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RECORD OF THE ONE HUNDRED AND SIXTY-THIRD PLENARY MEETING

Held at the Neue Hofburg, Vienna, on Thursday, 20 September 1973, at 10.40 a.m.

President: Mr. BOSWELL (Australia)

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** GC(XVII)/512.

The composition of delegations attending the session is given in document GC(XVII)/INF/145/Rev.2.

THE RECORD

GENERAL DEBATE AND REPORT FOR 1972-73 (GC(XVII)/500, 500/Corr.1, 510) (continued)

1. Mr. BOT (Netherlands), commending the Secretariat for its studies on the uses and supply of nuclear energy, said it was none the less desirable that co-operation in that field should be intensified with the United Nations agencies and other organizations such as the Organization for Economic Co-operation and Development and the European Atomic Energy Community (EURATOM) which were studying the world energy situation. As regards the possible energy shortage, for example, he stressed that the Agency should be enabled to play its due role within the United Nations family in collaboration with the other agencies concerned.

2. As for the need to provide more uranium enrichment facilities[1], to which the Director General had referred, the trilateral co-operation between the Federal Republic of Germany, the United Kingdom and the Netherlands on centrifuge enrichment offered very encouraging prospects.

3. In the field of the human environment, the Netherlands delegation felt that the budget estimates relating to nuclear safety and environmental protection bore witness to the importance the Agency attached to those problems, and fully approved them. It was happy to note that the Board had authorized the Director General to conclude arrangements with the United Nations Environment Programme (UNEP) for the execution of work relating to the impact of nuclear energy on the environment or to the use of nuclear techniques in environmental studies, and hoped that the Secretariat would be able to act with greater dynamism than the wording of paragraph 11 of the annual report (GC(XVII)/500) seemed to suggest.

4. The Agency's technical assistance programme was assuming increasing importance, and he had pleasure in announcing that his Government had decided, subject to parliamentary approval, to make a voluntary contribution of $40 000 to the General Fund.

5. Although the Netherlands delegation had noted with the greatest interest the market survey for nuclear power[2], he wondered whether its conclusions were fully justified, since experience showed that, contrary to what was stated in the survey, reactors with a capacity below 200 MW were very useful.

6. The Netherlands Government had learned with satisfaction that since January 1973 the International Nuclear Information System (INIS) had been providing full coverage of nuclear documentation. It attached great importance to that system and was supplying every year an increasing quantity of inputs; the number of items supplied would reach 4000 at the end of 1973 and probably 6000 in the following few years.

7. In his statement, the Director General had referred to the need for increased safeguards efforts and expressed his intention of seeking the advice of outside experts on the organizational set-up of the Agency.[3] The Netherlands delegation wished strongly to suggest that some of those experts should be recruited from non-nuclear-weapon States which had concluded with the Agency agreements for the application of safeguards on their territory.

8. One of the most important safeguards agreements had been signed in 1973 between the Agency and EURATOM, and he was pleased to announce that the agreement had been submitted to the Netherlands Parliament for ratification.

9. His delegation had noted with pleasure that the Agency intended to continue its activities on the irradiation of food-stuffs, which was of great importance to developing countries. The Netherlands already possessed substantial experience in the application of nuclear techniques to agriculture, and if the Agency envisaged co-ordinating a project in food irradiation on a technological scale, it would in principle be prepared to act as host country.

10. In his statement, the Director General had mentioned that the Agency should continue to avoid any breakdown into groups, regardless of whether they were inspired by region, ideology or stage of development.[4] In the opinion of the Netherlands delegation, however, groups of States could jointly solve problems relating to nuclear energy without damaging the legitimate interests of the Agency or other organizations.

11. The Netherlands Government was aware of the obligations which the Member States would have to assume owing to the financial difficulties arising from currency fluctuations. It was therefore willing to accept some increase in the Agency's budget. It felt, however, that decisions should be taken by common consent within the United Nations system in order to face a situation which had world-wide implications.

12. On behalf of the Netherlands Government, he wished to congratulate the Director General on his reappointment.

13. Mr. BEESLEY (Canada) shared the Director General's view that from time to time the organizations should submit themselves to self-scrutiny and consider whether certain changes were necessary[5]. In the case of the Agency he believed that such self-examination yielded a satisfactory picture. Taking account of world developments and the fact that it was becoming more and more

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[1] GC(XVII)/OR.160, para. 25.

[2] For details, see document GC(XVII)/506.

[3] GC(XVII)/OR.160, para. 54.

[4] Ibid., para. 67.

