, so that the citizenry could participate in decision-making in full knowledge of the facts.

18. That led, secondly, to the need to clarify the hazards involved in the use of nuclear resources for various projects. The reality of those hazards, often undetermined, placed an obligation on the Agency and on all States that were considering such projects to proceed with the utmost caution and realism so that the population did not suffer.

19. Thirdly, all States, whether suppliers or recipients, participating in peaceful nuclear explosion projects should scrupulously avoid the

[2] Opened at Helsinki in 1973, continued at Geneva from 18 September 1973 to 21 July 1975 and concluded at Helsinki on 1 August 1975.

temptation to make unconsidered use of nuclear explosives, which might lead to the waste of resources in a pointless international competition. An appraisal should be made, without overlooking environmental protection considerations, of the best ways of ensuring proper growth for individual States and the world as a whole.

20. However, the Holy See insisted that if nuclear energy was to contribute to ordered development, the superiority of spiritual values over merely temporal ones had to be recognized. It was not enough to give economic and technical aid. The conscience of men must also be imbued with the principles of social justice. A just and equitable distribution of wealth was an essential condition for the foundation of a better world, because without that, development was not progress but exploitation.

21. He recalled that during the last visit of the Secretary-General of the United Nations to the Vatican, on 9 July 1977, the Holy Father had insisted on the responsibility of men in the last quarter of the present century. He had stated that the resolutions of States should not be determined by nationalistic perspectives or by purely economic interests, but by a concern to assist the populations most affected by hunger, injustice or ill-usage, which was to suppose a political will of the States, firmly resolved to prevent conflicts or find reasonable solutions for them.

22. The Holy See encouraged the Agency to continue its efforts to provide all possible sources for technical assistance to developing countries, particularly when the concern of those countries was not centred solely on basic aspects of nuclear energy, but on the more practical problems of how to implement nuclear programmes, particularly in such fields as medicine and agriculture.

23. It was the Holy See's most earnest wish to strengthen the bonds of universal brotherhood and to ensure for all people peace and the benefits of close collaboration in science, technology and culture. In that common task, the Holy See offered its collaboration to the Agency. It would continue to work for peace and development, which constituted the aim of the United Nations and its specialized agencies.

24. Mr. SIAZON (Philippines) congratulated the President of the General Conference on his election; as a man well known for his efforts to promote the peaceful use of atomic energy and a citizen of a country which was actively co-operating with the Agency to that same end, he (Mr. Etemad) was certain to make a beneficial contribution to the deliberations of the Agency at the dawn of its third decade.

25. During the 20 years of its existence, the Agency, under the leadership of the Director General, had assisted many developing countries which were now using nuclear energy, some of them for the production of electricity and others for agriculture and medicine, or which were

planning the start-up of nuclear power plants within a short time. The technical assistance programmes had been a success not only for the recipient countries, but also for the donor countries and the exporters of nuclear materials and technology.

26. Having witnessed the constructive results of using atomic energy for peaceful purposes, many developing countries had joined the Agency and the influx of new Members in that category could be expected to lead to certain changes in its organization. The Director General had stressed at the opening of the session that the Agency could not limit its activities to the technical domain nor live in a political vacuum. The developing countries did not intend to remain silent partners in the Agency; they expected to take a greater part in its activities, not only on the Board of Governors and at the General Conference, but also in the higher echelons of the Secretariat, where administrative functions had to be shared between nationals representing different geographical regions. For its future role, the Agency required above all the active support and complete confidence not only of a few of the bigger countries, but of all its Member States.

27. The Philippines, which had acceded to NPT, strongly supported the action taken by the Agency and would warmly welcome any new step that might be taken along those lines under existing international agreements, or within the context of Agency activities. Any such action could be considered during the next Review Conference of the Parties to NPT[3] as could the outcome of the international nuclear fuel cycle evaluation contemplated at the present time.

28. While his country was strongly in favour of nuclear non-proliferation, he did not share the view of the advocates of non-proliferation who would like to see the stoppage of all transfers of technology in the nuclear fuel cycle. In many developing countries that restrictive policy was viewed as a devious device for keeping them economically dependent on the developed countries, and might encourage them to band together against that form of capitalistic imperialism. A policy of that kind would not solve any of the proliferation problems; it might even induce some countries to speed up the development of their nuclear activities by themselves without the application of international safeguards, which were undoubtedly the only way of solving the problems of nuclear proliferation.

29. With regard to the supply of nuclear materials, he pointed out that, contrary to the provisions of Article IV of NPT, a number of Member States who were parties to the Treaty and were applying all the safeguards envisaged had been experiencing delay in the delivery of nuclear materials or were threatened with an

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[3] The first Review Conference was held at Geneva in 1975.

embargo on them. In some cases, for example following a change of Government, the supplier States parties to NPT had refused to honour contracts with another State also a party to it until renegotiation and acceptance of additional conditions. Such behaviour could only bring about a deterioration in international relationships and undo all the efforts made for the purpose of non-proliferation, which required a modicum of trust between different countries.

30. The first special safeguards implementation report, which had just been put before the Board of Governors, called the Board's attention to a variety of problems, such as the difficulties encountered by the inspectorate in reaching conclusions based solely on quantitative verification, the deficiencies involved in safeguarding on-load-refuelled reactors, and the shortcomings in some of the safeguards agreements concluded in accordance with document INFCIRC/66/Rev. 2. The report made it clear that the establishment of effective international safeguards required the co-operation of all the States concerned and also greater financial resources. His Government was willing to support all the measures aimed at improving the Agency's safeguards activities, although it felt that an expansion of its functions should be matched by a commensurate increase in technical assistance activities. Furthermore, there was urgent need to work out a universal scheme for financing safeguards that took into account the financial status of the developing countries. The present methods of financing safeguards needed to be reviewed. A note by the Director General dealing with the principles for the assessment of Members' contributions towards the Agency's Regular Budget brought out the fact that some industrialized countries, including a nuclear-weapon State, would be given preferential treatment in the same way as the developing countries. That was an abnormal state of affairs which had to be set right if the Agency wished to be sure of the permanent support of countries making the greatest contribution to safeguards financing.

31. As far as nuclear disarmament was concerned, he stressed that in spite of the provisions of Article VI of NPT and the fact that the Treaty had been in force for seven years, the only progress made towards nuclear disarmament by the Depositary Governments engaged in negotiations was a half-hearted agreement to extend SALT 1, which went back to 1972.

