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RECORD OF THE ONE HUNDRED AND FIFTY-FIFTH PLENARY MEETING

Held in the conference centre of the Secretariat of External Relations, Mexico City, on Thursday, 28 September 1972, at 4.25 p.m.

President: Mr. FLORES DE LA PEÑA (Mexico)

* A provisional version of this document was issued on 31 October 1972.

** GC(XVI)/490.

The composition of delegations attending the session is given in document GC(XVI)/INF/139/Rev.3.

THE RECORD

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

1. Mr. OTERO NAVASCUES (Spain) said that Spain's national electric power development plan was proceeding at the anticipated rate and that 30% of the country's installed generating capacity would be nuclear by 1983.

2. During the period 1972-83 Spain would need to obtain on the domestic market experts' services, equipment and technical know-how to a value of 120 thousand million pesetas, an amount which warranted the efforts which his country was making to create its own nuclear industry.

3. Three nuclear power stations had been ordered in 1972, two of them with two 900-MW reactors each and the third with one reactor of the same power. Under an agreement between the administration and the operators of the power stations in question, the same reactor type had been chosen for all the stations in order to facilitate the creation of a domestic capital equipment industry which, with the help of foreign companies, would enable Spain to carry through its nuclear power station programme. An invitation to submit tenders for a sixth reactor had been issued recently and it was expected that authorization would soon be given for the construction of a seventh reactor.

4. Several national enterprises had combined to form a joint company for the design and manufacture of components for the power stations mentioned, the Junta de Energía Nuclear (Nuclear Energy Board) assuming overall technical responsibility for research and evaluation. In a similar manner, the Empresa Nacional de Uranio (National Uranium Company) had been established with public and private funds; likewise assisted by the Junta de Energía Nuclear, it would deal with questions of fuel cycle technology.

5. In 1972, the 480-MW Franco-Spanish nuclear power plant at Vandellós had begun operating on a trial basis and had already attained 90% of its nominal rating, while the José Cabrera and Santa María de Garoña stations were continuing to operate normally. The three stations together constituted an installed capacity of 1053 MW.

6. At the beginning of the current year, Spain had started implementing its third Four-Year Plan of Economic and Social Development. Nuclear research figured prominently under "Research and development", with particular attention to be paid to breeder reactors, the nuclear fuel cycle and desalination.

7. Progress in radioisotope applications had continued and a symposium on isotope generators had been held in Madrid during the spring of 1972 by the European Nuclear Energy Agency of the Organisation for Economic Co-operation and Development and the Junta de Energía Nuclear.

8. The Institute for Nuclear Studies had continued with its courses in nuclear engineering, isotope applications and other subjects, and two new chairs had been created - one of solid-state physics and one of biophysics. Fellowships for training at the Junta de Energía Nuclear had been awarded to 12 foreign candidates through either the Instituto de Cultura Hispánica (Institute of Hispanic Culture) or the Agency.

9. Spain had continued to collaborate with various countries and, in January of the current year, had concluded an agreement for co-operation in the nuclear field with Chile.

10. The Spanish delegation appreciated the clarity and conciseness of the documents prepared for the session. It had examined the draft budget for 1973 [1] and was alarmed to see that the allocations for technical assistance, which had represented 19% of the budget in the previous year, had undergone a slight decrease in terms of relative value. That was regrettable, for technical assistance was, after all, the cornerstone of the Agency's activities and one of the surest means of achieving world peace and harmony on the basis of universal justice.

11. In 1974, furthermore, technical assistance would be receiving only 17% of the budgetary resources; in other words, the decline in the amounts allocated to that activity was continuing. It was to be hoped that appropriate corrective action would have been taken by the time the General Conference met in 1973.

12. Spain was making a voluntary contribution of $30 000 and was seriously considering the possibility of increasing the number of fellowships offered to the Agency each year. The Spanish delegation approved the Agency's programme of seminars, symposia and conferences; it would, however, like to see the symposium on atmospheric transport of radioactive materials and the regional study group meeting on safety and environmental protection included among the important meetings.

13. Mr. LE-VAN-THOI (Viet-Nam), warmly congratulating Mr. Flores de la Peña on behalf of the Viet-Namese delegation on his unanimous election to the post of President of the Conference, wished also to express his gratitude to the Government of the United Mexican States for its hospitality.

14. He was pleased to note that during the past year, thanks to the Secretariat's diligence, a considerable number of the safeguards agreements required in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) [2] had been concluded. The Agency had made commendable efforts in exploiting the benefits of the atom for peaceful purposes, especially in agriculture, and in attempting to ensure rapid

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[1] GC(XVI)/485.

[2] Reproduced in document INFCIRC/140.

dissemination of nuclear knowledge through the International Nuclear Information System (INIS). It was also encouraging to see that the Agency was completing the market survey of nuclear power for developing countries and taking an active part in work aimed at protecting the environment against pollution.