[5] Ibid., para. 14 et seq.

apparent that the use of atomic energy presented the best solution to the problem of the world's increasing demand for electric power, the Canadian delegation believed that, as in the past, the Agency's main objectives should be to enable the entire world, and in particular the developing countries, to benefit from the potentialities of nuclear power, and to apply safeguards so as to ensure that atomic energy was used only for peaceful purposes. The Agency had been able to establish a satisfactory balance between those two aspects of its programme and should continue to do so.

14. Increased safeguards responsibilities were incumbent upon the Agency as a result of the entry into force of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)[6] and of the increase in the number of nuclear power stations in service. Canada welcomed the increased importance which the Agency attached to environmental protection and it hoped that co-operation could be established in that area between the Agency and UNEP. The Agency had also maintained its technical assistance activities and its programme for the promotion of nuclear science and technology.

15. In many regions of the world, the question arose whether conventional fuel resources were adequate to meet the ever-growing demand for power, and the pollution caused by the use of those fuels was causing grave concern. The utilization of nuclear energy offered a solution to a great many problems arising in that area. That was why Canada, which already had a natural uranium/deuterium heavy-water moderated reactor of the CANDU type and also had, in the Pickering Generating Station, the largest operational nuclear power station in the world, intended to develop its nuclear capacity considerably during the next decade, and at an appropriate time to construct installations for producing the heavy water needed to supply the reactors, so that each of them could be put into operation as soon as it was completed. The Pickering Station (2160 MW) was to be duplicated, as would the Bruce Station (3000 MW). That expansion, together with the construction of another 3000-MW station, would account for a total new construction of over 8000 MW in the next decade. Canada was gratified that the CANDU power stations which had been constructed abroad - in India and Pakistan - were operating successfully. Atomic Energy of Canada, with its Italian associate Italimpianti, was to conclude a contract for the construction of a 600-MW CANDU nuclear power station in Argentina, and a number of other countries were interested in the nuclear power stations which Canada could furnish. The Canadian nuclear industry had therefore examined with great interest the nuclear power market survey which the Agency had carried out in developing countries. That survey gave an interesting example of the type of assistance the Agency could provide to developing countries, which were having to cater for the increasing energy demands of their populations and industries, and it was to be hoped that the Agency would undertake other studies of a similar nature.

16. In order to cope with the expected increase in nuclear power production, a further 1.5 million tons of low-priced uranium would have to become available during the next 15 years. For its part, Canada had sufficient resources to be able to increase its production above the present level of about 5000 tons per year, but it was to be feared that the present price of uranium on the world market was not high enough to encourage mining companies to carry out the necessary prospecting and exploitation. The Canadian Government was encouraging industry to subject raw materials to as much processing as possible before exporting them. The firm Eldorado Nuclear Limited, which was expanding its processing plants, would have to increase the capacity of its uranium hexafluoride production facility, and various Canadian companies had recently considered the possibility of constructing uranium enrichment plants.

17. Canada was continuing to give active support to the Agency's efforts in the traditional areas of nuclear science and technology, and in technical assistance. Canadian experts from various universities and Government bodies had participated in symposia and panels organized by the Agency during the past year, and Canada had provided the services of experts and facilities for training in connection with technical assistance projects.

18. In regard to technical assistance, the Canadian Government particularly welcomed the co-operation between the Agency and the United Nations Development Programme (UNDP). At the multilateral level, UNDP was giving efficient aid to developing countries, but the Agency - thanks to the General Fund - was providing technical assistance of a kind which could not be obtained elsewhere. For that reason, the Canadian Government had made a contribution of $88 800 to the General Fund, corresponding to its assessed rate for 1973, and it proposed to do the same again in 1974.

19. Canada was extremely interested in the Agency's work relating to nuclear safety and environmental protection and had made available to the Agency the results of research which it had performed on the environmental effects of nuclear power production. The Agency had an important part to play in the formulation of international standards and regulations in that field, and the Canadian Government was glad that, under the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the Agency had been entrusted with the task of determining what radioactive wastes should not be dumped into the sea, and it approved the Agency's activities in the fight against marine pollution.

20. In addition, Canada attached great importance to the Agency's safeguards role both in connection with NPT and within the framework of the safeguards system. The signing of a safeguards agreement with the non-nuclear-weapon States Members of EURATOM represented a great step forward and Canada hoped that it would be

[6] Reproduced in document INFCIRC/140.

quickly followed by ratification of the agreement and of NPT by those States and also by other States not parties to the Treaty. However, he shared the Director General's misgivings in view of the low proportion of States that had implemented NPT.

21. The Canadian Government was happy to see the entry into force of the amended version of Article VI of the Statute, which would make it possible for the Conference to elect 18 Members to the Board at its current session. When the Conference came to consider the matter of amending its Rules of Procedure, the Canadian Government would support immediate introduction of the revised set of rules annexed to document GC(XVII)/503.