32. Although his country supported the draft programme and budget for 1978[4], it could not hide its concern at the considerable increase in the Regular Budget. Furthermore, he urged the Director General to improve the representation of the developing countries in the higher echelons of the Secretariat. As of June 1977, only three posts of Director out of 21 were held by nationals from those countries, and as of 23 September

not one of the 19 Units in the Department of Safeguards was headed by a national from a developing country. That situation had to be rectified as the Agency was the only specialized body within the United Nations where so few posts of Director and P-5 posts were held by nationals of the developing countries.

33. Since the signing of the Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (RCA)[5] in June 1972, 11 Member States from Asia and the Far East were co-operating, under Agency sponsorship, in various fields of research in the peaceful uses of atomic energy. The co-operation had made it possible to draw up six minor projects relating mainly to the use of radioisotopes in fisheries, agriculture, environmental pollution control, and industry. Other countries were planning to accede to the Agreement and new projects were under study. He wished to thank the Director General for his support of the activities launched under the RCA and hoped that adequate funds would be provided for that purpose.

34. He congratulated the Director General on his reappointment to office and expressed the Philippines' appreciation of the technical assistance provided by the Agency in 1977; in conclusion, he announced that, as testimony of its interest in the Agency's technical assistance programme, his Government would contribute more than its normal share to the General Fund.

35. Mr. EILAM (Israel) wished to state, on the occasion of the Agency's twentieth anniversary, that the Salzburg Conference had been a perfect example of the Agency's endeavours and achievements; it was also worth noting that the Conference had taken place at a most appropriate time.

36. Everyone knew that the world's problems in connection with energy were becoming ever more acute and complex. Their impact on the prosperity, on the growth, and sometimes even on the daily economic life of countries was constantly increasing. The matters discussed by the Conference were of particular importance for countries that had not been blessed by nature with sources of energy. Even a partial solution of those vital problems would require of all the protagonists, not only research, development, science and technology, but also the qualities of understanding, sincerity, courage and trust.

37. What was needed more than ever was real progress through international co-operation. Such progress was not merely a prerequisite for the prosperity of the international community; it was also the way to peace. For that reason Israel, as a developing country, would continue to pursue its traditional policy of co-operation with other developing countries.

[4] GC(XXI)/582.

[5] The text of the agreement is reproduced in document INFCIRC/167.

38. One of the most important problems with which society was currently confronted was the scarcity of water. That problem particularly affected developing countries in arid or semi-arid zones. The State of Israel had made, and continued to make, considerable efforts to contribute to the solution of such problems by desalination techniques. Some aspects of work in that field had been described during the Salzburg Conference. Israel had already built semi-industrial models which were in use in various countries, and it was constructing a large-scale pilot plant. Those installations were currently attached to fossil-fuel power plants, but the ultimate goal was the desalination of 100 million cubic metres of water per year in each dual-purpose 900-MW nuclear power plant.

39. The State of Israel was eager to share the know-how it had so far accumulated in that field with all nations, in particular with the countries of the Middle East. It also wished to share with those countries in the implementation of future projects.

40. The Agency should increase its own efforts in that particular field and lead the way during the next decade, without prejudice to other peaceful uses of atomic energy.

41. Mr. OSZTROVSZKI (Hungary) congratulated the President on his election and expressed the gratitude of his delegation to the Director General and the Secretariat for the preparations for the General Conference. On the occasion of the sixtieth anniversary of the Great October Socialist Revolution, he expressed his delegation's warm greetings to the Soviet Union and recalled that it was in the Soviet Union that the world's first nuclear power plant had been built, as the first example of the peaceful uses of nuclear energy.

42. During the 20 years of its existence, the Agency had pursued a dual aim: to contribute to the peaceful use of atomic energy and to oppose its use for other purposes. On the whole, the Hungarian delegation was satisfied with the results obtained by the Agency, which it considered to be one of the most effective international organizations. Those results had been possible thanks to the co-operation of Member States in the Agency's policy-making organs, and also thanks to the excellent work done by the Secretariat under the guidance of the Director General. The Hungarian delegate congratulated Mr. Eklund on his re-election and assured him of the co-operation of the Hungarian Government.

43. The primary objective of the Hungarian Government in the domain of foreign policy was to contribute to the strengthening of international peace and security and to promote détente. In the opinion of the Hungarian delegation, détente had contributed to international co-operation, had made it possible to adopt important measures with a view to disarmament, and had facilitated the work of the Agency. Unfortunately, a revival could be observed in the activities of the opponents

of détente. The Hungarian Government would continue to support all action favourable to détente, which was essential to the interests of humanity. In that context it attached great importance to the Belgrade conference, at which the signatories of the Final Declaration of the Conference on Security and Co-operation would meet again. The full application of the provisions of that declaration would have a favourable effect not only on Europe but on the entire international situation.

44. The Hungarian Government supported all constructive proposals aimed at disarmament, and welcomed the signing in 1977 of a convention prohibiting the use for military purposes of measures affecting the natural environment. But it was nuclear disarmament which he considered most important. The parties to NPT would have to fulfil their obligations completely. The Hungarian people was deeply concerned at the rumours about the nuclear programme of the racist régime in South Africa. However, some responsibility attached to the exporting States as well.

45. A major step might be made towards nuclear disarmament in the form of a general and complete nuclear weapons test ban which all States possessing such weapons would have to sign. In that connection the States members of the Warsaw Pact had made an interesting proposal according to which the States that had signed the Final Declaration of the Helsinki conference would undertake not to use nuclear weapons against each other.

46. The Hungarian delegation was convinced that the cause of disarmament could not fail to be advanced if every party refrained from seeking unilateral advantages. Therefore, it was deeply concerned over the American projects in connection with the neutron bomb, as they confronted the world with the threat of a renewal of the arms race.

47. The Hungarian delegation had studied the annual report for 1976 (GC(XXI)/580) with great interest and agreed with the analysis of the budget presented by the Board of Governors. The Salzburg Conference had been very useful for the examination of the problems presented by the peaceful uses of nuclear energy. In view of the predicted energy requirements the whole world was agreed that nuclear energy and techniques were of great importance, particularly for the developing countries. Hungary acknowledged the great value of the technical assistance provided by the Agency, and contributed more than its due share; it was paying into the General Fund an amount of one million forints.

