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President: Mr. CHUNG (Republic of Korea)
later: Mr. CLARK (United Kingdom)
Mr. CARR (United States of America)

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GENERAL DEBATE AND ANNUAL REPORT FOR 1988 (resumed)

1. Mr. GLEISSNER (Austria) pointed out that the development of nuclear power during the past year demonstrated a conviction on the part of Member States that nuclear energy provided what they considered to be a viable alternative to environmentally more hazardous forms of energy production.
2. The decision of the Austrian Parliament in 1978, following a referendum, not to utilize nuclear fission for the purposes of generating power, was an expression of the apprehension felt by Austria of the latent insecurity in the utilization of nuclear power. All technical facilities had some risk of malfunctioning. Even the highest possible level of safety could not eliminate the risks of human error.
3. In discussions in the Agency on the subject of nuclear safety, there was strong support for the concept of exclusive national responsibility for the safety of nuclear facilities on national territory, as opposed to the concept of internationally binding safety standards and international control of the safety of nuclear facilities, as favoured by a number of countries, including Austria. If the concept of the operator State's exclusive responsibility for nuclear safety within its territory was accepted, then logically, any defect in the safety of nuclear facilities on national territory should consequently engage the liability of the operator State for the damaging consequences. There was, therefore, an essential connection between national responsibility and liability in the field of nuclear safety.
4. The costs of providing for potential or actual compensation for damage caused by incidents resulting from nuclear power generation should be included in the evaluation of the cost of that type of energy production and should obviously be borne by the national economy deriving the benefits of that activity, namely the national economy of the operator State. It was therefore unjust when, in the case of a nuclear incident with transboundary damage, States other than the operator State were obliged to cover the cost of the ensuing damage - including the cost for preventive measures - and thus to make an economic contribution to nuclear energy production carried out in the operator State for the benefit of its own national economy.

5. Such a situation existed in the case of operator State and victim States which were not mutually bound by either of the existing civil liability conventions. Raising State-to-State claims for nuclear damage under customary international law appeared to be extremely difficult owing to a certain lack of clarity regarding the legal basis for such claims, which was often combined with the absence of an agreed forum for litigation.

6. Even when the operator State and the victim State were bound by one of the existing civil liability conventions and a certain amount of compensation for transboundary damage caused by a nuclear incident could be expected, that amount was likely to be inadequate, since one of the aims pursued in the elaboration of the two civil liability conventions was to provide economic support to the expansion of nuclear power generation by channelling and limiting liability for transboundary damages caused by incidents in nuclear facilities.

7. His delegation welcomed the establishment and constructive first meeting of the open-ended Working Group on Liability for Nuclear Damage. However, it regretted that some States represented in the Working Group believed that it was not possible to include the consideration of the elaboration of a complementary instrument to the existing civil liability conventions in the agenda of the second session of the Working Group. It was high time that a new and comprehensive convention on nuclear damage was drafted, giving due regard to the liability of the operator State for transboundary nuclear damage caused by nuclear facilities on its national territory.

8. During the first session of the Working Group a large number of delegations had identified flaws in the law of the existing civil liability conventions. Apart from the question of limited adherence to those conventions, delegations had referred to their limited coverage of nuclear damage, excluding damage inflicted to the environment and excluding losses resulting from preventive and protective measures taken by Governments in the event of a major nuclear accident; the inadequacy of the financial limits of liability; the inadequacy of the time limits for the submission of claims; the potentially unfavourable position of claimants for nuclear damage in individual proceedings in foreign courts; the fact that in the event of a

severe nuclear accident, the high number of individual claims under the present conventions would overburden the competent civil court and lead to interminable proceedings.

9. In conclusion, in order to arrive at an international nuclear liability regime doing justice to the legitimate interests of all parties involved and, in particular, the victims of transboundary nuclear damage, it would not be sufficient to amend the present conventions; what was necessary was a new comprehensive instrument on liability for nuclear damage which took into account the liability of the operator State.

Mr. CLARK (United Kingdom) took the Chair.

REPORT BY THE CHAIRMAN OF THE SPECIAL SCIENTIFIC MEETING ON THE NEW GENERATION OF POWER REACTORS

10. The PRESIDENT said that the General Committee had recommended that the outcome of the Special Scientific Meeting on the New Generation of Power Reactors should be reported to the Plenary meeting. He would therefore ask Mr. Schlesinger, Chairman of the Special Scientific Meeting, to address the Conference.

11. Mr. SCHLESINGER said that the first session of the Special Scientific Meeting on the New Generation of Power Reactors had provided an insight into plant owners' expectations and requirements regarding the new generation of nuclear power plants. For the most part, owners seemed satisfied with the advances that were being made in nuclear power plant designs, including those involving the simplification and improvement of the current generation of nuclear power plants, as well as those involving more innovative designs with development features. Greater enthusiasm was perhaps shown for those types based on existing designs owing to the breadth of available experience, although all concepts were declared to have a valid purpose. Institutional barriers associated with licensing, public acceptance and fair recovery of costs were seen to constitute a major obstacle to the revival of nuclear power. Investors were not prepared to just underwrite those risks. It was thought that increasing concerns about the environmental impact of fossil fuel burning would provide the impetus for solving those problems.

12. The second session concerned regulatory issues and provided some suggestions on how some of those difficulties might be resolved. Emphasis was placed on the need to establish acceptable standards, as for example in the case of siting criteria, and the need to standardize the designs in such a manner as to achieve a type of certification process which would make it possible to streamline and shorten the licensing process. An interesting perspective on restoring confidence in nuclear power was also presented. The major points concerned the use of terminology and references which were a source of confusion to the public. It was necessary to provide clear statements about the impact of low-level radiation and comparative health and environmental effects to show that nuclear power was both safe and clean. The need for simpler and safer nuclear options was also discussed.