22. With regard to the financial difficulties created by monetary fluctuations coupled with the general rise in prices, the Canadian Government well understood that there must be a request for further contributions in 1973 and supplementary appropriations for 1974, if certain essential projects were not to be abandoned. It considered the programme for 1974 and the succeeding years to be well conceived, and was willing to support a reasonable increase in the budget for 1974.

23. On behalf of the Canadian delegation and the Canadian Government, he warmly congratulated Mr. Eklund on his reappointment.

24. Mr. KRASIN (Byelorussian Soviet Socialist Republic) said that he wished first of all to congratulate the Director General on his reappointment. Mr. Eklund's knowledge, energy and vast experience would continue favourably to influence the work of the Agency.

25. The improvement in the political situation, which had gathered momentum during the past year, opened up new possibilities for solving the main international problems and strengthening collaboration between countries in all areas of science, technology and culture. There was no doubt that such collaboration had been greatly favoured by specific applications of the principle of peaceful co-existence, which had found expression in the agreements and treaties concluded by the Soviet Union, the United States of America, the Federal Republic of Germany, France and other States.

26. The scientific and technical collaboration which continued to grow on an international level enhanced the role and responsibilities of international organizations, including the Agency. His delegation viewed with satisfaction the strengthening of the international authority of the Agency and the results of its efforts to put atomic energy at the service of mankind. It supported the Agency's overall programme, which had been drawn up with care and covered all the main aspects of the peaceful uses of atomic energy. It noted with satisfaction the very important task which the Agency had carried out in pursuance of Article III of NPT. Finally, the enlarged programme of the Division of Nuclear Safety and Environmental Protection, which now included a systematic study of the effects of nuclear industry on the environment and deeper investigations into questions affecting the radiological protection of populations, also deserved mention because of the need to find solutions in a world-wide context.

27. His delegation was also very satisfied with the work done by INIS. It supported the programme concerned with nuclear power and reactors. However, in view of the proposal to eliminate that part of the scientific programme relating to heat and mass transfer in nuclear power engineering, it would be very desirable, in view of the importance of the subject, to expand the corresponding sector of UNESCO's programme. Byelorussia was in favour of the Agency's efforts to promote international collaboration and the exchange of theoretical and practical information on the radiosterilization of biomedical products. There should be no reduction in that activity in 1975.

28. The Byelorussian delegation was happy to welcome the German Democratic Republic and the People's Republic of Mongolia to the Agency. It did not doubt that the new Members would make a useful contribution towards the fulfilment of the Agency's tasks and the enhancement of its international authority.

29. The Byelorussian Soviet Socialist Republic had an enormous industry, a diversified agriculture and a large number of scientific institutions and establishments of higher education in almost all branches of modern science. It had achieved valuable results in studies aimed at the creation of power stations using a new type of coolant, as well as in radiochemistry, solid-state physics and semiconductor research, nuclear spectroscopy and the use of radiation in biology and medicine. For details of that work, reference could be made to the brochure entitled "Atoms for Peace in Byelorussia" (1973), which had been distributed to all delegates.

30. Byelorussia was continuing to carry out work under contracts concluded with the Agency to exchange information with other countries on nuclear power engineering, radiochemistry and the various applications of gamma radiation. The Institute of Nuclear Power Engineering of the Academy of Sciences of the Byelorussian Soviet Socialist Republic had concluded a contract with the Agency for research into the safeguarding of fissionable materials destined for critical assemblies. The Institute was also carrying out research, with the Agency's support, in biology and medicine; a contract to study the immune reactions of the body to the introduction of uranium had been concluded. Work on the evaluation of nuclear constants was also progressing, and the results obtained would be transmitted to the Agency's Nuclear Data Section to be made available to all Member States. Byelorussia had always been in favour of a free exchange of all data between all countries, without restriction. He wished to take the opportunity to thank the Agency for having published so quickly and with such care the records of the study group meeting on fast reactors, held in Minsk in 1972.

31. There was now every reason to believe that nuclear power, with the help of fast reactors, would be able to meet all future heat and power needs of most countries. Studies carried out in some countries on gas-cooled breeder reactors had shown that reactors of that type would make a substantial contribution towards improved and rationalized power production. In that connection, he supported the Director General's proposal that a meeting be held to discuss the development of power production in a world-wide context and, more particularly, in certain regions. Studies conducted over several years at the Institute of Nuclear Power Engineering of the Academy of Sciences of the Byelorussian Soviet Socialist Republic had shown that with dissociating nitrogen tetroxide as coolant it was possible to design a single-circuit power reactor with a liquefied gas cycle. Thanks to a particular combination of physical properties and to the chemical reactions taking place in the coolant, it was in fact possible substantially to reduce the cost and size of the heat-exchangers in the turbines and hence the cost of producing electricity and thermal energy.

