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on Wednesday, 16 September 1964, at 10.50 a.m.

President: Mr. ESCHAUZIER (Netherlands)

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* GC(VIII)/285.

The composition of delegations attending the session is given in document GC(VIII)/INF/75/Rev.2.

TRIBUTE TO THE LATE MR. TUOMIOJA

1. The PRESIDENT reminded the General Conference that Ambassador Sakari Tuomioja of Finland, an outstanding statesman and diplomat, had died on 10 September 1964.

2. On several occasions Ambassador Tuomioja had held cabinet posts in the Finnish Government. Besides being an economic and financial expert, who had occupied important posts both in his own country and in the United Nations Economic Commission for Europe, he had served his country as ambassador in London and Stockholm.

3. During the last years of his life he had rendered outstanding services to the United Nations, as personal representative of both the late and the present Secretary-General. His important role as a United Nations mediator was well known.

4. Those who had attended the fourth regular session of the General Conference would remember that Mr. Tuomioja had spoken on that occasion on behalf of the Secretary-General of the United Nations.[1/]

5. Ambassador Tuomioja had dedicated his life to the cause of peace. His personal devotion and relentless application to his tasks had exacted too great a toll on his health. His untimely passing was a great loss to all Members of the United Nations family and, indeed, to all who were working for economic progress and peace.

6. As his state funeral was taking place that day in Helsinki, he, the President, had sent a telegram, on behalf of the General Conference, to the Secretary-General of the United Nations, expressing its profound regret at Mr. Tuomioja's death and asking that its sincere condolences be conveyed to the Finnish Government, as well as to the family of the deceased.

7. Mr. WARTIOVAARA (Finland), in the name of the Government of Finland and on behalf of the family of the late Mr. Tuomioja, expressed deep gratitude to the General Conference for thus honouring the memory of his great fellow-countryman.

1/ GC(IV)/OR.36, paras. 61 to 68.

GENERAL DEBATE AND REPORT OF THE BOARD OF GOVERNORS FOR 1963-64 (GC(VIII)/270, 270/Corr.1, 270/Add.1, 2 and 3, 280) (continued)

8. Mr. NEUMANN (Czechoslovakia) congratulated and welcomed the four new Members of the Agency - Cyprus, Kenya, Kuwait and Madagascar -, whose admission symbolized the changes that were taking place in the modern world. He hoped he would soon have an opportunity of welcoming other new members from among those countries which had not yet freed themselves from colonial rule and from among other sovereign nations which had not yet been able to take part in the work of the Agency.

9. He recalled that the Agency was pledged to the noble aim of accelerating and enlarging "the contribution of atomic energy to peace, health and prosperity throughout the world". That could only be achieved if genuine collaboration were developed between States irrespective of differences in their social systems and if co-operation were based on mutual trust and directed towards the maintenance and strengthening of peace throughout the world. The conclusion of the Moscow Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water, which had been signed by over 100 States, had doubtless contributed to the attainment of that aim. Thanks to that agreement the atmosphere and the waters of the seas were no longer being contaminated by destructive and noxious radioactive products. Similarly, an agreement had been reached between the United States of America and the Union of Soviet Socialist Republics banning the release into space of objects equipped with nuclear or other weapons of mass destruction, and had been approved by the General Assembly of the United Nations[2/]. In addition, the United Kingdom, the Union of Soviet Socialist Republics and the United States of America had decided to limit their production of fissionable materials for military purposes.

10. His delegation considered that the various measures he had mentioned would increase mutual confidence between States and help to reduce international tension. They did not, however, constitute a solution for the main problem of the modern world, which involved the vital interests of the whole of mankind

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2/ General Assembly Resolution 1884(XVIII).

and whose solution would have a direct bearing on the whole future of the Agency, viz. the problem of averting the danger of a thermonuclear war and establishing a firm and lasting peace. The only reliable means of achieving that aim was to accept universal and complete disarmament.