13. During the third session on "Views on Suppliers' Readiness", it became clear that the advances in nuclear power plant design were proceeding along two different paths. The evolutionary type plants were considered to be more reliable, to make better use of existing and additional passive safety features and to be smaller than those in the existing generation. Generally they were expected to require minimal further research and development efforts and deployment by the middle of the 1990s appeared possible for those advanced systems. On the other hand, the innovative designs, in most cases, incorporated certain entirely new features, included primarily to enhance passive safety, and were typically smaller. The need for the construction and testing of prototype plants prior to their being made available as standardized commercial products was indicated. Deployment in the early part of the twenty-first century seemed possible for those advanced designs. Reactor models and design concepts that were described in the third session offered an attractive variety of nuclear applications, including electricity generation, process steam and heat production and fuel breeding. In conclusion, the suppliers gave the impression of being prepared to meet market requirements.

14. During the last session, "Need for Governmental Support", a wide range of views was presented. In general it was understood that governments were expected to play an active role in the further development of nuclear power. Proposals for government support included measures to create a more favourable

climate for new nuclear power plants, such as better public information policies and support for long-term research and development programmes, particularly safety-related programmes. Most speakers concluded that evolutionary improvements of current reactor types would have to be financed by vendors and/or users. However, governmental support would be necessary for the development and testing of longer-term innovative reactor concepts, since their commercial viability could not be assured at the current early stage of their development. All speakers stressed the importance of continued international information exchange and co-operation. Various ways of intensifying international activities were discussed. Some support was given to the idea of establishing an international study on new generation reactors, which would include a summary of international requirements, screening of available technologies and co-operative efforts for the joint development of the next generation power reactors. The Agency had some experience of such a study from its International Thermonuclear Experimental Reactor (ITER) project, which had proved to be an example of outstanding effective international co-operation.

15. The prevailing concern about the environment could stimulate a revival of nuclear power and new reactor concepts discussed at the scientific meeting could serve to reassure the public by providing a source of power which would avoid atmospheric contamination and which would not contribute to the greenhouse effect. However, technological answers were not sufficient, there also had to be a satisfactory institutional environment, because nuclear power required not only that those who understood the technology be satisfied, but also that the politicians and the general public be satisfied. Care should be taken in referring to the next generation of nuclear power reactors as "inherently safe", since it might be assumed that the present generation of reactors was not "inherently safe" and it was important not to undermine acceptance of the five hundred reactors, already operating or about to start operating.

16. There was also the additional problem of the cost of nuclear power plants. In the United States, for example, the cost of nuclear power plants per installed kilowatt was two or three times higher than in France. As far as the new generation of reactors was concerned, it was important for

governments to provide resources to enable vendors to proceed with the prototypes which were a prerequisite to large-scale development. The promotion of international research, as in the case of the ITER project, would be one possible solution to the problem.

17. The concerns about nuclear power which had developed during the past decades would not disappear overnight. Current technological developments would help to eliminate many of the concerns which had existed in the past, but large-scale deployment of nuclear power reactors, which would solve mankind's energy problems without disturbing the environment was not a certainty.

GENERAL DEBATE AND ANNUAL REPORT FOR 1988 (continued)

18. Mr. KERIN (Australia) said that fossil fuel exports were very important to his country's economy. In addition to being the largest exporter of coal in the world, Australia also exported liquefied petroleum gas and petroleum products. Furthermore, it had about 470 000 tonnes of uranium in proven economically recoverable reserves and its exports of uranium in 1988 had amounted to 4327 tonnes. Being an energy exporter was a privileged position in an energy-hungry world, but the privilege carried with it responsibilities.

19. Australia's responsibilities as a uranium exporter had been well recognized by successive Australian governments. Central to its uranium export policies was its continuing strong support for the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Agency's safeguards system. His country believed that an effective non-proliferation system was an essential condition for continued nuclear trade and co-operation between nations and his Government was anxious to ensure that Australia did not contribute to the spread of nuclear weapons through its exports of uranium.

20. More recently, the world had become aware of environmental problems arising from the use of fossil fuels and Australia, as a major exporter of fossil fuels, had recently announced major new policy initiatives in that area. It intended to host a conference in 1990 on the greenhouse effect with a Pacific regional focus; to provide strong diplomatic support to the Intergovernmental Panel on Climate Change (IPCC) and assistance in the

development of a new convention to facilitate the adoption of international and regional measures connected with climate change; and to make available US \$5.9 million for a national two-year high priority programme for greenhouse research and policy support.

21. Whilst it was important to take measures to halt the greenhouse effect, the issues should be kept in perspective. There was in fact no consensus among scientists about the cause of the greenhouse effect. There was clear evidence that the atmospheric concentrations of greenhouse gases had been increasing over the past two hundred years and that there had been a small increase in global temperatures during the twentieth century. It was not clear, however, whether the two phenomena were in a cause-effect relationship and whether the global warming would result in climate change. There had been calls for reductions in CO₂ emissions. However, since fossil fuels accounted for almost 90% of the world's energy consumption, it would be unrealistic to expect a marked reduction in that figure in the short term. Whilst it was true that nuclear reactors were capable of producing large amounts of electricity without producing any greenhouse gases, the greenhouse effect was not just an energy issue. There were technological, economic and political obstacles which made it impossible to abandon the use of fossil fuels on a large scale. It would be unfair to attempt to deny developing countries the benefits which industrialized countries had gained from large-scale energy consumption. It was important to pursue a policy of making more efficient use of energy and of improving energy conservation. There was a clear case for co-operation between the Agency, Member States and other international organizations to ensure that environmental concerns were addressed and that duplication of effort was avoided.

22. One of the tasks of the Australian Safeguards Office was to conduct a continuous review of the effectiveness of Agency safeguards. It was at present studying concepts relating to the safeguarding of large reprocessing plants, the evaluation of containment and surveillance techniques for spent fuel storage ponds, and methods for the evaluation of safeguards performance.