48. The Hungarian delegation considered that the Agency's allocation and execution of technical assistance projects were satisfactory. That assistance involved not only distribution but also control activities to ensure that the equipment and materials provided were actually used for peaceful purposes. In addition to the technical

assistance provided by the Agency in the form of equipment and experts, Hungary attached great importance to the training of specialists. It recognized that as nuclear energy developed the Agency was obliged to deploy activity on a world-wide scale without parallel in the technical, scientific and political fields. The Hungarian delegation thought that it might be possible to expand the Agency's technical assistance where the cost of joint programmes, such as in the case of the Food and Agriculture Organization of the United Nations (FAO) and the IAEA, was shared by the two organizations.

49. The Hungarian delegation recognized the valuable assistance rendered by the International Nuclear Information System (INIS) to scientists, and attached particular importance to the Agency's safeguards activity. The safeguards system should be strengthened, particularly in the light of certain recent agreements which established safeguards systems outside NPT.

50. Nuclear explosions for peaceful purposes (PNE) and supervision of them was a new field of activity for which the Agency had immediately set up an Ad Hoc Advisory Group. That Group had just submitted its report, which contained some highly interesting proposals. Nuclear fuel fabrication should also confer new tasks upon the Agency. The Hungarian delegation considered that regional fuel cycle centres offered great prospects for the future.

51. Some examples of co-operation between Hungary and the Agency had been the following: experts' missions and study visits allocated to Hungary in connection with the construction of its nuclear power plant; the construction at Debrecen of a powerful radiation source with the joint assistance of the United Nations Development Programme (UNDP) and the IAEA; and the applications of radioisotopes in industry, medicine and research. A number of Hungarian research centres were performing work under contracts with the Agency. His country appreciated that co-operation and would continue it in the future.

52. He wished to express the hope and conviction that the Agency would not relax its efforts in the direction of more effective safeguards, the implementation of NPT and increasing diversity in the peaceful uses of nuclear energy. In those efforts it could rely on the support of Hungary.

53. Mr. KOSTADINOV (Bulgaria), noting that it was the twentieth anniversary of the Agency, recalled that Bulgaria had actively supported the implementation of the noble aims of the organization from the beginning. He wished to congratulate the President of the Conference on his election and the Director General of the IAEA on his reappointment. He considered it appropriate to draw attention to the importance of the Great October Socialist Revolution, the sixtieth anniversary of which would take place in November, not only for the economic and social development of the Soviet Union but also for the creation of a new type of international relations

which were characterized by the peaceful settlement of all disputes. The Soviet Union and the other socialist countries were working unremittingly to that end.

54. In that context the universal and total prohibition of nuclear weapons testing should be an urgent objective and Bulgaria was following the negotiations between the Soviet Union and the United States of America with great interest.

55. The reports that were circulating on the nuclear weapons of the Republic of South Africa were very worrying. If they were confirmed, the security of African States would be directly threatened and the risk of nuclear war increased. The Bulgarian delegation stressed the responsibility of certain Western countries which, while declaring themselves in favour of non-proliferation, had helped the Republic of South Africa to acquire a nuclear potential.

56. In view of that situation the Government of Bulgaria believed that it was necessary for all countries, the United Nations, the IAEA and other specialized institutions to take firm steps to prevent dangerous developments in South Africa. Bulgaria had supported the appeal launched during the Conference on Apartheid calling for a halt to the provision to South Africa of arms and of all assistance facilitating the acquisition of a nuclear potential. It was urgent that Agency safeguards be applied to all the peaceful nuclear activities of non-nuclear-weapon States which were receiving assistance from the Agency.

57. In the present world situation taking firm steps against the proliferation of nuclear weapons was the most urgent task in the interest of universal and total disarmament. Yet one Member State of the Agency was considering the manufacture of a new type of nuclear weapon, the neutron bomb, which might well result in a resumption of the arms race and which was clearly at variance with efforts being made within and outside the United Nations.

58. Bulgaria was grateful to the Agency for the technical assistance it received, particularly in connection with the training of specialists and with certain peaceful applications of nuclear energy. For its part, the Bulgarian Government was supporting the Agency with the organization of meetings of experts, improvement of INIS techniques and the development of devices for the application of safeguards.

59. The Bulgarian delegation also stressed the permanent co-operation maintained between the Bulgarian Committee for Peaceful Applications of Atomic Energy and the Agency in matters relating to the application of safeguards within the framework of NPT. At present Bulgaria had one 2000-kW research reactor and two 440-MW power reactors (Kozloduj power station). It had always co-operated in the holding of inspections and in its installation of safeguards control devices.

60. On the subject of the Agency's budget for 1978, he emphasized the need to expand activities relating to safeguards, nuclear safety, environmental protection and INIS. Bulgaria, which paid its assessed and voluntary contributions regularly, expressed its appreciation of all the Agency's technical assistance activities and wished to announce a voluntary contribution of \$10 000 in national currency to the General Fund for 1978.

61. Mr. NAMDAR (Iran) said that he wished, on behalf of the Iranian delegation, to extend congratulations on the occasion of the Agency's twentieth anniversary to its Member States, the Director General, the Secretariat and the whole of the United Nations family. He also wished to congratulate the Director General on his re-election and wish him every success in the execution of the difficult tasks entrusted to him which could only become more onerous. He noted with satisfaction that in the course of its first two decades the Agency had made a significant contribution to the promotion of nuclear energy and to the cause of non-proliferation.

62. The implementation of the nuclear power programme in Iran had proceeded apace in the past year. The construction of Iran's first nuclear power station with a total capacity of 2400 MW had continued on schedule. Construction work had also begun on a second site where a total capacity of 1800 MW was to be installed. Site selection studies for Iran's fifth and sixth nuclear power stations were already being conducted and it was hoped to start construction work on those sites in the spring of 1978. Altogether those six power plants would generate 6600 MW. At the same time Iran was intensifying its efforts in the field of uranium prospecting. A ten-year programme making use of the most advanced techniques was being implemented.

63. In order to meet the needs of the nuclear energy programme it had become necessary to reorganize the Atomic Energy Commission of Iran only three years after its creation. The capability of the research and development apparatus had been improved by structural reorganization, recruitment of additional staff, procurement of more equipment and the establishment of closer relations with various scientific institutions abroad, and some positive results had already been achieved. In addition, work on what would be one of Iran's principal research and development institutions, the Nuclear Technology Centre, was proceeding smoothly.

64. In order to provide the technicians and managers required for its nuclear development, Iran was currently reshaping its educational and training facilities. Turning to the area of international relations, he observed that the past year had witnessed a further crystallization of some of the prevailing trends in the nuclear energy field.