32. The construction of a nuclear power station using a new coolant required extensive programmes of study and experimentation. However, the interesting prospects and real possibilities offered seemed to justify the continuation and even the intensification of such work. Several States Members of the Council for Mutual Economic Assistance (CMEA) were at present studying the possibility of a joint programme for the construction of a demonstration gas-cooled breeder power station using a dissociating coolant, with a view to the subsequent construction of a plant of that type having a capacity of 1200 to 2000 MW(e). In that connection Byelorussia welcomed the efforts of CMEA to co-ordinate the activities of the socialist countries in the peaceful utilization of atomic energy.

33. In conclusion, the Byelorussian delegation was firmly convinced that the favourable development of the international situation, the growing authority and wide experience of the United Nations, the Agency, CMEA, and other organizations, and the interest of all nations and of scientists, would help to accelerate international co-operation and to unite the endeavours of all countries in solving the main problems of modern science and applying the results obtained for the good of mankind.

34. Mr. NEUMANN (Czechoslovakia) joined with other delegations in congratulating the Director General on his appointment for another four-year term of office. He was also glad that two socialist States, the German Democratic Republic and the People's Republic of Mongolia, had been admitted to membership of the Agency. He was convinced that those States would make a valuable contribution to the Agency's activities, and it was to be noted that they had already signed safeguards agreements.

35. Safeguards undoubtedly constituted one of the Agency's most important tasks, for through safeguards it could help to reduce international tension and strengthen peace. For that reason Czechoslovakia had always supported that activity and was collaborating with the Agency with a view to improving methods of control and making safeguards more effective. The manner in which the Agency applied safeguards in Czechoslovakia itself was, happily, most satisfactory. There was no doubt, however, that the efficiency of safeguards could be further improved, and the best way of doing that was to perfect national systems of nuclear materials accounting and control. With that aim in view the Czechoslovak authorities had themselves undertaken to control nuclear materials and carry out the necessary inspections, and the results of that work would be entirely at the disposal of the Agency's inspectors. It was to be hoped that as a result safeguards could be made more effective without the need for additional inspections; the latter would necessarily remain restricted in number owing to the Agency's limited financial and staff resources. Czechoslovakia was trying to improve its national system of accounting and control without asking the Agency to reduce the number of inspections.

36. Specialized institutions in Czechoslovakia were already co-operating closely with the Secretariat's Division of Operations in studying and developing methods of control. The Institute of Nuclear Studies had arranged for samples of nuclear materials to be sent for analysis and was developing semi-conductor detectors for that purpose. The Institute, together with the Agency, was at present examining the possibility of getting the Institute of Nuclear Fuel and the A-I nuclear power station to participate in that work. He felt sure that by 1975, the year in which a world conference would be held to review NPT, most States Members of the United Nations would have signed the Treaty and concluded appropriate safeguards agreements with the Agency.

37. In its collaboration with the Agency, Czechoslovakia was particularly interested in nuclear power. The Czechoslovak authorities were preparing to construct many nuclear power stations, for producing not only electric power but also industrial heat, and for that reason they valued the Agency's programme in that field and in environmental protection. The Agency should give careful attention to the multipurpose utilization of nuclear energy. Nuclear safety and environmental protection were matters of ever-increasing importance. Czechoslovakia welcomed the work the Agency was doing to study the effects of radiation sources in densely populated regions where the environment was already badly polluted by conventional industry.

38. The various uses of radionuclides were also of great interest. In that area there were many ways in which the Agency could give technical assistance to the developing countries.

39. With regard to international collaboration in the peaceful utilization of atomic energy, special mention should be made of the co-operation between States Members of CMEA. The twenty-fourth session of CMEA's Standing Commission,

devoted to the peaceful uses of atomic energy, had been held during the current year in Czechoslovakia and had again illustrated the sound achievements that could be made in different sectors. Regular meetings of the Committee for Scientific and Technical Co-ordination were very useful for dealing with problems that arose in the various branches of nuclear science and technology. Great progress had also been made with the socialist countries' integration programme, especially in the founding of a nuclear equipment company called "Interatominstrument", with headquarters in Warsaw. On the occasion of the seventeenth regular session of the General Conference, the Secretariat of CMEA had published an information pamphlet describing the collaboration which had been achieved since the last session.

40. Finally, the Czechoslovak delegation wanted to revert to the important problem of the Agency's budget for 1974. It could not approve that budget in its entirety and could support only the appropriations for safeguards, INIS, and, in part, for environmental protection, namely for the Agency's most useful activities. The budget should not be affected by the inflation that was raging in some capitalist countries and by the instability of the dollar.