15. The Viet-Namese delegation considered that the Agency deserved the highest credit for never having neglected its technical assistance and promotional work. It was to be regretted, however, that despite the Agency's best efforts the proportion of technical assistance requests that could be met had diminished appreciably in 1972. That state of affairs was due to the general fall in the value of money, added to the chronic penury of the Agency's own resources.

16. To help the Agency overcome that difficulty during the next year, his delegation wished to urge all Member States to support the Board's proposal that the target of $3 million for voluntary contributions should be maintained [3] and the amount of the Regular Budget increased by 8.8% in comparison with the past year. [4] Without the combined efforts of all, especially the advanced countries, the Agency would not be able to implement its programme of activities for 1973, and the programme for the following six years would undoubtedly suffer.

17. That programme, in his delegation's opinion, had been the subject of careful and rational planning and deserved to be approved as a whole. The document setting forth the programme, very concise in its new format, not only clearly showed the evolution of the various proposed activities of the Agency but also laid down the guidelines for concerted international action, guidelines which would be of great value to Member States and help them in orienting their nuclear programmes towards more active regional and international co-operation.

18. As regards regional co-operation in particular, the Viet-Namese delegation had learned with pleasure that the Regional Co-operative Agreement for Research, Development and Training related to Nuclear Science and Technology, concluded among the countries of Asia and South East Asia, had entered into force in June. [5] It earnestly hoped that a certain number of pilot projects of common interest to all countries in the region would be implemented in the near future under the auspices, and with the help, of the Agency and advanced countries.

19. The first co-operative projects should, in his view, relate to subjects of practical research which could, within a reasonable time, bring about a clear improvement in the economic and social conditions of the countries in the region. That would be an irrefutable proof of the benefits of the atom and of the usefulness of, and the need for, regional co-operation; Governments would thus be encouraged to make every effort to collaborate in integrating research projects into a regional framework. His country, for its part, was willing to co-operate in the application of nuclear techniques in medicine and agriculture, especially in activation analysis and the preservation of food-stuffs by gamma rays.

20. Another, no less important, sphere of regional co-operation was systematic training of medium-level technicians. As his delegation had pointed out on several occasions at previous sessions, the lack of technical personnel was a serious handicap besetting his country's nuclear projects. The Agency had played an effective role in the training of senior personnel by awarding fellowships and organizing seminars and courses at the regional and interregional levels. The problem of training medium-level technicians nevertheless remained, and could only be solved radically within the framework of regional co-operation with the help of the Agency and other international and regional organizations. The Organization of the Ministers of Education of South East Asia had given proof of its special interest in that activity by holding in Saigon in December 1971 a seminar on the peaceful uses of atomic energy.

21. Through its participation in the current session, the Government of Viet-Nam wished to give evidence of its continued interest in the progress achieved by the Agency in the pursuit of its objectives. Although in the past year his country's efforts in the peaceful uses of nuclear energy had inevitably been very limited owing to the particularly difficult situation prevailing there, he was certain that its research programme, modest as it was, would form a good basis of work for the better days to come. He fervently hoped that, in the very near future, Viet-Nam would be able to associate itself more closely and effectively with the great work being carried out by the Agency in extending the benefits of the atom to all nations.

22. Mr. SETHNA (India) congratulated the President on his unanimous election and thanked the Mexican authorities for having invited the Conference to meet in Mexico City, for the excellent arrangements and for the hospitality it had extended to participants.

23. He welcomed the Agency's newest Member State, the People's Republic of Bangladesh, [6] with which India had very cordial relations. Assuring Bangladesh of his country's complete co-operation, he said he expected that the new Member State would play an important and growing role within the Agency.

24. The work of the Conference had been considerably facilitated by the excellent

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[3] GC(XVI)/485, para. I.28.

[4] Ibid., para. I.19.

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

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

documentation presented by the Director General. Under Mr. Eklund's wise leadership the Agency had made great progress towards achieving the objectives enshrined in the Statute. The Fourth International Conference on the Peaceful Uses of Atomic Energy, which had been a further historic step along that path, had provided evidence of the Director General's administrative qualities. The Indian delegation hoped that Mr. Eklund would continue in office for many years to come.

25. India was happy to note that the Agency was assuming ever wider responsibilities. As far as regulatory activities were concerned, substantial progress had been made in the negotiation and implementation of safeguards agreements - project agreements, transfer agreements, and agreements in connection with NPT.

26. The Agency had also taken a keen interest in the important question of the effects of nuclear energy on the environment. However, he noted with concern that the promotional activities of the Agency, financed from its annually increasing budgets, had been somewhat curtailed or, at best, had remained stationary. The Indian delegation hoped that the growing importance which was being attached to the Agency's regulatory functions would not lead to a situation where the Agency's principal objective under the Statute - to seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world - would no longer receive highest priority. Moreover, it was a statutory requirement that, in carrying out its functions, the Agency should not make assistance to Members subject to any political, economic, military, or other conditions incompatible with the provisions of the Statute.