23. The NPT and Agency safeguards were essential means of preventing the spread of nuclear weapons. The Treaty remained the most widely adhered to arms control agreement in existence and a vital force for international

security. Agency safeguards were, of course, the means by which the fulfilment of States' obligations under the Treaty not to misuse nuclear material were verified. Both the NPT and Agency safeguards were entering a period of change and challenge: technological developments were likely to reduce the cost and difficulty of developing nuclear weapons; a small number of States, including some with significant nuclear facilities, continued to refuse to join the Treaty; and some Treaty members had not yet concluded NPT safeguards agreements with the Agency. Those developments made it extremely important for the Conference to be successful in terms of providing a strong declaration of support for the Treaty.

24. Difficult challenges also lay ahead for the Agency and its safeguards system. One such challenge was associated with the strict financial restraint which Member States demanded of the Agency. His country was committed to zero-real-growth budgets in the international organizations to which it belonged and believed that efficiency gains had to remain a permanent feature of the administration of those organizations. However, in the case of the Agency there might be grounds at some point for some further real growth in the safeguards part of the budget. Another area of challenge to safeguards was the increasing quantity of material subject to safeguards, the growing complexity of the nuclear fuel cycle and rapid technological changes in fuel cycle processes. Advances into automated processes, particularly in bulk handling facilities, and aspects of the back-end of the fuel cycle, particularly the increasing stocks of spent fuel and separated plutonium, posed considerable technical challenges to safeguards. A further challenge was the need to gain public confidence in safeguards. Explanations of safeguards operations must be accurate, clear and convincing.

25. As far as the Agency's technical assistance activities were concerned, his country had pledged full payment of its assessed share of the target for voluntary contributions to the Technical Assistance and Co-operation Fund for 1990. In addition, it would continue to make a substantial extra-budgetary contribution to the Regional Co-operative Agreement for Asia and the Pacific (RCA). Australia had recently expanded its commitment to the RCA by agreeing to support a series of new RCA projects, which would continue

until 1992, in areas such as the industrial applications of radioisotopes and radiation and the strengthening of the region's radiation protection infrastructure.

26. The Australian Nuclear Science and Technology Organisation (ANSTO) had successfully developed a programme that applied nuclear science and technology in the areas of industry, medicine and agriculture. ANSTO's research and development programmes centred on the applications of radioisotopes and radiation, applications of nuclear physics, biomedicine and health, environmental science and advanced materials such as ceramics. It also had a major programme on the development of disposal methods for high-level radioactive waste. Apart from promoting the social and economic development of Australia, that work also provided a basis for the provision of technical assistance and co-operation in many areas of the Agency's activities including training courses, fellowship training and the provision of experts.

27. Mr. ANNERBERG (Sweden) said that the need to protect the environment was a fundamental responsibility for all States, in general, and for the industrial countries in particular, since they used the major share of the world's resources. For its part, the Swedish Government was attempting to adapt its national energy policy so as to reduce the damage which Sweden caused to the environment.

28. The Swedish Parliament had decided to phase out the Swedish nuclear capacity by the year 2010, starting in the mid-1990s. It believed that extended use of nuclear power was not a long-term solution to the world's energy needs, nor was it a long-term solution to growing environmental problems. Future energy systems should be based to a much greater extent on renewable energy sources which harmonized better with the global ecological system. The concept of sustainable development should, therefore, be given special emphasis in the detailed preparation of the Agency's programme for 1991-92.

29. In March 1988, Sweden had signed the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the Declaration on the same subject. In that connection, Sweden welcomed the work of the Agency initiated at the previous year's General Conference on an internationally agreed code of practice for international transactions

involving nuclear wastes. A symposium on waste disposal was to be held in Stockholm in May 1991, the aim of which was to contribute towards a harmonization of the international work on criteria and standards for all types of hazardous wastes.

30. His country also attached great importance to the safety of nuclear energy production. It had enforced all technically feasible improvements to reactor safety arrangements, but it was concerned that such improvements had not been made at all of the more than 500 power reactors in operation or under construction around the world, many of which were ageing and had obsolete safety features. His country supported the Agency's work in developing internationally acceptable safety principles, regulations and guidelines to include the whole of the fuel cycle and all categories of nuclear wastes and urged Member States to make further use of the Agency's experience to enhance the safety of their reactor installations and operations.

31. Safeguards constituted the politically most important part of the Agency's programme. His country had proposed at the 1984 General Conference that the Agency's safeguards system should be extended to cover all peaceful activities in all countries, including the nuclear-weapon States. At the Third Review Conference in 1985 it had been possible to agree on a number of recommendations for actions aimed at the universal application of Agency safeguards to all peaceful activities in all States. Some progress towards that goal had been made since the Third Review Conference. The preparations for the Fourth Review Conference were now well advanced and it was hoped that further progress would be made at that Review Conference.

32. Sweden, like a number of other countries, made full-scope safeguards a condition for any transfer of relevant nuclear supplies to non-nuclear-weapon States and urged all other States to apply the same principle. Application of full-scope safeguards made the verification process more effective and thus contributed significantly to international security. Adherence to NPT remained the best way of assuring the world community of the purely peaceful nature of nuclear activities. The nuclear-weapon States should also follow the example of the United Kingdom in separating their peaceful nuclear activities from the military ones and should subject them, without exception, to Agency safeguards.

33. The agreement in 1987 between the United States and the Soviet Union to eliminate land-based intermediate-range nuclear missiles represented a first step towards nuclear disarmament. However, such a step could not be regarded as a real nuclear disarmament action, unless the nuclear warheads were also dismantled and destroyed. Sweden had proposed at the General Conference in 1988 that all transfers of weapons material to peaceful use should be verified by subjection to Agency safeguards. If the nuclear material could not be used immediately within the peaceful programmes, the Agency's Statute provided an instrument for storage under its custody. Similarly, all production of new nuclear materials for military purposes should cease. If any undertaking to discontinue production was to be credible, it should be possible to verify such an undertaking through inspection and constant surveillance. The experience of the Agency's safeguards system could be used for such a purpose. The Agency's safeguards programme represented a legal obligation on the part of the Agency and a failure to carry out its safeguards commitments effectively would be disastrous not only in itself, but also in terms of the Agency serving as a mechanism for international co-operation in the peaceful uses of nuclear energy.