41. He took pleasure in announcing that in 1974 the Czechoslovak Government would make a contribution of 200 000 crowns to the General Fund and that it would act as host to a study tour and a training group; it also extended a provisional invitation to the Agency to hold a symposium in Czechoslovakia in 1975. Finally his country would be offering to developing States Members of the Agency five long-term fellowships in higher educational establishments and four one-year fellowships in research institutes of the Czechoslovak Academy of Sciences or other research institutes in Czechoslovakia.

42. Mr. HAN (Republic of Korea) said that over the past 14 years the Republic of Korea, with the Office of Atomic Energy playing a major role, had striven very hard to bring advanced nuclear technology to Korea. In carrying out that task, Korea had received valuable assistance from the Agency and active co-operation from its Member States. As a result, significant advances had been made in basic and applied research. Several hundred scientists had been trained and many of them had become involved in the establishment and operation of the Korean Institute of Science and Technology. A nuclear power plant with a capacity of 600 MW was currently under construction; it would be completed by the end of 1975 and would go into commercial operation in October 1976 following performance tests. A programme to develop nuclear fuel manufacturing technology would be commenced in 1974 to coincide with the beginning of construction on the second and third nuclear power plants.

43. In nuclear medicine, the Cancer Hospital of the Korean Atomic Energy Institute was providing diagnostic and therapeutic services as well as carrying out research on malignant tumours. The number of patients treated to date was 800 000.

44. To cope with the world-wide energy crisis and to establish a long-range energy supply programme, Korea had decided to build a second and third nuclear power plant. In addition, it planned to carry out research programmes on new energy resources such as geothermal, solar and tidal energy and would be taking active steps to protect the environment from the pollution caused by heavy industries.

45. Korea was undertaking a project with UNDP and Agency assistance to erect a large radiation processing demonstration plant which would be completed by 1976. It would contribute to the production of products such as wood-plastic composites, plywood, textiles, plastics and medical supplies, all of which were important export products for Korea.

46. In February 1973 Korea had reorganized its atomic energy activities and replaced the Office of Atomic Energy by the Atomic Energy Bureau, a separate entity within the Ministry of Science and Technology. The three research institutes formerly under the Office of Atomic Energy had been reorganized into the Korea Atomic Energy Research Institute, a Government-chartered private institution.

47. The Atomic Energy Bureau was responsible for all atomic energy policies, planning, international co-operation, radiation safety and the setting up and application of safety standards for nuclear reactors and nuclear materials.

48. The Korea Atomic Energy Research Institute would carry out all research and development activities related to overall energy requirements and environmental control, nuclear power generation, fuel technology, medicine and life sciences.

49. The Government of the Republic of Korea hoped that the Agency's technical assistance programmes for Korea would be directed towards the areas he had highlighted.

50. In conclusion, he congratulated the Director General on his reappointment and wished continuing success to the Agency and all delegations.

51. Mr. GOHAR (Egypt) said that the coming decade would see great developments in the peaceful applications of nuclear energy; the Agency should therefore consider carefully into which fields it would direct its efforts and resources. The Egyptian delegation shared the concern of those who felt that the Agency's regulatory activities were being expanded too much at the expense of its promotional activities and who had stressed the importance of work on the use of nuclear explosives for peaceful purposes, the generation of electricity, the production of fresh water and large-scale prospecting for nuclear raw materials.

52. Economic advantages were expected to be derived from the use of nuclear explosives in the

mining and petroleum industries and in civil engineering. The Soviet Union and the United States had already obtained useful results in those fields. The right of non-nuclear-weapon States to obtain benefits from such applications was emphasized in Article V of NPT and that promise had induced many developing countries to ratify the Treaty. In that connection the Egyptian delegation regretted that an instrument as important for peace as NPT had not attracted more accessions; that it had not was due to the tensions which existed in certain areas of the world, and efforts should be made to eliminate those tensions. The Agency should not limit itself to implementing the provisions of NPT relating to safeguards but should also concern itself with the tasks envisaged under Article V.

53. Egypt was extremely interested in the prospects offered by peaceful nuclear explosions in view of the important part they could play in exploiting energy resources. His Government was studying the possibility of using nuclear explosions to cut a 70-km canal through the desert from the Mediterranean to the Quattara depression - a project linked with the construction of a 4000-MW hydroelectric power station. Preliminary estimates indicated that it would be much more economic to use nuclear explosives than conventional excavating techniques. The Agency's work in that field in recent years had been confined to holding meetings and the time had now come to undertake feasibility studies in various regions of the world.