27. The untimely death of Mr. Sarabhai, on 30 December 1971, had been a great loss for India. The numerous messages of condolence received by the Indian authorities had eloquently demonstrated the high esteem he had enjoyed in the world of science, and especially in the domain of the peaceful uses of atomic energy.

28. During the past year, India had maintained its rate of progress in the peaceful uses of nuclear technology and in fundamental research. On 22 May of the current year, the PURNIMA reactor, a zero-power plutonium-fuelled fast reactor for neutronic investigations in multiplying assemblies, had become critical. It was being used to obtain the basic data required to design a pulsed fast reactor at the Reactor Research Centre recently established at Kalpakkam, near Madras.

29. On 11 August 1972, India's second power reactor, which was at the same time the first unit of the Rajasthan Atomic Power Station, had become critical. The collaboration between Atomic Energy of Canada Limited and Canadian industry on the one hand and the Indian Atomic Energy Commission and Indian industry on the other was a notable example of international co-operation in the peaceful uses of atomic energy. All major civil engineering work for the second unit of that project had been completed and the installation of nuclear and conventional components was in progress. The second unit was expected to achieve criticality in the first half of 1975.

30. The power reactors at the Madras Atomic Power Project, which had already reached an advanced stage of construction, would become critical some time later. India had also recently announced the construction at Narora, near Delhi, of its fourth nuclear power station, which would consist of two units each producing 235 MW(e).

31. In a statement made at the Conference's previous session his predecessor had mentioned that India had shortly before embarked on a programme for the design and construction of a fast breeder test reactor in collaboration with France. [7] That reactor, with a capacity of 15 MW(e), would be basically similar to the Rapsodie reactor at Cadarache in France, but modified for power generation. It would form part of the Reactor Research Centre being set up near Madras. A nuclear fuel complex had been set up at Hyderabad to produce the nuclear fuel required for the thermal reactors under construction and planned as well as Zircaloy materials for the cladding of the fuel elements.

32. Apart from power generation, India had continued to make progress in many peaceful uses of the atom. For example, a project for the radiosterilization of medical products had been undertaken by the Atomic Energy Commission in co-operation with the United Nations Development Programme, the Agency acting as executing agency. With the irradiation plant it would be possible to sterilize, initially, approximately 3300 cubic metres of medical and surgical products and other materials of interest to hospitals and to the pharmaceutical industry. Ultimately, the capacity of the plant could be increased tenfold, so that it would be able to process approximately 33 000 cubic metres of material annually. The construction and operation of the plant, which was expected to be commissioned towards the end of 1973, would also help in acquiring the skills needed to build other important irradiation facilities, not only for the radiosterilization of medical products but also for other forms of radiation processing.

33. Permissible levels of radioactive contamination in working areas and in the environment were set in accordance with very rigid standards and were related to the working and environmental conditions obtaining in India. It was India's policy to establish at each major nuclear installation environmental surveillance laboratories for undertaking local studies on micrometeorological conditions, population living habits and possible contamination of products harvested in the vicinity of the installations. Such investigations were directed towards the evaluation of contamination pathways at different levels of the food chain, population living habits and

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[7] GC(XV)/OR.146, para. 96.

occupational distribution, and contaminant concentration factors in the different environmental areas. The population exposure control programme involved body burden measurement operations for assessing the impact of radioactive releases on the population in general and for calculating the body elimination rates of the nuclides ingested by people living in the vicinity of the radiation areas under surveillance.

34. India was dedicated to the principle and practice of international co-operation in the peaceful uses of atomic energy and was happy to share its experience and its expertise with the Agency and with other countries. At the same time, it gratefully acknowledged the assistance which it received from the Agency and from other countries. During the year under review, India had ratified agreements on co-operation in the peaceful uses of atomic energy with the Socialist Republic of Romania and the Federal Republic of Germany. It was glad to note that under agreements with other countries and under Agency programmes satisfactory progress had been made in various fields, such as information exchange, fellowships and expert missions, the placement of trainees, and the organization of seminars. His country was particularly gratified that a joint FAO/IAEA Symposium on Recent Advances in the Radiation Preservation of Food was to be held at Trombay from 13 to 17 November 1972. About 100 scientists would be attending the meeting. Immediately afterwards, FAO and the Agency would also be convening a panel on the application of food irradiation in developing countries.

35. The Government of India took great pride in the fact that the Regional Co-operative Agreement for Research, Development and Training related to Nuclear Science and Technology had entered into force on 12 June 1972. The conclusion of the agreement, which covered South Asia, South East Asia and the Pacific and Far East, held much promise of effective collaborative efforts for all parties under the auspices of the Agency.

