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RECORD OF THE ONE HUNDRED AND FIFTY-SEVENTH PLENARY MEETING

Held in the conference centre of the Secretariat of External Relations,
Mexico City, on Friday, 29 September 1972, at 4.30 p.m.

President: Mr. FLORES DE LA PEÑA (Mexico)

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[**] GC(XVI)/490.

THE RECORD

GENERAL DEBATE AND REPORT FOR 1971-72
(GC(XVI)/480, 480/Corr.1 and 3, 488)

1. Mr. EFFAT (Arab Republic of Egypt) congratulated the President on his election and expressed his sincere thanks to the Mexican Government for the generous hospitality he had been accorded.
2. In the course of the past few years, two of the Agency's fields of activity had gained considerable prominence - safeguards and the International Nuclear Information System (INIS) - and the budgetary allocations pertaining to them were rapidly increasing. Although his country had lent its support to those activities, it did not really consider that they represented the fields of direct and immediate interest to developing countries. It was essential to make sure that such activities were not pursued to the detriment of those of major interest to the developing countries, for the latter based great hopes on nuclear technology, and it was the Agency's responsibility to help them to realize their aspirations.
3. The time had come for the Agency to focus attention on a narrower range of subjects, more particularly, the use of nuclear energy for power production and desalination, the use of nuclear explosive devices for peaceful purposes, and large-scale prospecting and exploitation of raw materials.
4. It was anticipated that by the end of the century, nuclear energy would have become the main source of power production, and according to estimates it would account for 15% of the world's power by 1980. For that reason the Agency should take a more active part in solving the many complex problems facing the developing countries, one of which was the financing of nuclear projects. The implementation of such projects would mean a rapid growth in the demand for raw materials during the present decade, and according to the specialists the consumption of uranium would have reached 100 000 tons per year by 1980. The huge nuclear raw material reserves in the developing countries had still not been properly exploited owing to the lack of funds and experience; hence it was essential to find a means of financing the exploration and exploitation programmes on an international level, especially those relating to uranium.
5. The developing countries were keenly interested in the use of nuclear explosions in civil engineering and in the mining and oil industries, and were accordingly expecting practical action to that end on the part of the Agency, which should now work out a feasibility study programme for certain specific projects in a number of countries, and establish ways in which the projects could be put into effect. The programme for the coming six years should include the action he envisaged.

6. His country had always encouraged all forms of co-operation in every aspect of scientific and technological development. The setting up of the Middle Eastern Regional Radioisotope Centre for the Arab countries, in 1963, was the most noteworthy example of its co-operation with the Agency. The Agency had made a very valuable contribution to the realization of the Centre's aims, namely the use of radioisotopes in tackling the problems specific to the region, and the training of numerous specialists. Although its participation in the work of the Centre had terminated in 1968, there was still co-operation in various forms.

7. His Government's concern with co-operation was likewise manifested by its participation in United Nations activities related to the peaceful uses of nuclear energy. Thus, it had contributed to the work of the four United Nations conferences on the peaceful uses of atomic energy, and had supported the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) [1], the partial test ban treaty, and the work of the Conference of Non-Nuclear-Weapon States, held at Geneva in 1968. That co-operation was also reflected in bilateral agreements between the Egyptian Atomic Energy Establishment and several countries, as well as in scientific contacts with high-level institutions.

8. The implementation of the Agency's technical assistance activities was contingent to a large extent on an increase in voluntary contributions. It was clear from the Board's report (GC(XVI)/480, 480/Corr.1 and 3, 488) that the proportion of technical assistance requests that could be followed up by the Agency was ever waning - it had fallen from about 50% in 1962 to less than 25% in 1972. The developing countries were seriously disturbed by that situation and it was consequently all the more important to strive for a considerable increase in the voluntary contributions. As far as his own country was concerned, it had been decided to make the same voluntary contribution in 1973 as in 1972, a proportion of the target corresponding to more than twice its assessed contribution to the Regular Budget.

9. Mr. ZANGGER (Switzerland), speaking on behalf of the delegation of the Principality of Liechtenstein and the Swiss delegation, congratulated the President on his election and asked him to convey their profound gratitude to the Government of the United Mexican States for its generous hospitality.