54. Turning to the question of nuclear power, the Egyptian delegation noted with satisfaction the completion of the market survey carried out in 14 developing countries. The survey showed that nuclear power stations were becoming economically competitive with conventional thermal plants and that during the period 1980-1990 nuclear plants with a capacity of about 62 000 MW would be required to meet energy requirements. The total capital investment needed for the construction of those plants was estimated at $20 000 million. The financing of those projects presented a serious problem, to which the Agency and international financing organizations should endeavour to find a satisfactory solution. In that connection it was appropriate to recall that the General Assembly of the United Nations had adopted a resolution inviting the Agency, the International Bank for Reconstruction and Development (IBRD) and UNDP to continue the study of the problem of financing nuclear activities in developing countries.[7] Egypt proposed that consideration be given to establishing a special international fund for peaceful nuclear projects. Finance would be made available for projects on the basis of economic and technical feasibility studies.

55. The desalting of sea-water could well become an important application of nuclear energy. Since that might make it possible to cultivate large semi-arid and arid areas, efforts should be directed towards research on the use of desalted water in agriculture and schemes should be considered for linking the production of water and electricity in large dual-purpose nuclear plants. To that end, serious consideration should be given to establishing one or more international pilot plants, in which the necessary research and development work could be carried out. Egypt would also like to see the market survey extended to cover the nuclear power requirements for producing water in optimized nuclear dual-purpose plants.

56. Large amounts of uranium and other nuclear raw materials would be required for the operation of those nuclear plants, not to mention those which were under construction or planned in countries not covered by the market survey. The demand for uranium would increase rapidly during the next decade, so an extensive programme would have to be organized to find and exploit nuclear raw materials. The development of nuclear energy depended on such action and the Agency should address itself to that problem because many countries lacked the necessary experience and finance to undertake large-scale prospecting work. In that connection, the special international fund already referred to would enable the Agency to develop a suitable programme.

57. The Egyptian delegation had noted with satisfaction the Director General's statement that the Agency would be placing emphasis on new fields of activity and dropping those which had become mere routine or were now outdated.[8] His Government felt that technical assistance was an important element of the programme but was not receiving the attention it deserved. Safeguards and INIS continued to absorb more and more of the budget while other activities were expanding at a very slow rate. It was surprising that no contingency appropriation had been requested to cover the deficit in technical assistance funds caused by currency fluctuations. The target for voluntary contributions should be raised and steps should be taken to finance technical assistance from the Regular Budget. Egypt, for its part, had decided to make the same contribution to the General Fund as in the previous year - a fraction of the target much larger than its share of the assessed budget.

58. He congratulated Mr. Eklund on his reappointment to the post of Director General of the Agency. The Agency's achievements since Mr. Eklund had taken the helm stood as a good augury for the future. He likewise welcomed the admission of the German Democratic Republic and the Mongolian People's Republic to the Agency.

59. Mr. JAIPAL (India) congratulated the Director General on his reappointment and said that India welcomed the admission to the Agency of the German Democratic Republic and the Mongolian People's Republic.

60. The experience of the preceding two years and especially the natural catastrophes which had befallen India showed that non-nuclear sources

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[7] Resolution A/2456 (XXIII).

[8] GC(XVII)/OR.160, para. 19.

were totally inadequate for the power requirements of a developing economy. The reactors already in service at Tarapur and in Rajasthan, and also those which were under construction in Madras or being planned for the Delhi area, underlined India's increasing reliance on nuclear energy to satisfy its needs. India had recently been reviewing its nuclear programme for the next ten years in the context of its available fuel resources and the capacity of its industry. It was most likely to continue to build 220-MW(e) reactors, since it was familiar with them, but it also intended to acquire the necessary experience for constructing 500-MW facilities. It also wished to keep in touch with the more advanced reactors, especially breeders fuelled with thorium. In collaboration with France, India was building a fast breeder test reactor near Madras and establishing a reactor research centre, the programme of which included studies relating to fast reactors.

61. The use of isotopes in industry and medicine had made considerable progress, and in that connection special mention should be made of a project known as the ISOMED project involving radiation sterilization of medical products, a UNDP project which was to move into the industrial phase by the end of the year and had been enthusiastically welcomed by the pharmaceutical industry. India intended to locate several such sterilization units in the country, and would be most happy to share its experience with other countries of the region.

62. Work on radiation preservation of food-stuffs had been in progress for several years, and it appeared that irradiated wheat, potatoes and onions could be safely released for human consumption. The results obtained in the preservation of fish were very promising, but further experiments were needed to show whether irradiated products had any adverse effect on the health of people suffering from malnutrition.

63. India had been closely associated with the peaceful uses of atomic energy in its region. Several countries in South and South East Asia had agreed to share their experience and facilities so that the benefits of their activities could be brought home to the people of the region as quickly as possible. The Indian delegation wished to urge the Agency to lend its support to those activities and give liberal assistance to joint projects under which the best possible use could be made of the experts' services available in the region. It would perhaps be useful to establish within the Agency a separate unit which could handle regional projects and see to it that the resources of a region were pooled in the most effective manner.