65. On the one hand, there was a greater awareness that nuclear power was the most viable source of energy available to the world

community, and an increasing number of countries had shown an interest in its utilization. On the other hand, all countries were showing increasing concern about the dangers of proliferation inherent in the spread of nuclear technology and the possible impact of that technology on the quality of the environment. Those two seemingly conflicting preoccupations presented a constant challenge to statesmen the world over. In that connection Iran was convinced that that challenge could be met only by collective action undertaken in a healthy and constructive spirit, and those considerations caused it to feel that the Agency had an even more vital role to play.

66. It was to be hoped that during the third decade of its existence the Agency would be given a greater capability to deal with the realities and increasing problems of international life. Iran was convinced that, if the Agency was not given the support it needed to negotiate the difficult passage ahead, precious time would be lost, problems would remain unsolved, and confusion and discord would result.

67. However, in seeking stronger universal support for the Agency, he stressed that the organization must pursue universal objectives and not be guided by particularistic tendencies. He felt sure that all were aware of the dangers inherent in the latter approach for a world institution striving to preserve its integrity and its mission.

68. In conclusion he wished to thank the Agency sincerely for the support it had given to Iran in developing its nuclear power programme.

69. Mr. CARDENAS VALDES (Cuba), quoting figures to illustrate the significant progress made in the Agency's activities during its first twenty years, praised the efforts the Agency had made to increase technical assistance in the nuclear field to Member States with only limited resources and facilities. In Cuba, the use of nuclear techniques in medicine had undergone rapid development, as had also the research connected with introducing those techniques in agriculture, ore extraction and metallurgy, industry, hydrology and biomedicine.

70. The decision to construct - with the help of the Soviet Union - the country's first nuclear power station, which was to be subject to the Agency's safeguards system, had revealed the need for a complete reorganization of the scientific and technical infrastructure in the nuclear domain; that was why in 1974 Cuba had established a National Commission for the Peaceful Utilization of Atomic Energy. The technical assistance provided by the Agency for medical, agricultural and industrial applications of radioisotopes had helped Cuba to establish the necessary infrastructure for introducing nuclear techniques and training specialists. In 1978, the country would start to benefit from a UNDP assistance project which would further widen the applications of nuclear techniques.

71. Although it recognized the value of Agency assistance, Cuba, like many other developing countries, believed that that assistance was not adequate. In 1978 the Cuban Government would increase its voluntary contribution to the General Fund and it urged the industrialized countries to increase their financial support of the Agency so that it would be able to expand its technical assistance.

72. At the preceding session of the General Conference, the Cuban delegation had condemned the "binary" bomb, as a weapon which was capable of jeopardizing peace and international security. In 1977 it associated itself with worldwide protests against the decision of the United States Government to develop and manufacture the neutron bomb and guided missiles. That decision, which was absolutely incompatible with the Final Act of the Helsinki conference, created new difficulties in the struggle for peace. The Cuban Government fully supported the proposal of the Soviet Union, discussed in the Disarmament Committee at Geneva, which expressed opposition to the manufacture of new types of weapons for mass destruction, and he appealed to all Member States to pool their efforts in the interest of the peaceful utilization of atomic energy. The Cuban Government, which regarded as justifiable the stand taken by all those scientists and technical organizations that were trying to bring about peace and world disarmament, welcomed the decision to exclude the régime of South Africa from the Board of Governors.

73. In spite of the difficulties it encountered, Cuba was experiencing a definite economic upswing. The 24th anniversary of the start of the revolutionary movement had been celebrated by the entry into service of a number of manufacturing plants and of agricultural installations which were of great importance for the country. In addition, the first steps had been taken towards the construction of Cuba's first nuclear power station.

74. Cuba, which was one of the Agency's founder Members, had been a pioneer in the introduction of nuclear techniques in biomedicine in the geographical region to which it belonged; it had also established important centres for research on the applications of those techniques. At the moment, the number of research workers and scientists in the nuclear domain was more than 150 and a large number of students would be specializing in particular branches of nuclear science in the socialist countries and in other advanced countries. Although atomic energy and nuclear techniques as yet played only a modest part in its economy, Cuba was paying special attention to the training of scientists and specialists because it realized the special importance of those techniques in many sectors. Against that background, Cuba considered that it could legitimately claim a seat on the Board of Governors in 1978.

75. Nuclear energy had proved capable of making an effective contribution to economic

development in a climate of peace, but unfortunately it had also been shown that it could be a weapon of large-scale destruction. Delegates should bear that duality in mind and do everything possible to step up the development of the peaceful uses of atomic energy.

76. Mr. ALER (Sweden) wanted first of all to congratulate the Agency on the occasion of its twentieth anniversary. The Agency had been for its Members a valuable instrument for the exchange of knowledge and experience as well as a centre for discussions and consultation. It was regarded as an essential vehicle for true international co-operation in the peaceful uses of nuclear energy.

77. The Government of Sweden also wished to pay a tribute to the Director General, Mr. Sigvard Eklund, whose capacity and skill were highly valuable for the Agency's work.

78. Energy and the problems it gave rise to were commanding increasing interest throughout the world and many countries were aware of the importance of energy planning on a national scale not only to meet their essential needs but also to conform to the requirements of safety and environmental conservation. That was the case in Sweden, where the question of nuclear energy, which was at the centre of the discussions on energy, also gave rise to grave concern at the political level. Opinions were divided as to what its future should be; some quarters feared the proliferation of nuclear weapons while the opposition of others was based on considerations of an ecological character, which should not be overlooked.

79. The situation had changed greatly since the time when the Agency had been founded to further the contribution of atomic energy to world peace. Safety in nuclear matters had become a more urgent consideration than ever and had to be conceived in the broadest possible sense, covering all matters relating to the environment, health, operation of installations, physical protection and prevention of nuclear arms proliferation, theft, sabotage, and blackmail. The development of nuclear energy was contingent on the solution of all those problems. That was a challenge which the Agency had to face up to and which demanded further efforts on its part as well as an intensification of international co-operation.

80. The Swedish Government, realizing the risks involved in the use of nuclear energy, especially in regard to the processing of spent fuel and the disposal of radioactive waste, did not intend to make increasing use of that form of energy until those problems had been solved. Six nuclear power stations now in operation were producing one fifth of Sweden's electricity supply. New legislation imposed conditions on the entry into service of additional power stations, especially in regard to the reprocessing of spent fuel and the storage of radioactive waste. A special commission had been entrusted with the task of preparing a set of alternative plans for the production of energy during the period 1978-90.