34. The resources of the Agency's Safeguards Department would have to be strengthened considerably. Any extension of Agency safeguards, for example in the nuclear-weapon States, would make the need for additional resources even more acute. Such demands were, however, impossible to accommodate under a zero-real-growth budget. His delegation had therefore introduced a draft resolution on the financing of safeguards requesting the Board to establish a working group open to all Member States and hoped that the draft resolution would receive the widest possible support.

35. As far as the Agency's technical assistance and co-operation programme was concerned, Sweden had not only paid its full assessed share of the target for voluntary contributions to the Technical Assistance and Co-operation Fund, but had also made considerable extrabudgetary contributions. In response to urgent needs in developing countries, those contributions had mainly been directed towards joint programmes with the FAO in the areas of agriculture and environmental protection.

36. Lastly, with regard to the future planning of the Agency's programme and budget, his delegation believed that while maintaining the present two-year periods, the Agency should also introduce medium-term planning. An added perspective of five-year periods would facilitate long-term planning for Member States and help the Secretariat to improve its allocation of resources and the organization of its work.

37. Mr. OGADA (Kenya) said that a number of institutes, hospitals, universities and industries in Kenya were making increasing use of radioisotopes in their work. Three hospitals had full radiotherapy facilities and it was expected that radioisotopes would play an increasing role in medical diagnosis and treatment in Kenya. The co-operation between Kenya and the Agency had also enabled a number of projects to be set up in the areas of agriculture, medicine, material testing, radiation protection, hydrology and radioactive waste management. The country was already reaping the benefits of projects in plant mutation breeding in wheat and horticultural crops.

38. His delegation supported the remarks made by the delegate of Algeria, who was speaking not only on behalf of his country but also on behalf of the whole of Africa. He had outlined some of the problems faced by African countries when implementing Agency projects and had very ably highlighted the actions which had to be taken in Africa so that the peaceful uses of applied nuclear technologies could best be exploited.

39. Unlike many developing countries, Kenya had no known deposits of oil, coal, iron or gas and limited hydroelectric and geothermal potential. In view of the rapid increase in energy consumption since the start of major rural electrification and industrialization programmes, it was likely that the potential of existing energy sources would be exhausted in two decades and the only rational option left would be nuclear generation of electricity. As a result, training in applied nuclear technology would have to be increased. Since a large proportion of that training would have to be done locally in Nairobi, the Nuclear Science Centre at the University of Nairobi would need to be expanded. The Agency-supported radiochemistry laboratory was to be incorporated in the Centre and would be able to produce short-lived radioisotopes for research and therapy in the near future.

40. Many countries in Africa were suffering tremendous hardship. In addition to the calamities caused by the weather, such as the droughts of 1979 and 1984, the young economies of a number of countries were strained by the millions of refugees flowing across borders to escape from armed conflicts. Most African economies were sinking deeper and deeper into debt. Rich industrialized countries were planning to provide economic assistance to the countries of Eastern Europe as a result of recent political changes, but Africa had been asking for assistance since 1979 to ease its debt burden. So far it had received very little assistance. Given the economic and social difficulties in Africa where there was difficulty in affording the basic necessities of life, it seemed rather meaningless to discuss the peaceful uses of nuclear technologies before solutions were found to those basic problems.

41. On a more positive note, Namibia was due to hold elections in November before eventual independence early in 1990 and could be expected to take a seat at the General Conference in 1990, as an independent sovereign State. Kenya was also watching with a great deal of interest the steps being taken by countries which had earlier refused to endorse or ratify NPT.

42. Mr. EUSUF (Bangladesh) pointed out that Bangladesh seemed to be one of the sad victims of the so-called "greenhouse effect". In 1988, Bangladesh had suffered a severe flood, which had submerged nearly three-fourths of the country, and in 1989 it had suffered a severe drought. The alternation of drought and flood had become a chronic and crippling problem for his country. Concerted measures at international level were necessary to combat the deterioration of the climatic conditions resulting from activities related to energy production. One such measure might be the preparation and adoption of an international convention on the protection and conservation of global climate which had been proposed by the President of Bangladesh. The nuclear community, for its part, had an important role to play in the preservation and conservation of the world climatic conditions by promoting safe nuclear power, which appeared to be environmentally cleaner than other forms of energy production.

43. Activities related to the production of energy were undoubtedly the major causes of the deterioration of the environment. However, the concept of "low energy path" should not be regarded as a universal solution and it should

be recognized that it was not realistic for many developing countries, where there was a high demand for energy to enhance economic growth, to adopt a policy of "low energy path". Unless an alternative source of energy was available, those countries would have to burn more fossil fuel to meet their energy needs. As a result the pollution of the environment would continue unabated.

44. On the other hand, many countries, because of their limited fossil fuel resources, had to turn to alternative sources of energy. Bangladesh, for example, had very limited indigenous primary energy resources and in the foreseeable future, nuclear power seemed to be the only commercially viable source of energy. There were, however, major obstacles to the development of nuclear power, such as limited grid capacity, high capital cost and lack of financial resources. The Agency's study on small- and medium-sized power reactors had identified a number of designs suitable for grids in developing countries but most of those designs were not expected to be available before the end of the century. By that time, the capacity of grids in many developing countries was expected to be sufficient for larger plants. Therefore, the short- and medium-term solutions for energy needs still remained uncertain and the Agency should study those issues as a matter of urgency. Bangladesh's nuclear power programme was technically and politically well justified, but owing to a lack of suitable financing, it had not been possible to start construction on the planned nuclear power plant in Ruppur. The Conference should seriously consider the establishment of a special fund within the Agency to assist in the financing of power plants in developing countries.