64. In that connection, he mentioned that the variable energy cyclotron under construction in Calcutta based on the 88-inch Berkeley cyclotron would be used for the benefit of the universities and other Indian institutions; India would, however, be happy to make it available to the countries of the region, especially for the production and use of neutron-deficient isotopes, for the study of radiation damage, radiobiological processes and so on.

65. Referring to the main problems faced by the Agency, he recalled that the financial situation of the Agency was bad, that arrears of contributions amounted to some $3 million and that there seemed to be no way of collecting them. A matter of even greater concern was that the 1973 and 1974 budgets had had to be revised to allow for currency fluctuations, the total shortfall for those two years being of the order of $5.85 million. It had been proposed that the deficit should be covered by a supplementary assessment on all Member States. However, India, like other developing countries, considered itself in no way responsible for the present financial crisis, of which it was but a helpless victim. It would be too much to ask the developing countries to pay a part of the costs resulting from the currency crisis. A question of principle, namely that there should be "no taxation without representation", was at issue.

66. Since certain advanced countries had actually benefited from the crisis and had united their efforts to strengthen their currencies, one might hope that the same spirit would induce them to protect the Agency from fluctuations of their currencies, either by voluntarily increasing their contributions, or by establishing a special stabilization fund to tide over the present crisis. The Indian delegation would support the budget and that amounted to a vote of confidence in the Agency. However, its support should not be interpreted as willingness to accept responsibility for the deficit or liability for meeting it.

67. Another matter of intense concern to developing countries was that the technical assistance programme financed from voluntary contributions had remained frozen since 1971. Inflation and currency realignments had sharply reduced the value of the frozen figure in real terms, and it was the developing countries that suffered. According to the annual report, only 53 countries had received technical assistance and 34 requests had been turned down for lack of funds. Not only did no action seem to have been taken to implement the recommendation which the General Conference had made at its tenth session about finding ways and means of increasing the assistance to developing countries[9], but the resources available to the Agency for technical assistance were actually declining and the Director General had felt obliged to make an appeal for more contributions. In response to that appeal the Indian Government had decided to increase its contribution by 10% to $50 000 in 1974.

68. While the immediate aim was to set the target for 1974 at a level higher than $3 million, in the longer term it would be wise to consider the desirability of placing the technical assistance programme under the Agency's Regular Budget, which would in fact amount to converting a voluntary act into a legal obligation. Obviously that would not be necessary if adequate voluntary contributions were made every year; but, if the Agency had to rely on dwindling voluntary contributions, its technical

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[9] See document GC(X)/RES/217, para. 1.

assistance programme would go on declining, and there was every danger that the developing countries might lose interest in the Agency's other activities.

69. Lastly, the Agency's safeguards activities, which had originally been envisaged as a corollary to the provision of technical assistance, had lately grown out of proportion to that assistance. Considering that 90% of future additional capacity would be installed in the advanced countries and that safeguards expenditure would reach unprecedented levels, the developing countries would be bound to re-examine the extent of their liability to meet such expenditure on an ever-increasing scale.

70. Twenty years after the famous "atoms for peace" speech of President Eisenhower, and 17 years after the adoption of the Agency's Statute, thought ought to be given to the future evolution of the Agency, its priorities and, in particular, its relevance to the vast majority of its Members. The annual report referred to the need to find new reserves of nuclear fuel to meet the increasing demands; it was to be hoped that nuclear disarmament would release nuclear fuel which could be used for peaceful purposes and that the Agency would then function as a bank for the fuel thus released, as had originally been envisaged by its founders.

71. Mr. VASSILEV (Bulgaria) welcomed the delegates of the German Democratic Republic and the Mongolian People's Republic, who, he said, were at last occupying their rightful place in the Agency. He was convinced that the new Members would greatly assist the Agency in carrying out its tasks.

72. The current session was proceeding in an atmosphere of general détente, thanks to the peaceful policy of the Soviet Union, which favoured mutual understanding between all countries, whatever their political system. In that connection, particular importance was to be attributed to the signing by the Soviet Union and the United States of an agreement on the prevention of nuclear war, and to the organization of a conference on European security and co-operation. All those events would not fail to have a favourable influence on the Agency's development, for they would contribute much towards eliminating the risk of nuclear war and creating a system of international security.

73. With respect to the Board's report for the past year, the Bulgarian delegation noted with satisfaction that the Agency had tried first and foremost to provide developing countries with the best means of using nuclear energy for the realization of their peaceful objectives and to promote the use of the atom for the benefit of mankind. In order to fulfil its obligations under NPT, the Agency had signed not only bilateral agreements with various countries but also an agreement with the non-nuclear-weapon States Members of EURATOM. However, the Bulgarian delegation shared the opinion expressed by other delegations: it was not enough to sign agreements, it was also necessary to implement them. The Agency should therefore extend its activities in that context, and Bulgaria had no objection to an increase in the appropriations needed to finance them.