10. At the previous session the Swiss delegation had reviewed at some length the major activities of the Agency and the principal developments in nuclear energy in Switzerland, [2] so it would now confine itself to a few comments on various important events of the past year.

[1] Reproduced in document INFCIRC/140.

[2] See document GC(XV)/OR.149, paras 1-13.

11. The Swiss delegation wished first of all to reaffirm the support of the Swiss authorities for the objectives and activities of the Agency. It had learnt with keen interest of the successful outcome of the negotiations between the States Members of the European Atomic Energy Community (EURATOM), EURATOM itself and the Agency concerned with formulating the agreement called for by Article III of NPT, as well as the recent approval of that agreement by the Council of Ministers of the European Communities and the Agency's Board of Governors. That new situation, which foreshadowed the early ratification of NPT by five of the States Members of EURATOM, would undoubtedly be watched with close interest in Switzerland. The Swiss Government had signed NPT in December 1969, but its ratification had to await a detailed analysis of the practical consequences of Article III. In that connection the work of the Board's safeguards committee had proved very useful.

12. Turning to the question of environmental protection, the Swiss delegation fully supported the recommendations made by the United Nations Conference on the Human Environment held in Stockholm (the Stockholm Conference) concerning the release of low-level waste into the environment and the management of high-level waste. The development of the peaceful applications of nuclear energy had been characterized by an excellent standard of safety, which was due in large measure to the precautionary practices adopted by those responsible for that development. It was absolutely imperative that the same attitude should govern the approach to problems associated with radioactive releases into the atmosphere and hydrosphere and with the management of high-level waste. Clearly those problems, which were bound to assume vital importance in the decades ahead, called for international collaboration, with the Agency playing an active role. Switzerland would give the Agency every possible support.

13. With regard to the protection of the environment against thermal pollution, the Federal authorities had initiated a major research programme to examine the technical, economic and ecological aspects of all forms of thermal emission from nuclear power stations, of all possible methods of utilizing the waste heat from those power stations for productive purposes, and of the general effect of emissions from all types of power plants. Those studies would continue for several years and would cover: direct cooling of nuclear power stations by water from rivers, natural lakes and large artificial reservoirs; the cooling of nuclear power stations by wet, dry or mixed cooling towers, with natural or forced circulation, for various types of reactors; the utilization of waste heat from nuclear power stations for district heating, for supplying industrial heat and for water treatment, etc.; the establishment of a register of thermal emissions covering all forms of power plant, and all of Switzerland; the establishment, with the aid of a physico-mathematical model, of registers of thermal ground level concentrations for

different meteorological conditions, together with an evaluation of changes in climatic conditions and their effects on human health as well as on flora and fauna; the establishment of optimum bases for the future development of the thermal emission register and the evaluation of the maximum tolerable limits for real and latent heat emissions in respect of the various climatic regions of Switzerland. The results of those studies would be communicated to the Agency.

14. The Swiss delegation was disappointed to learn that the Agency was having difficulty in raising the necessary funds for providing technical assistance to the developing countries. Universal solidarity was a prerequisite for that vital international activity. The resources could only increase in line with the needs if every State undertook to shoulder its share of the burden.

15. In conclusion, his delegation recalled the profound words of that great Mexican statesman Benito Juárez: "The essence of peace is respect for the rights of others". He addressed an urgent appeal to all delegations to employ every means in their power to make that thought the reality of tomorrow in the relations between men and between States throughout the world.

16. Mr. ERIKSEN (Norway) said that the Director General, in his statement two days earlier, had analysed the situation regarding the implementation of the Agency's commitments arising out of NPT and had expressed concern at the slow rate of progress achieved to date. [3] He shared the Director General's concern, although the conclusion of the negotiation of an agreement between the Agency, non-nuclear-weapon States Members of EURATOM and EURATOM itself represented a great step forward.

17. The Norwegian Government had now approved the subsidiary arrangements to the safeguards agreement between Norway and the Agency and had thus formally provided for inspection of its nuclear activities by the Agency; inspections had, in fact, already been made over more than six months. He noted with satisfaction that efforts were being made further to develop safeguards methods in order to introduce improvements and modifications to the system as soon as they were justified.