36. The Indian delegation had noted that the Board had proposed to set the 1973 target for voluntary contributions at $3 million. He was happy to announce that India would be contributing the equivalent of $45 000 in Indian currency, which was a little higher than the amount corresponding to its base rate of assessment under the Regular Budget.

37. Mr. ANINOIU (Romania) associated himself with the congratulations offered to the President on his election and expressed heartfelt thanks to the Mexican Government for its generous hospitality.

38. Analysis of the Agency's activities showed that it sought to establish world peace and co-operation by promoting development of the peaceful uses of atomic energy. There were numerous sources of conflict in the world but it was hoped that they would be eliminated. Romania, to the extent of its ability, was actively seeking to promote peacefully the cause of international security and co-operation. It was firmly convinced that the activities devolving upon international organizations could not meet with full success until peace prevailed throughout the world and countries exercised policies of mutual respect.

39. It therefore hoped to accelerate general nuclear disarmament and attached great importance to a world disarmament conference in which all countries of the world would participate on an equal footing. In that respect the Agency should promote the establishment of a specific programme to halt the production of nuclear weapons and draw up a security treaty, universal in scope and obligatory in character, which would both prohibit the further production of fissionable materials for military uses and release existing stockpiles of such materials for peaceful purposes.

40. As the President of Romania had stated, the time had come to silence the clangour of arms for ever, to establish lasting world peace among all nations and ensure that countries devoted all their material and human potential to economic and social development and to the solution of problems of vital importance for the future of all mankind.

41. It was incumbent upon the Agency to direct all its efforts toward international co-operation in the fields of science and industry by devoting special attention to the needs of the developing countries. To that end the Romanian delegation proposed that the Agency should include in its future programme the elaboration of an international agreement on universal co-operation in the peaceful uses of atomic energy, under which all States would, without discrimination, benefit from the results of the conquests of science and technology in that field. A new impulse should be given to co-operation by replacing the concept of "assistance for development" by that of "co-operation for development". Such collaboration should be founded on the active participation of all countries and not simply limited to the granting of technical assistance by one group of countries to another.

42. The Agency's programme should continue to maintain a balance among its principal activities, especially with regard to accomplishment of the aims of NPT. However, the Agency could not perform its work effectively unless all countries participated in its activities. For that reason it was completely anomalous that the German Democratic Republic, the Democratic People's Republic of Korea and the Democratic Republic of Viet-Nam were not yet members of the Agency and steps should be taken to remedy that situation.

43. Romania was making considerable efforts to accelerate its economic progress, which was linked to the peaceful use of atomic energy. It had therefore paid special attention to the orientation of research tasks involving the

application of nuclear technology in industry, agriculture, medicine, biology, etc. The results obtained were very satisfactory. Nuclear power stations would play a preponderant role in nuclear power programmes. In anticipation of the construction of nuclear power plants in the near future, the Romanian Government had decided to found an institute of nuclear technology. He took the opportunity to thank the Agency for its assistance in the setting up of that establishment.

44. The annual report of the Board was proof of the efficiency of the Agency's activities, particularly with regard to nuclear power. The manner in which the Agency had carried out its work in that field represented a guarantee that it would play an active role in the industrial applications of atomic energy. Parallel with that activity, the Agency had exercised wise judgement in the application of isotopes and radiation in industry, agriculture, medicine, biology, hydrology, etc. The results obtained in the peaceful application of nuclear explosions were also a source of satisfaction. In the future that activity should be extended to all the technical and economic aspects of the problem.

45. The Agency should pursue its efforts to train staff in the field of nuclear power. Co-operation with other organizations within the United Nations family would accelerate the training of technical personnel.

46. The Agency's draft programme for 1973-78 had been elaborated with competence and clear vision and took into account various areas of international co-operation ranging from nuclear power to basic research. The Secretariat should carry out an analysis of the scientific aspects of international co-operation in order to determine properly the needs of the developing countries.

47. The Romanian Government would contribute in the same proportion as previously to the 1973 Operational Budget and would make available to the Agency ten fellowships of one year's duration.

48. He congratulated the Director General and the Secretariat on their work and assured them that Romania would provide full support for the Agency's activities.

49. Mr. HOSSAIN (Bangladesh) congratulated the President on his election and thanked the Conference for having approved Bangladesh for membership of the Agency [8]. The Conference had thereby acknowledged that Bangladesh was capable of implementing a nuclear energy programme within the framework of the Charter of the United Nations and in accordance with the objectives of the Agency.