74. Nevertheless, Bulgaria could not conceal its disquiet at the large increase in the budget for 1974. True, the increase was largely due to external factors, but the Agency would do well to consider how it might reduce administrative expenditure. The Bulgarian delegation saw no objection to denominating the budget in Austrian schillings.

75. One of the main tasks of the Agency was to grant technical assistance to developing countries so that they could make broader use of nuclear energy, particularly for the generation of electricity. As everyone knew, technical assistance was provided under a uniform procedure laid down by the United Nations, one of the main elements of which was the principle of voluntary contributions. Bulgaria was unable to accept the suggestion made by certain delegations that technical assistance should be financed from the Regular Budget. Like other countries, it regularly made contributions in national currency, whereas the contributions to the Regular Budget were expressed in United States dollars. An increase in payments required in international currency could not but give rise to difficulties for those countries. In that connection, a study should be made to determine how the funds in national currencies that were accumulating in certain countries were being used; the Agency should try to make full use of them.

76. The data published on technical assistance indicated that in the past few years it had been directed mainly towards the application of isotopes and radiation in agriculture. Indeed, almost a third of the available funds had been used for that purpose, a fact which could be explained by the natural desire of many countries to improve their food crops. Thanks to the Agency, many countries were now applying new methods in agriculture and animal husbandry. It should be noted that Bulgaria was also receiving considerable benefit from collaboration within the framework of CMEA in all sectors of the peaceful use of atomic energy. Thus, for example, as a part of its general programme, CMEA had set up the previous year a joint enterprise called "Interatominstrument", an international team for reactor studies and several committees for technical and scientific co-ordination which would contribute towards the solution of certain problems posed by the future development of nuclear science and technology.

77. In Bulgaria, radioisotopes and radiation were continuing to find increased application in the various sectors of science and the national economy. Whereas formerly they had been employed primarily in research, for the last seven or eight years they had been used to an increasing extent in medicine, geophysics and geochemistry, for defect detection and for the automation and control of production in various branches of industry and agriculture. The IRT-2000 research reactor was used

to produce various short-lived radioisotopes, which were mainly used for medical diagnosis and treatment, but also fulfilled certain needs in industry and agriculture.

78. In geophysics and geochemistry, nuclear methods were being used to solve geological problems related to prospecting for deposits of coal, ferrous and non-ferrous metals, oil and natural gas, and for determining the absolute age of geographical formations. In large factories and assembly plants, gamma radiography allowed the detection of defects at very low cost. A specialized enterprise known as "Nuclear Technique" had been created, which was not only engaged in developing prototype nuclear equipment, but was also capable of constructing instruments already approved and of installing and maintaining them. In agriculture, varieties of peas and beans with an increased protein content had been developed. During the past three years experiments had been carried out on the irradiation of seeds and had yielded results which seemed promising for certain crops.

79. Mention should also be made of the use of nuclear energy for power production. The construction of Bulgaria's first nuclear power station at Koglodui was proceeding according to plan. At the same time, plans were being studied for installing other power stations of the same type so that Bulgaria could have a total installed capacity of more than 2000 MW by 1980. Such activities clearly required the training of staff capable of exploiting the new sources of energy in safe conditions. Apart from the specialized courses organized for technicians currently employed at the construction sites, who would later have the task of running the power stations, new disciplines had been introduced in the curricula of higher and secondary education. In that connection, the Bulgarian delegation wished to thank the Agency for its efforts in training experts for nuclear power station operation.

80. Parallel to the construction programme, studies were being carried out under the radiological protection programme on the intensity of natural radiation, and the evolution of radioactivity levels in the health protection zone was being monitored. The radioactivity of the Danube near Koglodui, Vidin and Ruse was also being monitored, as were the levels in the main food-stuffs, forage crops and soil of the same region.

81. The Bulgarian delegation wished to express its deep satisfaction at the reappointment of the Director General for a new term of four years. It highly appreciated his vast experience as an administrator and a man of science, qualities from which the Agency could not but benefit. It wished to assure him that Bulgaria would not cease to support the efforts that the Agency was making to promote the use of atomic energy for the benefit of mankind.

CLOSING DATE OF THE SESSION

82. The PRESIDENT recalled that, under Rule 8 of the Rules of Procedure, the Conference had to fix the closing date of the session, on the recommendation of the General Committee.

83. The General Committee had considered the matter and had authorized him to recommend on its behalf that 24 September 1973 be fixed as the closing date.

● 84. The Committee's recommendation was accepted.

● The meeting rose at 12.50 p.m.