At least one of those solutions envisaged the gradual phasing out of nuclear power during the next decade. In reaching a decision, the commission would draw on the lessons of experience and take into account the results of research on the safety of nuclear power stations and their effects on the environment.

81. The Swedish Government shared the anxiety of a great many countries concerning the danger of nuclear weapons proliferation, which in reality was of concern to the safety of all countries, advanced or developing, with or without nuclear weapons. It was in the interest of all to participate actively in the international efforts to minimize that danger. The system of safeguards administered by the Agency was certainly one of the most important elements in that effort. In view of advances in technology and of the growing number of nuclear installations, the system deserved to be supported by all Member States and accorded top priority. For the Swedish Government, NPT marked the path to be followed.

82. Before exporting nuclear materials, Sweden felt bound to ensure that the recipient had ratified NPT or was applying the Agency's safeguards in all its nuclear installations. In that connection it had been glad to learn that the "London Guidelines" would be communicated to the Director General who, in turn, would make those documents available to all interested Member States. Sweden also considered that, in deciding between various technical alternatives in the nuclear field, non-proliferation considerations, environmental concerns and safety were the essential elements to be taken into account. Sweden would gladly make its contribution to the International Nuclear Fuel Cycle Evaluation (INFCE) in which the Agency could play a very important part and which would help in eliminating the dangers of nuclear proliferation and the threats to the environment and to safety associated with fuel reprocessing and the storage of nuclear waste.

83. In the matter of technical assistance, too, Sweden considered that the Agency should be guided by safety considerations and by the desire to prevent proliferation, especially when responding to the increasing energy needs of developing countries. Sweden also recognized the important role of the Agency in regard to nuclear applications in medicine and agriculture.

84. The Swedish Government had for a long time supported the technical assistance programme and the training programmes of the Agency and was able to make a contribution to the General Fund for 1977 in the amount indicated by the Director General in his letter to Member States. The Swedish Government would also pursue its technical assistance and training activities on behalf of developing Member States, with the support of the Swedish International Development Authority (SIDA). The funds that it made available through the IAEA were intended principally for use of nuclear techniques in agriculture.

85. In conclusion he mentioned that the Agency's future programme might call for some re-assessment in order to give higher priority to the question of nuclear safety.

86. Mr. VIZCAINO MURRAY (Mexico) said he was convinced that the future of the world depended on the development of nuclear power and the peaceful or non-peaceful use made of it. The present regular session of the General Conference was opening auspiciously - with the election of Mr. Etemad, the delegate of Iran, to the presidency and the appointment once again of Mr. Eklund to the post of Director General of the Agency.

87. Mexico was in favour of amending Article VI, A. 2 of the Statute so as to achieve an equitable representation of the different geographical areas on the Board of Governors and thereby increase the effectiveness of its work and decisions, and hoped that the representation of Latin America would be enlarged. In that connection, he considered that decisions committing the Agency should be taken by the Board, which - after the General Conference - was the organ most representative of the international community within the Agency. In all international bodies, Mexico had always supported efforts to ensure the well-being of mankind and respect for spiritual values. It had constantly endeavoured to promote a doctrine of peace based on mutual respect which would guarantee the dignity and the right to self-determination of all peoples. The principle of sovereignty was the basis of modern political thought. The least violation of that principle jeopardized peace. Hence, Mexico considered that the application of safeguards to technical assistance - a question which had been discussed in the Board of Governors - would run counter to the free exchange of information, which had been enshrined as a principle in Article IV of NPT and might also detract from his country's sovereignty, which would be a violation of Article III of the Agency's Statute. The Mexican delegation strongly urged delegates to oppose the application of safeguards to technical assistance. When considering the utilization of atomic energy, it was necessary to make a careful distinction between the end and the means. Nuclear energy, which had appeared on the world scene in a dramatic and inhumane manner, should now be used only in fields where it could do good, such as industry, medicine, agriculture and biology.

88. For peace to be preserved - and it seemed to be somewhat in jeopardy - substitutes would have to be found for the conventional forms of energy. Mexico did not believe that man must fight man and that war reflected some basic human instinct; on the contrary, it believed that mutual support was a means of defence and a guarantee of survival. Mexico was convinced of the need to prevent nuclear proliferation, although it believed that those countries which had embarked on the arms race had done so for the purpose of dissuasion. With total disarmament, it would be possible to use the vast resources

otherwise spent on arms in solving the problem of hunger.

89. In the field of international law, Mexico was endeavouring to ensure that the provisions of the Treaty for the Prohibition of Nuclear Weapons in Latin America (the Tlatelolco Treaty) were complied with. The Tlatelolco Treaty reflected the desire of countries in the region to use atomic energy solely for peaceful purposes in accelerating the economic and social development of the people of the 22 Latin American States which had signed it. The provisions of Articles 13, 14 and 23 of the Treaty had been put into effect, and Mexico had learned with considerable satisfaction that the United States had signed Additional Protocol I; he hoped that its example would be followed by other countries. As far as Mexico was concerned, the obligations which the Organization for the Prohibition of Nuclear Weapons in Latin America imposed in the safeguards area and those which derived from NPT constituted a double guarantee of non-proliferation and denuclearization. The Mexican Government was pursuing a nuclear policy based on peaceful principles and social morality; it believed that, through nuclear energy, mankind could achieve well-being, security and solidarity.

90. Mr. EL-GUEBEILY (Egypt) congratulated the President of the Conference on his unanimous election and expressed the conviction that the General Conference, under his wise and able guidance, would reach constructive decisions enabling the Agency to proceed further with its mission. He also thanked the Government and people of Austria for their unfailing hospitality over the years. He also wished to congratulate the Director General on his re-election for a further term of office. For the period of nearly 20 years during which he had been head of the Agency, the Director General had earned the respect and confidence of all; as an outstanding scientist and capable administrator, he had been able to make the Agency one of the most smoothly-running organizations in the United Nations family and the Egyptian delegation was confident that he would continue to deal competently with the challenging tasks confronting peaceful nuclear development today and in the future. On the occasion of the twenty-first anniversary of the Agency, the entire staff was to be congratulated on its devotion and unflagging efforts.