50. The activities of Bangladesh in the realm of nuclear energy fell within the purview of the Ministry of Scientific and Technological Research, and it was planned to set up an atomic energy commission to co-ordinate the relevant programmes. Those activities were divided into two general categories - nuclear power production and the application of radioisotopes and radiation sources in medicine, agriculture and industry. Additional fields were pure and applied research and prospection for radioactive ores.

51. The Government had commissioned a high-level committee to determine the country's energy needs and to advise on the feasibility of constructing nuclear power stations. A large number of engineers and scientists had already been trained in that area and a limited research programme on nuclear technology was under way. A reactor design institute would soon enable nuclear engineers to improve their knowledge, and his country hoped to receive assistance from more advanced countries and from the Agency.

52. Deposits of heavy minerals, specially rutile, ilmenite and zircon, together with traces of monazite, had been discovered, and a pilot extraction plant would make it possible to decide whether their exploitation could be considered economically viable.

53. The Atomic Energy Centre at Dacca had obtained interesting results in pure and applied research, and several theoretical physicists of Bengali origin had been granted research fellowships at the International Centre for Theoretical Physics at Trieste (the Trieste Centre).

54. In agriculture it had proved possible to obtain four improved varieties of jute and four of rice by means of irradiation. The four rice varieties had been tested against 73 other varieties, and two of them, together with a Philippine variety, had been judged the best by the International Rice Institute. The new seed had yielded as many as nine tons of rice per hectare, and the crop had matured a month earlier than the best variety available at present. In addition, the protein content was higher. The new rice and jute varieties were to be distributed throughout the crop-growing regions. The success attained had encouraged Bangladesh to set up an institute of nuclear agriculture, which was scheduled to start work in 1973.

55. In food preservation by irradiation, laboratory experiments had been carried out on the disinfestation of rice and wheat, and on prolonging the shelf-life of certain food-stuffs, more particularly fish.

56. There were nuclear medicine centres in existence at three university medical faculties and that number was due to be raised to eight. At a later stage, that area of study would be included in the higher educational courses. The university medical faculties were organizing their own deep radiotherapy services, and a personnel dosimetry service had been established for them.

57. Implementation of the research programme had demonstrated that Bangladesh was capable of setting up the technological infrastructure

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[8] By Resolution GC(XVI)/RES/287, para. 1.

necessary for developing its own electronics and precision instrument industries, and for introducing advanced techniques into research methods. He hoped that, in the light of the progress achieved, the Agency would continue its assistance on an increased scale in the form of research contracts, fellowships and equipment.

58. Generally speaking, the Agency's technical assistance had been remarkably effective, but there was need for systematic evaluation of the advantages gained so as to ascertain whether it might not be worth while channelling more resources into major joint projects. The Agency had set up research centres only in Europe; it should also consider establishing an institute of nuclear science and technology in Asia. Furthermore, scientific meetings sponsored by the Agency and the Trieste Centre should be held in developing countries so as to ensure that the participants from those countries gained maximum benefit.

59. The nuclear power market survey was a commendable venture. In that connection the advanced countries should standardize 100-300 MW reactor designs so as to cut down the cost of power stations in that range, and to permit their incorporation into national grid systems. The advanced countries and international financial bodies should approve low-interest loans for the construction of the power stations in question.

60. As a country with 75 million inhabitants, Bangladesh was rapidly rehabilitating its economy and already moving towards the legendary goal of Sonar Bangla (Golden Bengal); sure of the good will of all countries and international organizations, Bangladesh would be able to play its part in the community of nations. In conclusion, he commended the Agency and the Director General on the work that had been accomplished and thanked the people and Government of Mexico for their hospitality.

61. Mr. IVANCHEV (Bulgaria) congratulated the President on his unanimous election. He thanked the Mexican Government for its hospitality and welcomed the People's Republic of Bangladesh as a new Member of the Agency.

62. In that connection he expressed the belief that the German Democratic Republic would also not be long in gaining admission to the Agency. That would be completely in conformity with the principles of the Agency and would assist it in attaining its high objectives. It was appropriate to recall that the German Democratic Republic was one of the most highly industrialized countries in the world and had been one of the first to conclude with the Agency an agreement to implement Article III of NPT.

63. Thanks to the continuous expansion of its activities the Agency had acquired an exceptional expertise in the peaceful uses of atomic energy. In discharging the obligations incumbent upon it in connection with NPT, it had increased its prestige on the international plane. Like all the other socialist countries, Bulgaria was conforming to the terms of Article III of NPT.

64. The Bulgarian delegation had studied the activities of the Agency in all their aspects and accorded them its overall approval. Despite its limited financial means the Agency had always endeavoured to assist developing countries to draw the maximum benefit from nuclear energy. Its programme for 1973-78 conformed to the principles laid down in the Statute and took into account the constant progress of science and technology. The Secretariat had elaborated the programme with care, so that it faithfully reflected all the important aspects associated with the utilization of nuclear energy for the benefit of mankind. Technical assistance continued to be one of the Agency's principal activities. With the development of science and technology it was playing a more and more definite role in agriculture, biology, physics, public health, power engineering, waste management and other spheres involving the peaceful utilization of nuclear energy.