45. While safeguards was an important area of the Agency's activities, nuclear safety and nuclear waste management programmes were no less important in order to improve public confidence in nuclear power and, therefore, the Agency should correct the balance of emphasis on those two programmes.

46. About half of Bangladesh's national economy was derived from agriculture. It was therefore, important to assess its water resources and their potential for large-scale use during periods of drought in order to determine the water reserves and the movement of ground water and its variation with season and to determine the movement of silt and the resulting

influences on the seasonal and long-term changes in the river bed profiles in the whole country. Nuclear techniques would be an invaluable tool in carrying out such studies.

47. His Government was grateful to the Agency for the technical assistance which it was providing to Bangladesh. A number of research programmes were being satisfactorily conducted using the research reactor which had gone critical in 1986. Technetium-99m was being produced in the reactor and nuclear medicine specialists of the Bangladesh Atomic Energy Commission were using it on clinical patients. The shielding characteristics of locally produced polyboron and heavy concrete used in the reactor had been tested against primary and secondary gamma radiation using a californium-252 radioactive source. The environmental radioactivity monitoring programme, including monitoring of radioactive contaminants in imported food materials, was progressing very well. In addition, the Analytical Chemistry Group was providing useful technical services in determining toxic elements in foodstuffs and drinking water.

48. Lastly, his delegation wished to draw attention to its concern about the gross imbalance in the representation of the Middle East and South Asia (MESA) Group in the Board of Governors. In view of the number of countries with large populations in the region and their existing and planned nuclear energy and technology programmes, a proper allocation of seats to the MESA Group countries was essential. The distribution of seats of the Board of Governors among the various regional groups should therefore be rationalized. For that reason, his delegation had co-sponsored a resolution seeking revision of Article VI.A.2 of the Statute as soon as possible.

49. Mr. HAMMAR (Tunisia) observed that the past year had witnessed improvements in international relations, reflected by a softening of relations between the military Super Powers, political willingness to solve some of the toughest regional conflicts, greater confidence in the United Nations system and renewed hope in multilateral co-operation and the activities of specialized organizations. However, such developments could still be undermined by the introduction or proliferation of nuclear weapons in certain areas of tension, particularly in the Middle East and South Africa, which

continued to pose serious threats to peace and security in the world. For its part, Tunisia had been one of the first countries to accede to NPT and had signed a safeguards agreement with the Agency in January 1989, thereby demonstrating its commitment to international co-operation in the peaceful uses of nuclear energy.

50. Tunisia was grateful for the technical assistance provided to it by the Agency in areas such as nuclear power planning, radiation protection, agriculture, animal production, industrial applications and hydrology. All the Agency-assisted projects formed part of Tunisia's economic development programme. His delegation believed that the existing bilateral arrangements in Africa should be complemented by a regional co-operation agreement for Africa based on the RCA and the Regional Co-operative Arrangements for the Promotion of Nuclear Science and Technology in Latin America (ARCAL). Since nuclear safety was a matter of universal responsibility, his delegation believed that the Agency should strengthen the infrastructure set up in developing countries to enable them to fulfil their obligations under the Conventions on Early Notification and Emergency Assistance, two Conventions of which Tunisia was a signatory.

51. Despite its financial difficulties, Tunisia believed that the applications of nuclear techniques, particularly in the areas of agriculture, industry and medicine, would contribute to its economic development and the social welfare of its people. That was why Tunisia, which was planning to acquire a research reactor, requested the Agency to provide assistance in the form of infrastructure, equipment, expert services, training and fellowships. It also needed Agency assistance for national projects which were planned or being implemented in its universities, research institutes, hospitals and specialized centres.

52. The question of the amendment of Article VI.A.2 of the Statute had been on the General Conference's agenda since 1977. It was therefore high time that the under-representation in the Board of Governors of Africa and the Middle East or South Asia regions was corrected.

53. The participation of the State of Palestine in the Agency's activities, as an observer, was merely the expression of a legitimate right recognized by

various United Nations resolutions and, in particular, General Assembly resolution 43/177 of 15 December 1988 and General Conference resolution GC(XX)/RES/334 of 24 September 1976.

54. Several speakers had suggested that the chances had improved of a basic change taking place in South Africa leading to an end to the unjust apartheid régime. His delegation, which noted that South Africa still refused to comply with Agency resolutions, associated itself with the general consensus on the draft resolution submitted by the African group on that subject.

55. His delegation was grateful to the Director General for the proposals contained in document GC(XXXIII)/887 on the modalities of the application of safeguards in the Middle East. The Israeli nuclear capability and threat continued to be a subject of concern to the international community. Since 1981, the United Nations Security Council and the Agency's General Conference had been calling upon Israel to accede to NPT and to place all its nuclear facilities under the Agency's safeguards system. In order for the non-proliferation regime to inspire confidence, the Agency should be able to take initiatives to prevent the introduction and dissemination of nuclear weapons, particularly in regions which were a threat to international peace and security. The longer it took to prevent the proliferation of nuclear weapons in the Middle East and to initiate genuine peace negotiations, the greater the danger was that the situation would become explosive.

56. Mr. COUNTAKIS (Greece) encouraged the Agency to continue its efforts to strengthen international co-operation in the field of the peaceful uses of nuclear energy, in general, and in the field of safety, in particular. The Agency's safeguards activities were also of great importance, since they made a substantial contribution to non-proliferation.

57. His country was both a donor and a recipient of technical assistance and it greatly appreciated the technical assistance provided by the Agency in the areas of uranium exploration, research reactor safety, radiological protection, the development of radiopharmaceuticals and many others. His Government would continue to extend its support to the Agency's activities and had already pledged to meet in full its assessed share of the target for voluntary contributions to the Technical Assistance and Co-operation Fund for 1989.

58. Mr. KOUASSI (Côte d'Ivoire) noted that although 1988 had witnessed an increase in nuclear power generation, which at present represented 17% of world electricity production, the majority of Member States were prevented from starting nuclear power programmes by the very high investment costs. In view of the importance of energy for industrialization, strategies should be considered to enable developing countries to use nuclear power. In that connection, his country welcomed the meetings which had been held between Agency experts and officials of the World Bank in order to examine the problems and possibilities of financing nuclear power programmes in developing countries. It was to be hoped that through such meetings a solution would be found to those problems.