91. Nuclear energy at the present juncture gave rise to a number of fundamental issues requiring important decisions and constructive action. The most important problem was to ensure that nuclear power could provide for future energy needs and, as a consequence, it was necessary to ensure the supply of the required amounts of nuclear material.

92. Added to that was a pressing need to set up fuel cycle facilities of sufficient capacity for the available resources to be used efficiently and for the safe disposal of radioactive wastes. Over the past few years nuclear energy had shown itself to be a safe, reliable and competitive source for energy production, as well as an indispensable

way of meeting the ever-growing needs of the whole world.

93. If the rate of progress of modern civilization was to be maintained, nuclear energy was the only viable alternative to conventional energy. That was what in fact had emerged from the Salzburg Conference held in May.

94. Despite the doubts and uncertainties that had been expressed, the reassessments and the slowing down of nuclear programmes, he was convinced that in the near future more concentrated efforts would be made towards settling the major issues on the technological, political and financial fronts. The estimates of nuclear power capacity presented at Salzburg were of the order of 200 000 MW(e) by 1980, 900 000 MW(e) by 1990, and 1 300 000 MW(e) by the year 2000. Whereas nuclear energy now accounted for less than 10% of electricity production and 3% of primary energy generation, the figures would climb to 35% and 15% respectively, by the turn of the century.

95. As a result, there would be new tasks and obligations for the Agency to deal with, such as suitable programmes for coping with requirements, adjustment of priorities, planning of financial resources, safeguards, the environment, prospecting for nuclear materials, fuel cycle facilities, radioactive waste management and disposal, and the use of nuclear explosive devices for peaceful purposes; the special needs of developing countries and their desire for increasing aid by the Agency in those fields were self-evident.

96. His delegation noted with satisfaction that the Agency's programmes for the past few years, and also the programme for 1978 now under consideration, placed greater emphasis on those matters. Nevertheless, the Agency should expand those activities still further. It should consider ways of helping suppliers and beneficiaries to ensure the timely supply of materials and fuels required for the uninterrupted operation of nuclear power plants. The Agency should be urged to make provision for the conclusion of international arrangements which would enable developing countries to be sure of supplies of uranium and fuel cycle services on a long-term basis. In view of the political and economic constraints imposed upon the nuclear fuel market today, that was one of the most pressing needs for the future development of nuclear energy.

97. Another important area to which the Agency should direct its efforts was the exploration for and exploitation of primary nuclear materials. It was to be noted that the consumption of uranium would rise sharply over the coming two decades. It was estimated that by the year 2000 the total uranium requirements of the world (exclusive of countries with centrally planned economies) would average 2.2 million tons with recycling, and 2.9 million tons without recycling. The new nuclear policy recently announced by the United States of America would increase the

world demand for uranium still further. Unless new uranium resources were made available, the entire future of nuclear energy would be endangered. Furthermore, if that situation continued, sharp increases in the prices of uranium and services could be expected, to the detriment of the favourable economic position of nuclear energy at present.

98. Although intensive prospecting for uranium, thorium and other nuclear materials was under way in a number of countries, that activity was still limited by a shortage of funds and by a lack of experience in quite a few developing countries. The reserves existing in those countries, which covered a major portion of the globe, were still largely unexplored. The Agency was urged more than ever before to promote co-operative efforts in large-scale uranium exploration and exploitation projects and to provide appropriate technical assistance in that work. It should also study ways and means of ensuring the availability of financial resources at the international level and of implementing new, large-scale projects in the developing regions.

99. With regard to the use of nuclear explosions for peaceful purposes, it was common knowledge that that potentially important type of peaceful nuclear application stemmed from the obligations undertaken by nuclear-weapon States under Article V of NPT. Such applications had a great economic potential for important engineering projects, an example of which had been given in a document that his delegation had circulated for the General Conference in 1976, namely the Qattara Depression Project<sup>[6]</sup>, which concerned a solar-hydroelectric power generation project permitting a peak electrical capacity of 10 000 MW to be reached.

100. The General Conference was well aware of the complexity of the situation that had led to a slowing down in the development of that important sector of the peaceful uses of nuclear energy. Nevertheless, Egypt was confident that those difficulties were not insurmountable and it therefore believed that the time had come for the Agency to adopt an acceptable and well-defined policy to assist in overcoming the difficulties involved and to devise a programme by which the objectives set forth in Article V of NPT could be implemented, a task which had rightly been entrusted to the Agency.

101. It was gratifying to note that the Ad Hoc Advisory Group on Nuclear Explosions for Peaceful Purposes set up by the Board had submitted its report. It was to be hoped that the Group would continue its efforts to find a solution to the important problems which, according to the report, were still outstanding. It was essential for the Agency to define the steps necessary for making a comprehensive survey of possible projects, for encouraging feasibility

studies in connection with specific projects and for preparing the ground for the implementation of projects which were found to be technically and economically feasible and environmentally acceptable. It was encouraging to see that the Director General had called for an advisory group meeting to brief the Agency, among other things, on procedures for taking action in connection with the later stages of PNE projects.

102. In his opening statement the Director General had referred to NPT as a milestone in the efforts to prevent nuclear proliferation, an opinion which was shared by his delegation. Egypt had taken an active part in negotiation of NPT at all its stages. It had also co-sponsored a resolution in the General Assembly of the United Nations commending the Treaty and urging that it be opened for signature by all States; Egypt had been amongst the first to sign. His country considered full accession to NPT by all countries to be a prerequisite for lasting peace in the Middle East. Egypt, for its part, would spare no effort to achieve that objective.

103. His country's policy of non-proliferation had been demonstrated by the co-sponsoring of two resolutions in the General Assembly of the United Nations, the first relating to the de-nuclearization of Africa and the second to the creation of a nuclear-free zone in the Middle East.

104. Egypt had joined with other States in submitting a draft amendment to Article VI of the Statute in an effort to achieve a limited increase in the number of seats on the Board for the regions "Africa" and "Middle East and South Asia". The matter was to be discussed as item 11 of the agenda, but his delegation wished to make it clear even at the present stage that the amendment was based on the principle of equitable representation. That principle, which was mentioned in Article VI, had not been applied to the two regions under consideration and it was to be hoped that the General Conference would set right that injustice.

105. Egypt had continued to promote the peaceful uses of nuclear techniques. It was making progress towards the construction of its first nuclear power plant, with a capacity of 600 MW(e). The bilateral co-operation agreement between the United States of America and Egypt, already initialled, was expected to be signed in the near future and negotiations for finalization of the contract with the construction firm were nearly complete.