65. In that connection the Agency should be congratulated on its future plans to compensate for the lack of resources by grouping related projects together, in order to achieve optimum utilization of its specialist personnel. Those measures would make it possible for larger sums to be allocated for the purchase of the necessary equipment. At a certain stage of development the services of experts could assume exceptional importance, and Bulgaria proposed to apply for expert assistance to deal with a specific problem. Economies might also have been achieved by denying technical assistance to States which could use it indirectly for military purposes. South Viet-Nam, South Korea and Israel fell into that category and the Bulgarian delegation could not approve of assistance being given to those countries.

66. Bulgaria had already stated its satisfaction with the Agency's work in the field of safeguards and it was ready to support any measure which would facilitate the Agency's supervisory operations.

67. Since there was a great need to increase world food supplies a particularly important role devolved upon the Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture. However, the contribution made by the Agency to the financing of the Division's activities seemed too high in relation to the functions it was called upon to perform. When the budget for the Division was prepared, the Agency should have insisted that FAO's contribution be increased, since the latter was more directly concerned with food and agricultural questions.

68. The work of the Agency in the information field was extremely valuable. Bulgaria therefore lent its support to the proposal to extend the operations of INIS to include the full subject scope as from 1973. For more than a year Bulgaria had been participating in the preparation of input

data and would shortly be adopting a more advanced system for transmitting them.

69. As regards radioactive contamination of the environment, the Agency was competent not only to give expert advice but also to draw up appropriate standards. Bulgaria would support any measures the Agency might undertake to reach a satisfactory solution to that problem. The latter was closely allied to the question of radioactive waste disposal. Bulgarian experts had succeeded in devising a method for treating low-activity waste with the aid of locally produced bitumen and natural sorption agents, and had also developed the necessary equipment.

70. Nuclear technology and radioisotope techniques were now playing an ever-increasing role in solving problems vital to the development of various countries. In Bulgaria the application of radioisotopes was constantly increasing, particularly in the following fields: medicine, geology, flaw detection, agriculture, hydrology and power engineering. Several medical institutions were now able to apply modern methods of diagnosis and treatment and part of the equipment used for that purpose had been supplied by the Agency. Nuclear physics techniques were being used for the prospecting and working of reserves of coal, ferrous and non-ferrous metals, oil and natural gas.

71. In large mechanical engineering works and assembly shops gamma spectroscopy was making it possible to detect manufacturing defects at minimum cost. In agriculture, Bulgarian experts had also achieved positive results. Through the application of radiation they had obtained high-yield pea varieties with the protein content increased from 3% to 6%. In the case of maize and barley they had obtained radio-induced mutations which were of very great value to agriculture. The irradiation of seeds had served to stimulate plant growth to some extent.

72. Those results had been obtained thanks to the aid provided by the Soviet Union and to the collaboration of the socialist countries within the framework of the Council for Mutual Economic Assistance (COMECON). The consummation of that collaboration through the establishment of a joint undertaking, "Interatominstrument", of an international working group to study reactor designs and of several scientific and technical co-ordination boards could not fail to contribute to the rapid development of science and technology.

73. Bulgaria, whose socialist economy was developing successfully, was experiencing increasing energy requirements. At the end of 1944 the per capita energy consumption was 45 kWh, while in 1971 it had risen to 2230 kWh. In 1980 it was expected to be 6400 kWh, rising to 18 000 kWh by the year 2000. That rapid increase in electrical energy requirements had induced Bulgaria to make a survey of its conventional fuel reserves, the results of which had led to the decision to construct its first nuclear power station "Koslodui" having a water moderated and cooled reactor with an initial capacity of 880 MW(e), rising ultimately to 1760 MW(e). The construction of the power station was under way and the first reactor would be commissioned in 1974.

74. In conclusion he declared that his Government would not cease to support all the efforts made by the Agency to promote the peaceful utilization of nuclear energy for the benefit of mankind.

75. Mr. RAZAFINDRATANDRA (Madagascar) congratulated the President on his election and expressed his delegation's wish that the session would bring its work to a successful issue. He also thanked the Mexican Government for the hospitality it had shown the Conference.

76. Madagascar was a small country which, like most developing countries, had to solve many development problems, but which, having only limited financial resources, could not hope to tackle them all. Nevertheless, in the peaceful uses of atomic energy it had achieved some progress through the efforts of the few specialists at its disposal and the assistance provided by the Agency, the United Nations and certain friendly countries - assistance consisting in the services of experts, in the provision of equipment and fellowships, and in training programmes and research contracts.