59. His delegation was very satisfied with the assistance provided by the Agency to developing countries in the areas of food and agriculture, medicine and the biological, physical and geological sciences. His delegation welcomed the increase in the number of projects made operational in 1988 and the success of the International Conference on the Acceptance, Control of and Trade in Irradiated Food held in Geneva in December 1988. The principles governing the acceptance of irradiated food, adopted by consensus at that Conference, would undoubtedly enable many developing countries to reduce their post-harvest losses.

60. Despite its efforts, the Agency was unable to meet all the needs of developing countries which wished to benefit from its promotional activities. Therefore, his delegation believed that the principle of a zero-real-growth budget should not be applied to the Agency's promotional activities. Moreover, it seemed highly desirable that at a time when developing countries were experiencing increasing economic difficulties, countries which were able to do so should increase their voluntary contributions to the Technical Assistance and Co-operation Fund.

61. The Agency's activities in the area of nuclear safety and radiation protection were extremely important. The visit by the Radiation Protection Advisory Team (RAPAT) to Côte d'Ivoire had been greatly appreciated. The team had reviewed the radiation protection infrastructure and recommended long-term strategies for assistance and co-operation in the use and control of ionizing radiation.

62. The fact that the Secretariat, in carrying out the Agency's safeguards obligations, had not detected any event which would indicate the diversion of a significant amount of safeguarded nuclear material, was a matter of great satisfaction. No nuclear programme could inspire public confidence unless there were assurances of its peaceful nature. The Agency played an essential role in that respect. However, the financing of safeguards should take into account the economic situation of the Agency's Member States, particularly the developing countries, and it was to be hoped that a solution to the financing of safeguards would be found within the three-year time limit established by the Board of Governors.

63. Lastly, his delegation was grateful to the Director General for the speed with which he had implemented General Conference resolution GC(XXXII)/RES/490, which had requested him to establish a technical working group of experts with the objective of elaborating an internationally agreed code of practice for international transactions involving nuclear wastes. A number of countries, including Côte d'Ivoire, had adopted laws rejecting transactions involving such wastes, but in order to make them effective, those laws should be complemented by international conventions. His delegation, therefore, awaited with interest the draft code of practice for transactions involving nuclear wastes which it hoped would be submitted to the thirty-fourth regular session of the General Conference.

Mr. Carr (United States of America) took the Chair.

64. Mr. ELAGIB (Sudan) welcomed the fact that the Agency had continued to strengthen its assistance to developing countries in the area of nuclear power production and the application of nuclear techniques. It was important to ensure that environmental concerns did not hamper the development of developing countries. For its part, Sudan was very satisfied with the technical assistance which it had received; that assistance had included the provision of equipment, fellowships and training. However, it was necessary to increase the resources made available for technical co-operation activities in order to meet the growing needs of developing countries, and consideration should be given to the possibility of financing those activities from the Regular Budget.

65. At the previous year's General Conference, his delegation had referred to the problem of the dumping of nuclear wastes. Scientists agreed that there were no technical obstacles to the disposal of nuclear wastes, but guidelines still had to be drawn up, and his delegation hoped that the group of experts studying the disposal of nuclear wastes would be able to draw up a code of practice on the subject in the near future.

66. His delegation supported the activities being conducted within the Agency on the subject of liability for nuclear damage; on the development and implementation of principles governing the siting and design of nuclear power plants; and on the development of guidance to assist Member States in various aspects of emergency response.

67. The Agency's safeguards activities were intended to reassure public opinion about the peaceful nature of the uses of nuclear energy. His delegation welcomed the new agreements signed with the Agency and urged States which had not yet concluded safeguards agreements to do so as soon as possible. In that connection, it was deeply concerned about Israel's refusal to submit its nuclear facilities to Agency safeguards, since its nuclear facilities constituted a threat to peace not only in the Middle East but throughout the world. It was regrettable that no progress had been made in that area. Despite its support for safeguards activities, his delegation had reservations about the priority given to the Agency's safeguards activities over its promotional activities. It accepted the provisional solution reached by the Board of Governors regarding the financing of safeguards over the following few years, but stressed that a permanent solution had to be found which would take into account Member States' capacity to contribute.

68. The problems of the amendment of Article VI.A.2 and the revision of Article VI as a whole should be resolved in an equitable manner, so as to enable all countries and regions to play a full part in the work of the Board of Governors. As far as the staffing of the Secretariat was concerned, his delegation was grateful to the Director General for his efforts to increase the number of staff from developing countries, but would like to see more staff from developing countries occupying important posts.

69. The Agency was a technical organization and his delegation regretted that there was a tendency for political issues to intrude into its work. It

should concentrate its efforts on studying advances in nuclear technology, particularly research in the areas of nuclear power and waste disposal, and should make additional efforts to reassure public opinion about the safety of nuclear power.

70. Mr. LASERNA PINZON (Colombia) said that his country's Atomic Energy Commission had celebrated its 30th anniversary on 1 September. The present Institute for Nuclear Affairs was founded in 1959, after a number of years of decision-making and organization, following the signing of an agreement on the use of nuclear energy for peaceful purposes with the United States. In 1957, Colombia had participated in the establishment of the International Atomic Energy Agency and in 1960 had become a member. Shortly afterwards it acceded to the Tlatelolco Treaty and to the agreements on the non-proliferation of nuclear weapons.

71. Colombia had also participated in regional projects within ARCAL to which Colombia had contributed since 1985. Those programmes strengthened relations between Latin American countries and needed encouragement and support in order to promote the progress and scientific development of the countries concerned.