106. The power plant was only the first of a series which, by the end of the century, would represent a total output of 5000-6000 MW, i.e. 40% of the country's total installed capacity. For that reason a Nuclear Power Authority had been set up. Uranium prospecting and mining had continued and, to cope with the estimated need for some 16 000 tons of uranium by the end of the century, a Nuclear Materials Authority had also been established. The latter was in the

[6] Document GC(XX)/INF/165/Add.1.

process of implementing national programmes and negotiating with foreign firms on the same basis as in the oil sector.

107. A National Centre for Radiation Technology was to start operation in the present year. It would include a cobalt-60 source, with an ultimate capacity of 1 million curies, and a 1.5-MeV linear accelerator. The equipment would be used to sterilize medical equipment as well as for research and development.

108. The Egyptian delegation shared the view that there was an imbalance between the regulatory and promotional activities of the Agency. While fully supporting the former, it noted that the target for voluntary contributions was still far below the expectations and needs of the developing countries. It urged the Agency to seek ways and means of raising the target, including the setting up of criteria (which took account of rates of inflation and fluctuations in exchange rates) as a basis for calculating it, and to consider, if necessary, supplementing the voluntary contributions by other resources.

109. His Government had always supported the Agency's activities, particularly where technical assistance was concerned. It had therefore decided to maintain its voluntary contribution for 1978 at the same level as for 1977, which amount represented a payment greatly in excess of its assessed contribution.

110. On the occasion of the Agency's twentieth anniversary, the Egyptian delegation wished to record its deep appreciation for the Agency's achievements. It felt sure that, thanks to its own experience and to the support given it by the international community, the Agency would consolidate its mission in the peaceful applications of nuclear energy.

111. Mr. KATORI (Japan) congratulated Mr. Etemad on his unanimous election as President of the twenty-first regular session of the General Conference of the IAEA. He firmly believed that the Conference would be a success.

112. The General Conference was celebrating the Agency's twentieth anniversary in 1977. During those twenty years there had been remarkable progress, quantitatively as well as qualitatively, in the peaceful uses of atomic energy. When the IAEA had been established, its Members had expected it to achieve great results in that field although at that time those had been only pious hopes. At present, the peaceful use of atomic energy had become a reality in various parts of the world thanks to the international co-operation established by the Agency. The peaceful use of atomic energy could not be promoted without international co-operation, and the IAEA had played a major role in that respect.

113. In Japan, promotion of the peaceful uses of atomic energy had always been inseparably linked with the Agency. In 1959 the country had obtained, through the IAEA, three tons of natural

uranium for its first domestically built research reactor; it had also been the first country to conclude a safeguards agreement with the Agency. Since then, Japan had accepted IAEA safeguards voluntarily and had co-operated in their application.

114. During the same period, Japan had made great progress in the use of atomic energy for peaceful purposes. Construction of the advanced Calder Hall type reactor power plant had begun in 1960 and in 1966 the plant had become operational. Since then, Japan had been making efforts to construct light-water reactor power plants. At present, 13 nuclear power plants with a total output of 7430 MW were supplying 7% of the total electric power produced in Japan. According to Japan's programme, that figure was expected to reach 24.4% in 1985, or 7.4% of the total primary energy demand. As Japan was not endowed with any significant energy resources such as oil, coal, natural gas etc., it had to develop nuclear power generation, establish a nuclear fuel cycle and introduce fast-breeder reactors. In fact, his Government regarded it as indispensable for a complete nuclear fuel cycle to be established in order to benefit from nuclear energy to the maximum extent possible and to assure its use on a long-term basis.

115. With regard to uranium resources, Japan was instituting prospection for uranium resources overseas. He could not but hope that uranium-producing countries would remain conscious of their international responsibilities and would make efforts to provide a stable supply of uranium to meet international needs. As far as uranium enrichment was concerned, Japan was dependent on overseas facilities. However, research and development work on enrichment technology had been carried out and the expected results had been achieved. It had thus been possible to embark on the construction of a centrifuge pilot plant at the beginning of 1977.

116. Regarding the construction of power reactors, light-water reactors were being developed mainly by private companies, and advanced reactors such as the advanced thermal reactor and fast-breeder reactor were being studied in the Government sector in close co-operation with private companies. The experimental fast-breeder reactor JOYO had become critical in April 1977, and construction of a fast-breeder reactor was expected to start in 1978. Construction of a prototype advanced thermal reactor was under way and the reactor was expected to become critical in 1978.

117. To establish the nuclear fuel cycle, it was necessary that the reprocessing of spent fuel and management of radioactive waste should be carried out in a suitable manner. To that end, Japan had been making enormous efforts to consolidate those back-end elements of the nuclear fuel cycle. It had had to wait ten years and to spend \$200 million to complete construction of the Tokai reprocessing facility at the end of 1976. A cold test had been successfully carried out and the facility had begun hot operation on 22 September 1977.

118. Japan, while attempting to set up a nuclear fuel cycle as part of its long-term energy policy, recognized that many other countries were also facing the nuclear fuel cycle problem. The Director General had shown commendable foresight when he had chosen, two years previously, that particular problem as the main subject for the Salzburg Conference.

119. The Agency's study of different aspects of a regional nuclear fuel cycle concept would have to be conducted in the light of changes and development in the world situation. In that connection Japan was convinced that the problem of reprocessing irradiated fuel was an important aspect of that concept: it would have to be studied in the context of the established programme of peaceful nuclear applications and should correspond to the actual demand for energy.

120. As to radioactive waste, and in particular high-level waste, there were various urgent problems to be solved: solidification of waste, burial, disposal at sea etc. The Agency's activities in those fields were very important, and international co-operation was essential there as well.

121. The establishment of the nuclear fuel cycle was vital for the development of the peaceful uses of atomic energy. However, the maintenance of world peace and security also required that nuclear materials used or produced in the course of peaceful nuclear activities should not be diverted for military purposes. Japan was convinced that all those who intended to construct nuclear power plants had the obligation of ensuring that proliferation was prevented. NPT played a fundamental part in that endeavour and was widely recognized throughout the world at present. Nevertheless, in order that the effectiveness of NPT might be further enhanced, Japan earnestly hoped that it would become more universal and therefore urged those States that were not yet parties to NPT to accede to it.