18. The Agency's work on nuclear safety and environmental protection should continue to receive high priority. He complimented the Director General and the Secretariat on the results already obtained, and was pleased to note that the Agency, in its plans for the future, was stressing the need to work in close collaboration with other organizations having responsibilities in that field. The Agency's handbooks and manuals, a considerable number of which were issued jointly with United Nations organizations such as FAO, ILO, IMCO and WHO, were used by States and organizations all over the world.

[3] GC(XVI)/OR.152, para. 19.

19. The conferences and seminars on nuclear safety organized by the Agency, often jointly with those United Nations organizations, had been of direct practical value for Norway's work in that field. The exchange of experience on nuclear safety and the concordance at international level of basic and detailed standards were among the important tasks of the Agency. In particular there was an urgent need for internationally accepted standards on radioactive waste disposal and an equally urgent need to establish maximum permissible limits for the concentration of nuclear effluents discharged into the sea and the atmosphere. The Director General had also mentioned in his statement the recent decision by the Board that one of the Agency's most important tasks was to prepare safety standards governing the dispersion into the environment of radioactive wastes resulting from the peaceful use of nuclear energy. [4]

20. The Stockholm Conference had formulated a large number of recommendations which would be discussed by the General Assembly of the United Nations in the near future. [5] He had been particularly pleased to hear the Director General mention Recommendations 57 and 75.

21. In Recommendation 57 the Stockholm Conference had recommended the Secretary-General of the United Nations to take steps to ensure proper collection, measurement and analysis of data relating to the environmental effects of energy use and production within appropriate monitoring systems. The design and operation of such systems should include monitoring the environmental pollution levels resulting from emissions from conventional power stations and from releases of oil and radioactivity.

22. In Recommendation 75 it was recommended that Governments should explore with the Agency and WHO the feasibility of developing a registry of releases to the biosphere of significant quantities of radioactive materials and that Governments should support and expand, under the Agency and appropriate international organizations, international co-operation on radioactive waste problems. The Agency's achievements in that respect were a source of great satisfaction to Norway, which welcomed action by the Director General to enable the Agency to participate fully in the implementation of the recommendations just referred to.

23. Public opinion on nuclear power was a matter of concern to all. In that regard he would like to mention a very recent Agency publication prepared in collaboration with WHO and entitled "Nuclear Power and the Environment". That publication, which was drafted in a condensed and readily understandable form, was a valuable

contribution to public understanding and acceptance of nuclear power. The Norwegian Government intended to translate the publication for home use.

24. The Director General had indicated that some additional and expanded activities relating to environmental problems posed by the large-scale introduction of nuclear power could be considered for implementation during 1973 and 1974. [6] The list of activities presented seemed to the Norwegian delegation to be of fundamental importance and he hoped to be able to study the proposed programme of work more closely.

25. Dissemination of information on nuclear matters was also one of the main tasks of the Agency. Norway would continue to support INIS and was convinced that it would be particularly useful to the smaller nations and the developing countries. Norway was also very satisfied with the co-operative spirit of the Agency staff working on INIS. He was pleased to say that Norwegian experts who had already received output from INIS on a pilot basis were very satisfied with it.

26. Two years had passed since the Conference had adopted the resolution on the amendment to Article VI, A-D of the Statute [7] which laid down the composition of the Board. The Norwegian Government hoped that a sufficient number of Member States would respond to the resolution adopted two years previously so that the composition of the Board would reflect the decision of the General Conference.

27. Mr. KABBANI (Saudi Arabia) said he was particularly impressed with the harmony and efficiency of the work of the General Conference under the guidance and courtesy of its President.

28. The Agency showed remarkable vitality and dynamism in its response to the problems of the nuclear age. Such great problems as the depletion of natural resources, rapid population growth and deterioration of the environment had been brought into sharp focus by the Fourth International Conference on the Peaceful Uses of Atomic Energy held in Geneva and the Stockholm Conference. He was glad that the Agency was prepared to make significant contributions to the solution of those problems.

29. The delegation of Saudi Arabia was pleased with the Agency's efforts to adapt reactor and desalination technology to the needs of developing countries. In that regard the nuclear power station market survey [8] in a number of developing countries was particularly timely. Because of the size of the electricity grids in advanced countries and the consequent need to build extremely high-capacity power stations, there

[4] Ibid., para. 5.