72. Due to the support of some countries, Colombia's Institute for Nuclear Affairs had been able to upgrade its nuclear reactor with the help of the United States, carry out operational programmes in its secondary standards laboratory with the help of the United Kingdom, hydrological programmes with the help of Germany and non-destructive tests with the help of Italy. Special thanks were expressed to all of those countries.

73. The greenhouse effect was a subject which cropped up at every meeting on the future of the planet and always resulted in warnings and schemes to avoid a disaster which, because of its magnitude and irreversibility, was claimed to be comparable to a nuclear war. The Director General himself had warned that dirty energy would contribute to such a disaster; a photographic exhibition on the ground floor of the Agency building highlighted the Amazon region and its problems; Austria's Environment Minister at a recent conference on the problem of the relentless destruction of the tropical forests had completed her analysis with a warning that action had to be taken; and the previous day the delegates of Mexico, Switzerland and

the Netherlands, amongst others, had said that the need to act was imperative to our survival. Colombia agreed that there was a threat and that something had to be done quickly and decisively, but not before thoroughly analysing and understanding the underlying problem. The call for clean nuclear power was indeed a valid one, as was the call for an international meeting on the disappearance of the tropical forests, provided their causes were studied. The world was going through an ecological age in which people were becoming aware that their actions had a "knock-on" effect, within a global technical and economic system, and were responsible both for the greenhouse effect and for the destruction of the tropical forests. People had likewise become aware that the escalation of a cold war could result in the final disaster. Yet peace could only be achieved if the system of relations between countries were changed and the conflicts between them solved. Until only a short time ago, the two Super Powers had agreed that they both sought peace, yet their efforts had led them to prepare for war. So the problem now was to seek peace with nature, in keeping with ecological harmony – in other words, to modify the system which led some to wage ecological war, to destroy the balance of nature . But there were no frontiers in either ecological or nuclear disasters: everyone was the loser, the victim was mankind itself. Colombia held the view that in ecological matters the peaceful goal was not as firm, intelligent and sincere as proclaimed. Peace would be sought, provided that someone else paid the price. In 1955 a magazine article written by a leading member of the United States Atomic Energy Commission had warned of a greenhouse effect, yet that warning had gone unheeded in spite of the author's outstanding achievements in physics, mathematics and computer science. What, then, could explain the loss of 30 years, particularly in view of the number of national and international agencies whose brief was to watch over everything which might threaten the well-being of mankind? To use the language of the writer of the article, taken from another work on the "Theory of Games and Economic Behaviour", it might be said that as long as mankind did not play the survival game seriously, the possibilities for survival were zero. The games engaged in by mankind took place within an existing framework, namely a set of rules which mankind itself established. The rules of the economic game between north and south, which were "everything for me, nothing for you", had inspired the ecological war, particularly where the tropical forests were concerned. Their

destruction was largely due to the game: "the struggle to survive for some versus the struggle to gain more for others". While the world price of coffee was lower now than a decade ago, the price of Coca-Cola, agricultural machinery, transport and fertilizers had tripled. As long as the powerful nations used robots in their factories, substitutes for raw materials, or paid for raw materials at prices which caused massive unemployment, the Amazon forests would burn. Such were the rules of the international game. In the industrialized countries profits were shared and the dictum "to each according to his needs" was paramount. But that was not true of the international game, in which everyone would end by being the loser unless the rules were changed. As long as those rules were said, at the international level, to be nature's creation rather than man's, there would be more carbon dioxide in the atmosphere from Amazonian fires, and more drugs produced in the Andean countries in spite of outside efforts to destroy the plantations. Finally, in the collective death that would result from losing the ecological war, everyone would be equal.

74. If, therefore, there was to be a road to ecological peace, there would have to be changes in the system which threatened it, and which was the product of the interdependency of nations and lack of organization of the global system, as the 1955 magazine article had stated. The same author, in 1951, had proposed the establishment of an institute for Amazonian research to prevent the immense resources of all kinds given to mankind by nature from being destroyed by the effects of the lack of technical and economic organization. Neither the Greens nor the Worldwide Fund for Nature had made any new discoveries. The important thing therefore was not to waste time on the symptoms but to identify a proper system in which the cost would be shared by all, bearing in mind that the game, according to the current world technical and economic model, each day raised the greenhouse temperature in which man not only had to live but, with luck, survive his own inventions.

Mr. Chung (Republic of Korea) took the Chair.

75. Mr. SAN MARTIN CARO (Peru) welcomed the recent progress made towards the reduction and partial elimination of nuclear weapons. While the rapprochement between the Super Powers was very welcome, there were still areas of conflict which were threatened by the introduction of nuclear

weapons. The General Conference should adopt measures to ensure the effective control of horizontal proliferation and the Agency should play a major role in that area by making its safeguards system universal and ensuring that there were no double standards. Nuclear-weapon States were very well placed to facilitate effective non-discriminatory measures to prevent the proliferation of nuclear weapons.

76. Development was just as an important objective as peace, and his delegation welcomed the Agency's activities to promote research in the peaceful uses of nuclear energy, in areas such as food and agriculture. However, to make such activities still more effective, those studies should be directly related to the real needs of the recipient countries.

77. His delegation was pleased to announce the completion of the design, construction and fitting up of the Nuclear Research Centre at Huarangal which had benefited from generous international co-operation and which could also be regarded as a model of horizontal co-operation between Peru and Argentina. Peru had initiated negotiations with other countries, such as Bolivia, for the implementation of co-operation projects, thereby making the Huarangal Centre available to the whole scientific community in the region. The Agency's assistance in such south-south co-operation and in the implementation of a programme for the sale of radioisotopes would be very much appreciated.

78. Peru had initiated an active policy to improve and update the technical knowledge of its personnel. Furthermore, it had taken steps to strengthen its office for liaison with the Agency related to technical co-operation matters connected with the ARCAL programme and its participation in the International Nuclear Information System (INIS).

79. Peru continued to be firmly committed to the Conventions on Early Notification and Emergency Assistance. However, his delegation had reservations about the application of the Tlatelolco Treaty which had in some cases tended to favour vertical proliferation, to promote the application of selective safeguards and to hamper co-operation.