77. Even so, as was doubtless the case in other developing countries, the technical assistance provided by the Agency was not sufficient; comprehensive studies would be needed if the funds required to finance the activities of such countries were to be found. Bilateral assistance from the advanced countries would also have to be increased in the years to come. The Malagasy delegation had noted with interest the pledges of contributions already made. On 20 June 1972 the Board had set at $3 million the target for voluntary contributions to the General Fund for 1973, subject, of course, to approval by the Conference. Madagascar would meet its financial obligations.

78. During the debate on the draft amendments to Article VI of the Statute at the Conference's session in 1970, Madagascar had been one of the Members that had suggested an adjournment for a few months in the hope of arriving at a compromise which might rally a large majority of votes [9]. That suggestion had not been accepted, and one of the proposed sets of amendments had been approved by the Conference by 54 votes [10]. According to the latest information received, only 44 Members had so far deposited their instruments of acceptance of those amendments [11].

79. Although Madagascar had abstained in the vote in question, it figured among those 44

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[9] GC(XIV)/COM.2/OR.54, para. 1.

[10] GC(XIV)/OR.142, para. 19.

[11] INFCIRC/159/Rev.2.

Members since it hoped for greater participation by the developing Members in the Agency's governing bodies. In order to bring the new text of Article VI.A-D into force as soon as possible, the Malagasy delegation wished to appeal to Members that had not already done so to accept the new Article VI of the Statute as early as possible. It was indeed astonishing that some Members which had been co-authors of the amendments and which had so staunchly defended them two years earlier had not yet deposited their instruments of acceptance.

80. Mr. KRASIN (Byelorussian Soviet Socialist Republic) wished to congratulate the President on his election and thank the Mexican Government for inviting the Conference to hold its current session in Mexico.

81. Before discussing the activities of the Agency, the Byelorussian delegation wished to emphasize that the agreements concluded between the Soviet Union and the United States, the agreement on West Berlin, and the agreements relating to co-operation between the Soviet Union and France and several other West European countries had created favourable conditions for a general détente, the establishment of good neighbourly relations and the consolidation of peace. It could be stated without exaggeration that during the past year the Agency had done useful work by strengthening co-operation in the peaceful uses of atomic energy. The safeguards functions which it had assumed under Article III of NPT had enhanced its authority at the international level.

82. After carefully studying the Agency's programme, Byelorussia noted with satisfaction that it had been prepared with care and that it took account of the numerous problems involved in the use of atomic energy for the good of the world as a whole.

83. As regards the various items of the programme, Byelorussia was satisfied with the work carried out by the Division of Nuclear Safety and Environmental Protection, which had in particular prepared standards governing the use of radioactive substances and drafted recommendations concerning the effects of radioactivity on the environment. It also approved the programme relating to nuclear power and reactors. The activities in that field concerned both advanced and developing countries. It was a familiar fact that the Division of Nuclear Power and Reactors was endeavouring to strengthen international co-operation in relation to the generation of nuclear power and other peaceful uses of nuclear reactors.

84. INIS had begun in 1972 to extend its operations to full subject scope without involving additional expenditure in the 1973 programme. The programmes relating to physical sciences and dosimetry were also useful. The activities in food and agriculture proposed for 1973-1978 took into account the main problems likely to be encountered in that field. A point that should be made, however, was that the Agency was bearing a considerably larger share of the cost of the Joint Division than FAO, a much larger organization. As regards the Department of Safeguards and Inspection, its programme had been prepared with care and would enable the Agency to satisfy the obligations it had assumed in connection with NPT; accordingly it deserved to be approved in full.

85. He expressed satisfaction that the People's Republic of Bangladesh had been admitted to membership of the Agency. That action was in conformity with the principle of universality which every international organization should apply. The German Democratic Republic, however, was still not a member of the Agency. Under Article IV of the Statute, any State which accepted the Statute, whether a Member of the United Nations or not, could become a member of the Agency. That applied fully to the German Democratic Republic, which accordingly fulfilled the conditions required for admission to the Agency. The German Democratic Republic had done significant work in the peaceful uses of atomic energy and was among the first countries to have signed and ratified NPT and concluded a safeguards agreement with the Agency. Its presence would help the Agency to discharge its growing obligations.

86. In 1972, the Byelorussian Soviet Socialist Republic would celebrate the fiftieth anniversary of its founding. During that period Byelorussia had created a vast industry, a diversified agriculture and a large complex of scientifc and higher educational institutions. It had several research institutes and a large group of highly qualified specialists. All that created favourable conditions for the application of atomic energy in the country's economy. Details of the work carried out in Byelorussia in the peaceful uses of atomic energy could be found in the brochure entitled "The Atom for Peace in Byelorussia", which was being distributed to all delegates.