122. The Japanese Government considered it essential that, in accordance with the provisions of NPT, the inalienable right of non-nuclear-weapon States parties to NPT to develop the peaceful uses of nuclear energy should be preserved, and that there should be no discrimination between nuclear-weapon States and non-nuclear-weapon States with respect to the peaceful uses of atomic energy.

123. The Agency had, by its safeguards activities, contributed to preventing the diversion of nuclear energy for military purposes. Nevertheless, in view of the rapid development of the applications of atomic energy, the Agency should further improve the safeguards system. The Japanese Government was determined to co-operate fully with the Agency in that endeavour. For instance, the Japanese Government had concluded with the Agency a cost-free research contract on the application of safeguards to reprocessing facilities, and had undertaken to develop a better

control method for reprocessing facilities at the Tokai pilot plant.

124. A further important problem was the management of plutonium. The study undertaken by the Agency on that subject was very interesting. In connection with the international fuel cycle evaluation programme, a study would commence in October on the possibility of establishing a cycle that would satisfy the demand for power while allowing the peaceful uses of atomic energy to develop as far as possible and assuring the non-proliferation of nuclear weapons. The Japanese Government was willing to take an active part in that work. It also welcomed the Agency's participation in the programme; the Agency's long experience and competence in the peaceful uses of atomic energy should enable it to make a valuable contribution.

125. As to the practical measures to be taken, it would be necessary to avoid compromising the peaceful uses of atomic energy by imposing duplicating or unnecessarily complicated regulations or by unilaterally interrupting the supply of nuclear fuel.

126. One of the other important problems in that respect was the physical protection of nuclear materials. The international flow of nuclear materials was increasing rapidly and the transport of those materials presented particular difficulties since their physical protection needed to be ensured. Japan therefore considered it necessary to set up as soon as possible an international programme to provide for the protection of those materials during international transfer. The Government of Japan was ready to co-operate fully with other States and with the Agency in drafting an international agreement to deal with that question.

127. Nuclear explosions for peaceful purposes also posed an important and complex problem. The report on economic, safety and legal aspects of nuclear explosions submitted by the Ad Hoc Advisory Group was of great value since it made it possible to understand the situation better. He wished to thank the members of the Ad Hoc Advisory Group and in particular its Chairman, Mr. Wilson, who had directed the work of the Group with the greatest competence and had succeeded in drawing up a very comprehensive report. On a number of occasions the Japanese Government had stressed that nuclear explosive devices, whatever peaceful purposes they were intended for, could not from the technical point of view be distinguished from nuclear weapons and that the proliferation of PNE devices was no different from the proliferation of nuclear weapons. The Government of Japan also believed that no project should be carried out except under the appropriate international control and he therefore took the present opportunity to reiterate that those aspects should never be lost sight of when questions relating to PNE were considered. He hoped that the Agency, with the help of the report submitted by the Ad Hoc Advisory Group, would continue to play an important role in the

international efforts which were aimed at achieving universal acceptance of those basic principles concerning PNE.

128. In order to set up a nuclear fuel cycle it was also necessary to bear safety problems in mind. Practice and experience had shown that nuclear energy production was safe, even when compared with that of other types of energy. However, it should be recognized that, in the mind of the general public, nuclear energy had certain esoteric characteristics which gave rise to apprehension. Japan therefore approved the action taken by the Director General to intensify the public relations activities of the Agency. Those activities should be supplemented by the application of security standards elaborated by the Agency, in particular by safety codes and safety guides for power reactors, which would provide Member States with useful guidelines.

129. Energy from nuclear fission was, of course, not the only way of applying nuclear energy. The use of nuclear fusion was the dream of all humanity. The hope of achieving that dream was cherished particularly in a country like Japan which had hardly any sources of energy within its territory. It was therefore perfectly natural that Japan should undertake intensive work on the practical application of nuclear fusion. The first stage of research and development work aimed at achieving a controlled nuclear fusion reaction had been completed in 1974 and the expected results had been obtained. Since 1975 Japan had been engaged on the second stage and, after drawing up detailed plans for a large-scale facility, the JT60, it had begun the construction of the plant at the beginning of 1977. With regard to future research and development work on nuclear fusion, Japan believed that close international co-operation was indispensable. For its part, Japan was ready to co-operate, through exchanges of information and in other ways, with countries such as the United States of America and the Soviet Union, which were also understood to be considering the construction of large-scale installations.

130. Nuclear energy contributed to the well-being of humanity in ways other than that of power production. For example, isotopes and radiation found practical applications in agriculture, bio-chemistry, industry and basic science. Those were areas in which the atom had contributed, and continued to contribute, to the well-being of mankind. Japan was convinced that the importance of the contribution of the atom in those spheres would increase rapidly in the future. Japan

would give firm support to the activities of the Agency designed to meet that growing need and would therefore welcome the opportunity to continue providing the services of experts in those fields.

131. The contribution of the peaceful uses of atomic energy to the well-being of mankind manifested itself in many forms. Japan was convinced that one of the most important tasks of the Agency and of Member States was to enable all countries, whatever their level of development, to gain access to those advantages. The technical assistance of the Agency to developing countries was at present playing an essential role by transferring achievements in the nuclear field, by raising the technical level of those countries and by facilitating the assimilation of those advantages. In the past, Japan had not only paid all its voluntary contributions but had also provided technical help in the nuclear field by spending approximately \$350 000 every year on bilateral technical co-operation. In 1978, Japan intended to pay a contribution of \$650 000 whereas the total amount set as the target was \$7 million.

132. Japan would also help strengthen bilateral co-operation. It intended to participate in the RCA programme in Asia and proposed to provide positive support to projects undertaken under that programme by supplying equipment and experts. He was pleased to note that, during the five years that had elapsed since the beginning of RCA, the research projects were beginning to bear fruit. He hoped that Japan's co-operation would contribute to the achievement of the programme's aims.

133. During the past few years, as the activities of the Agency increased, the organization's budget had assumed immense proportions. It was clear that recent price increases and fluctuations in the exchange rate had had a considerable effect and he was compelled to note that the rate of increase of the budget was much greater than that of the national budgets of Member States. Recognizing the importance of the Agency's activities, Japan was perfectly willing to co-operate with it. However, the financial burden had become very heavy for Member States. For that reason he stressed the need to keep the Agency's budget within the necessary and justifiable limits. The Government of Japan hoped sincerely that the Secretariat would do everything possible to execute its budget efficiently and thereby to lighten the burden on Member States.

● The meeting rose at 1.30 p.m.