80. Mr. PAPADEMAS (Cyprus) pointed out that the Agency had developed from a little-known organization to a well-known one which made a tremendous contribution to the welfare of mankind. In the years following the

Second World War, the production of nuclear weapons had inspired great fear which the Agency had been able to alleviate through the promotion of the peaceful uses of nuclear energy. The chief concern at present was fear about damage to the environment. Nuclear energy could help to alleviate that fear and should be regarded, not as a means of destruction, but as a means of saving mankind.

81. Cyprus was grateful to the Agency for the technical assistance which it had provided in the fields of medicine, hydrology, agriculture and animal husbandry. Cyprus had ratified the two Conventions on Early Notification and Emergency Assistance and would continue to provide its full support to the Agency's work.

82. Mr. STEMPEL PARIS (Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean) said that the eleventh regular session of the General Conference of the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL) had reached a number of important conclusions, some of which related closely to the co-operation between the IAEA and OPANAL.

83. Resolution 243/(XI) requested OPANAL's General Secretary to resume negotiations on the holding of a technical and legal seminar-workshop to analyse formulas to help set up the control system provided for in the Tlatelolco Treaty, which would not restrict the peaceful development of nuclear energy, but which would exclude the possibility of nuclear weapons from other States being introduced into Latin America and the Caribbean. The Agency had expressed its willingness to co-operate with OPANAL in the organization of such a workshop. More specifically, in connection with Article 13 of the Tlatelolco Treaty relating to IAEA safeguards, OPANAL requested its General Secretary, in its resolution 246(XI), to carry out a study to consider whether a safeguards agreement based on the model implemented by the IAEA should be used or a standard safeguards agreement specific to the Tlatelolco Treaty.

84. Other areas of co-operation with the IAEA had been highlighted in resolutions 239(X) and 265(XI) relating to nuclear explosions for peaceful purposes; resolution 249(XI), in which OPANAL requested its General Secretary to carry out consultations with the IAEA with a view to enabling OPANAL

to participate as an observer in ARCAL co-ordinating meetings; and resolution 252(XI), which requested the OPANAL Council, with the support of the competent international organizations, to identify technical and legal methods of preventing radioactive contamination of the waters within the zone of application of the Tlatelolco Treaty.

85. The IAEA and OPANAL shared common objectives in important areas associated with peace and security and it was to be hoped that, through co-operation with the IAEA, all States parties to the Tlatelolco Treaty would enter into safeguards agreements with the IAEA.

86. Mr. GREEN (International Confederation of Free Trade Unions) recalled that the International Confederation of Free Trade Unions (ICFTU), together with many of its affiliates and other trade union centres, had already had a very productive two-day meeting with the Agency Secretariat in April 1989. The trade union views had been outlined in considerable detail in the ICFTU Policy Report "Nuclear Safety: ICFTU Proposals for the International Control of the Nuclear Energy Industry".

87. The ICFTU believed that the Agency had a key role to play in ensuring effective control of the nuclear energy industry. Within that work, however, workers and their trade unions in the nuclear energy industry could and should play a more important role. Accordingly, the ICFTU also believed that the Agency should collaborate more closely with the International Labour Organisation (ILO) to ensure the guaranteed involvement of trade unions in nuclear safety policy-making and implementation at all levels. In particular, workplace trade union safety representatives should be allowed to inspect the workplace regularly; to investigate accidents and incidents; to require safety committees to be set up and to attend meetings; to receive information and training to enable them to carry out their health and safety role; to participate in the putting into operation of all types of nuclear facility in order to ensure that they complied with rules and safety standards; to inspect the progress of construction with the aim of detecting violations of norms and standards and to issue binding recommendations to rectify them; and to be a member of the body which had to approve the commissioning of any nuclear energy facility.

88. Apart from greater trade union participation, the ICFTU believed that there were a number of other measures necessary to improve nuclear safety. Those included tighter standards for the design, construction, commissioning, operation and eventual decommissioning of nuclear power plants to prevent major radiological accidents; improving control of radiation doses to all workers (including uranium miners) and members of the public - including lower dose limits; securing reductions in discharges of radioactivity during normal operation of a plant to the lowest levels practicable, and developing internationally accepted criteria for the siting of nuclear power plants, as well as minimum standards for emergency plans; developing international criteria for radioactive waste management strategies, including minimum standards for high-quality engineered solutions for the permanent isolation of radioactive wastes in a monitorable form; and minimum permitted safety training standards for all workers in nuclear power plants, including those who might be engaged on a temporary or sub-contract basis.

89. Whilst an international system for nuclear safety standards, information exchange and assistance already existed under the auspices of the Agency, the ICFTU believed that the Agency could enhance effective control over civil nuclear activities in all States by: considering the improvement of generic safety standards for nuclear plant, including siting criteria, which should be made binding in all contracts and agreements between the Agency and Member States; providing full information to the public on all safety-significant events; developing a stronger role for the Agency together with the ILO and the International Commission on Radiological Protection in the area of radiological protection, including lower dose limits and provision for full trade union involvement in radiological protection policy-making; ensuring minimum Agency standards for high-quality engineered facilities to manage radioactive wastes; expanded international inspection of nuclear power plants, including the right for Agency inspectors to make "prompt challenge" inspections; a review of measures necessary to protect nuclear power plants from the effects of war and terrorism; tighter control over all fissionable materials and key nuclear processes, including the separation of civil and military nuclear activities; strengthening work on the safe transport of nuclear materials; and expanding existing Agency work on emergency response.

90. The ICFTU considered that those recommendations represented a minimum, realistic international programme of action to improve the control of the risks which nuclear power generation presented to workers, the public and the environment. In view of widespread legitimate public concern about the safety of nuclear energy, the ICFTU believed that the Agency and the ILO should convene regular consultative meetings to discuss those issues with trade union representatives at an international level.

The meeting rose at 1.15 p.m.