87. Nuclear power was developing rapidly in many countries. The Institute of Nuclear Energy of the Byelorussian Academy of Sciences was carrying out original studies on the development of large nuclear power plants using a dissociating gas as coolant.

88. In view of the importance of the problems associated with fast reactor power stations, the Agency had been invited by the USSR State Committee on the Utilization of Atomic Energy to arrange a seminar on gas-cooled fast reactors in Minsk. The seminar had been held from 24 to 28 July 1972 and had been attended by 30 experts from ten countries, including Belgium, France, the Federal Republic of Germany, Japan, the United Kingdom and the United States, and three international organizations. Twenty-one papers had been presented. The Institute of Nuclear Energy had not only assisted in arranging the seminar, but had also demonstrated the work that was being done to develop power stations equipped with nuclear reactors cooled with a dissociating gas.

89. The experts had seen that the studies on breeders using helium, carbon dioxide and a dissociating gas were opening up new horizons for the development of nuclear power, and showed promise of leading to a substantial improvement in the economics of nuclear power. The Agency therefore had every reason to pursue that complex and important avenue of research and to encourage the countries concerned to unite their efforts with a view to resolving the problems.

90. In 1972 Byelorussia had been happy to receive the Director General of the Agency, to inform him of its progress in the peaceful uses of atomic energy and to show him several of the facilities of the Institute of Nuclear Energy which were used for the study of dissociating gases.

91. Byelorussia would continue to carry out work on a cost-free basis under contracts concluded with the Agency, and to exchange information with several countries. In 1972 the Institute of Nuclear Energy had been visited by experts from several countries, both individually and in groups, who had come to exchange experience and knowledge in nuclear power engineering, radiochemistry and the applications of gamma radiation. Staff of the Institute had also visited other countries for the same purpose.

92. The Byelorussian Soviet Socialist Republic was thus contributing substantially towards the strengthening of international relations and the exchange of scientific results. It was pleased with the increasing efforts being made by COMECON with a view to co-ordinating work in several socialist countries. The subjects that had been dealt with by COMECON included power stations equipped with breeder reactors cooled with dissociating gas.

93. It was to be hoped that international co-operation in the nuclear power field would help to accelerate the application of scientific achievements to the development of nuclear energy for peaceful purposes.

94. Mr. ELMEHRIK (Libyan Arab Republic) thanked the Mexican Government for its generosity in welcoming the participants of the sixteenth regular session of the General Conference, thus giving them an opportunity to admire the beauty of Mexico City, to see the progress made by Mexico in the realm of science and to appreciate its contribution to the strengthening of peace in its part of the world.

95. Realizing the importance of the peaceful uses of atomic energy, the Government of the Libyan Arab Republic had set up a national committee to promote them, to make the best use of the Agency's technical assistance programmes and to participate as closely as possible in its activities.

96. The Agency must make every effort to reduce the gap between the advanced and developing countries, as it was a fact that the former had used all possible means to secure domination in the nuclear field, whilst a number of developing countries were striving, with the utmost difficulty, to provide the simplest foundation for themselves. Unless the Agency followed a wise policy, the conflict of interest between the two groups of countries would lead it away from the objectives laid down in its Statute.

97. Libya was a vast country consisting of more than 90% arid land; it did not have steady sources of fresh water for drinking or irrigation. The implementation of agricultural and industrial projects had always been extremely difficult for that reason. Most of the large towns were on the Mediterranean coast, which was the only part of the country with a favourable natural environment. The only way of overcoming such unfavourable conditions was to acquire an abundant source of energy. Atomic energy had in fact proven itself in various regions of the world and could solve the water problem. Libya therefore wished to enlist the aid of the Agency and friendly countries in order to transform its desert regions into productive areas.

98. Libya was well aware of the serious financial problems the Agency had to contend with and was prepared to meet its responsibilities, as a Member State, to try to improve that situation. However, it was not always justifiable to take the gross national product as a criterion for fixing the level of a State's financial contribution: that could lead to errors of appraisal. It should not be forgotten that Libya was undertaking social and economic development programmes to make up for years of delay and stagnation, and that those programmes called for great efforts and involved heavy expenditure; his country would have to transform its society into a solid and active community, and to do that it had to solve problems of education and professional training, improve agricultural methods and establish a national industry. It had had to carry on a long struggle for its freedom and had been a field of battle during the Second World War, so that it had faced an overwhelming task of reconstruction.

99. However, those considerations did not cause the revolutionary Government of Libya to forget its duties to a larger community, and it would not fail to assist other countries when it could. Since it was a Member of such international organizations as FAO, WHO, and UNESCO, its opinions were heard at international conferences as had been the case, in particular, at the United Nations Conference on the Human Environment held in Stockholm.

100. The Government of Libya considered that the contributions it paid to the Agency were fairly assessed and represented the maximum it could afford.

● The meeting rose at 6.20 p.m.