[5] The texts of the recommendations are set out in United Nations document A/CONF.48/14, Part one, II, B.

[6] GC(XVI)/OR.152, para. 11.

[7] Resolution GC(XIV)/RES/272, para. 1.

[8] See document GC(XVI)/485, paras V.9.65-V.9.68.

was great danger that builders would devote all their research and development effort to very large reactors. That would be unfortunate, as 100 to 500 MW units were most appropriate for developing countries. In that respect the Director General had clarified certain policies of the Agency deserving the fullest support.

30. Several delegations had justifiably expressed their anxiety at the reduction in the funds allotted to technical assistance, a state of affairs that would jeopardize the Agency's future activities. Everyone foresaw an increasing diversification of the Agency's commitments and responsibilities and a greater demand for funds for safeguards, environmental studies, reactor safety, radioactive waste disposal and so on. Nevertheless, in his opinion such expenditure should not be made to the detriment of technical assistance programmes.

31. Saudi Arabia hoped the Agency would find the means of effecting savings through improved efficiency and rationalization without resorting to reduction of its technical assistance programmes or promotional activities.

32. Mr. SOEIRO de BRITO (Portugal) congratulated the President on his election, which would certainly guarantee efficient conduct of the Conference's work. He also expressed his gratitude to the Government of Mexico which, through its invitation to hold the session in Mexico City, had enabled the participants to become acquainted with the glorious past and remarkable progress of the country.

33. Portugal's main nuclear activities were conducted by the Portuguese Atomic Energy Board whose principal organs were the Office of the Chairman, the Planning Department and the three Operational Departments. The Office of the Chairman carried out managerial and administrative functions; the Planning Department prepared and co-ordinated the Board's programme and ensured co-operation between the Board and other national and international organizations; and the Operational Departments included a nuclear physics laboratory with a staff of 500 experts, of which one third were university graduates.

34. The laboratory research programmes included, inter alia, work on nuclear physics, neutron chemistry and radiochemistry, radioisotope production and applications, nuclear fuel metallurgy, the development and production of electronic measuring and analysis equipment, and radiation protection.

35. The Mining Department was responsible for the prospecting and exploration of uranium and other materials needed for nuclear activities. At the present time it was working a Portuguese ore deposit at Urgeirica.

36. The Nuclear Power Reactor Department was in charge of the studies and regulatory activities required in connection with the National Nuclear

Power Programme. A study made by that Department had shown that hydro power would not suffice to satisfy the country's electricity requirements and so there had to be a reversion to thermal production, either in conventional or in nuclear power stations. Bearing in mind the present cost of those energy sources the study had concluded that introduction into Portugal's electricity grid of a nuclear power station of 500-600 MW would be possible and desirable by the end of the decade and would raise the total installed nuclear capacity to 3000 MW by 1990 and to 7000 MW by the end of the century. The Atomic Energy Board was being prepared for the functions of licensing and inspection of nuclear power stations, since their acquisition and operation had been entrusted to electric utility companies.

37. Portugal was not only collaborating with the Agency and the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development but was also preparing or had already concluded a number of bilateral agreements with Brazil, France, the Federal Republic of Germany, South Africa, Spain, the United Kingdom and the United States.

38. Portugal was keenly interested in the Agency's activities and had decided to increase its voluntary contribution to the General Fund to \$4500.

39. Mr. QUARTEY (Ghana) congratulated the President, whose unanimous election showed the esteem in which he was held by all delegations. He welcomed Bangladesh, recently admitted to membership of the Agency, [9] and thanked those Member States whose wise appreciation had made it possible to accept the candidature of a new State without complications.

40. While not wishing to revert to the lengthy discussion which had taken place in the Programme, Technical and Budget Committee, he noted that the Agency's budget showed an increase of about 8%, [10] allegedly due to salary and wage increases and to the revaluation of various currencies. As far as the programme activities were concerned, however, there was in reality a decrease of about 1%; [11] that decrease was particularly regrettable in view of the fact that the programme comprised activities relating to atomic energy applications in food, agriculture and medicine, which were of great interest to Ghana and to other developing countries.

41. The target for voluntary contributions to the General Fund had been set at \$3 million, [12] but even if that figure were achieved, the purchasing power would be of the order of \$2 million, in

[9] Bangladesh became a Member on 27 September 1972.

[10] See document GC(XVI)/485, para. I.19.

[11] Ibid., para. I.23.

[12] Ibid., para. I.28.

other words the same as the target for 1962. The Agency's technical assistance programme was financed mainly by voluntary contributions paid by Member States, and Ghana was particularly grateful to the Agency for providing assistance for the implementation of projects selected by the recipient Member State rather than by the Agency itself. In spite of financial difficulties, Ghana would therefore make a voluntary contribution higher than that based on its assessed contribution, and he expressed the hope that all Member States would rapidly meet their obligations in that respect.

42. At the fifteenth regular session Ghana had expressed its fear that safeguards expenditure would increase to the detriment of technical assistance, [13] and those misgivings still existed. The funds allocated to technical assistance were not adequate, and the method of financing was not satisfactory. One might have assumed that, since the Agency's main obligation towards developing countries was the provision of technical assistance, the necessary funds would be charged to the Regular Budget; perhaps the Board of Governors could pay some attention to that problem.

43. Referring to the amendment to Article VI, A-D of the Statute, he noted that some 20 acceptances were still necessary for the new text to come into force. That amendment was in conformity with the views of the vast majority of Member States and he urged that those Governments which had not deposited their instruments of ratification should do so without delay.

44. As the President of the United Mexican States had pointed out at the opening meeting of the session, the monopolization of the blessings of nuclear science and technology by highly industrialized countries was contrary to the principles of the universality of culture, [14] and the Agency should strive to become one of the main instruments for distributing the fruits of scientific progress by ensuring that the developing countries received a fair share.

45. Finally, he thanked the President, Government and people of Mexico for the excellent arrangements they had made to enable the session to be held in such a friendly and hospitable country.

46. Mr. RAHMAN (Sudan) congratulated the President on his unanimous election.

47. Although the Sudanese Government was represented at the General Conference for the first time, it had been associated with the Agency since 1961, during which year Agency experts had gone to Khartoum to help in planning the Medical Irradiation Centre. Thanks to the technical assistance provided by the Agency during

subsequent years, that Centre had now been operating efficiently for the past eight years.

48. Since 1961 the Sudan had received further technical assistance from the Agency for various other projects, especially in agriculture. Indeed, an article in the latest issue of the Bulletin described in detail various aspects of an agricultural project which had recently been launched under the technical assistance programme. The Sudan had also benefited from Agency fellowships, in particular at the International Centre for Theoretical Physics in Trieste. He wanted to take the opportunity to thank the Agency for all the assistance it had given to his country; his thanks were also due to the delegations of all those States whose contributions to the Agency had made that possible.

49. A short time ago, the Sudanese Government had taken important steps to organize activities in the nuclear field and a law had been passed providing for the establishment of an atomic energy commission. The Sudan had accepted the amendment to Article VI, A-D of the Statute, being convinced that the entry into force of that amendment would facilitate the work of the Board of Governors. The ratification of NPT by the Sudan was at present being studied and should take place before long.

50. The delegation of the Sudan noted with great satisfaction the importance attached to the Agency's survey on nuclear power requirements. That survey would be a great help to many developing countries in correctly evaluating the possibilities afforded by nuclear energy for their further development. He hoped that that general survey would also include the Sudan.

51. The Sudanese delegation considered that voluntary contributions to the technical assistance programme should be compulsory for Member States and that the Statute should be amended to that effect. One would then be able to assess more accurately the scope of the programme of assistance to be drawn up, so that difficulties arising out of the financial situation could be quickly resolved. However, it would not help in solving the main problem, namely the limited amount of funds available. In that connection he supported previous speakers in urging the advanced countries to consider seriously the possibility of making large financial contributions, which would make the Agency a powerful and effective international organization. In conclusion, on behalf of the Sudanese Government, he wished to thank the Mexican Government for all the hospitality it had shown to the Conference participants in the magnificent locale of Mexico City.

● The meeting rose at 5.30 p.m.

[13] GC(XV)/OR.148, para. 119.

[14] GC(XVI)/OR.151, para. 23.