11. His delegation considered it fitting that the Agency should contribute to the implementation of that task and it welcomed the report presented by the Director General on the economic and social consequences of disarmament[3/]. The report was far from being exhaustive but the information it contained was quite remarkable, for example on the question of plutonium and enriched uranium stockpiles and the possibilities of using them for the peaceful production of nuclear energy, so vital for technological development and for the elimination of poverty, disease and suffering, especially in the developing countries. The report rightly drew attention to the possibilities available and to those concrete tasks on which attention should be concentrated.

12. His delegation was convinced that a further study of the economic and social consequences of disarmament deserved the highest priority in the Agency's future programme of work. It would support any proposals submitted at the Conference with a view to encouraging such work and would actively participate in helping to implement them.

13. Referring to the results of the Third International Conference on the Peaceful Uses of Atomic Energy[4/], he pointed out that under certain circumstances nuclear power stations could now be used at the same cost level as conventional thermal plants. The Conference had made an objective assessment of the prospects for different types of reactors and thus of the future development of nuclear power.

14. He noted that the Agency's Programme for 1965-66[5/] made little provision for work on nuclear power. Although the relevant documents underscored the importance of its work in that field, the Agency's role was not specified in the Programme to the same extent as, say, the Agency's activities in connection with the utilization of radiation and radioisotopes in science and industry. It was essential that section III of the Programme be expanded and that more definite data be included.

3/ GC(VIII)/INF/71.

4/ Held at Geneva from 31 August to 9 September 1964.

5/ GC(VIII)/275.

15. In the opinion of his delegation, the Programme devoted insufficient attention to the question of assessing the importance of plutonium in power-reactor technology. More intensive work should be carried out by the Agency on that subject in future. The Agency's work should also be stepped up as regards the construction of nuclear power plants, e.g. it could make assessments of the economics of nuclear and thermal stations and draw up regulations for the safe operation of nuclear reactors, similar to those governing the safe transport of radioactive materials. It would be useful if a general report could be prepared summarizing the results obtained to date in various branches of technology and giving an economic analysis of those results.

16. His delegation was favourably impressed by the activities of the Agency since the seventh regular session, particularly in connection with health and safety problems. Work had finally been concluded on the regulations for the safe transport of radioactive materials, for the protection of individuals engaged in work with nuclear materials, etc.

17. Czechoslovak scientists had taken an active part in a number of scientific meetings held during the period under review and his delegation fully supported the Agency's work in that direction. In the present year a Symposium on the Use of Radioisotopes in Animal Nutrition and Physiology was due to be held in Czechoslovakia and his delegation wished to suggest that one of the 1965 scientific meetings also be held in Czechoslovakia; he hoped that the Agency would accept that proposal.

18. It would be useful if the Agency could devise some more systematic and far quicker means than hitherto for informing Member States of the results of panel meetings and of assignments and missions entrusted to Secretariat staff members. For their part, Member States should do more than they had done in the past to make available to the Agency free-of-charge scientific data likely to be of value to other Members of the Agency.

19. At the seventh regular session, his delegation had offered to make available to Member States, through the Agency, complete documentary material on the use of sensor elements for the automatic control of reactors.[6/] That material would be handed over in the course of the present session. A sum of 700 000 Czechoslovak crowns had been spent on the solution of the problems involved.

6/ GC(VII)/OR.75, para. 64.

20. His delegation approved of the Agency's activities in the sphere of training and for 1965 was offering five long-term fellowships at higher educational establishments in Czechoslovakia and five long-term fellowships at technical colleges at the intermediate level. Czechoslovakia was also prepared to perform, without payment, a certain amount of research work on problems related to the Agency's Programme for 1965-66.

21. Together with the other socialist countries Czechoslovakia was participating in a programme for the provision of medical centres for the developing countries. That programme, originally submitted at the sixth regular session, had been discussed at the last regular session of the Conference, which had adopted a resolution[7] requesting the Board of Governors to consider the programme bearing in mind that one third of the resources required for it, amounting to 700 000 roubles (approximately $770 000), would be contributed by the socialist countries. The resolution also expressed the hope that further offers would be forthcoming to provide the equipment, apparatus and fellowships for, or the financial resources required to implement, the remaining two thirds of the programme. Despite the resolution, however, the capitalist countries, and in particular, the Great Powers, had so far failed to take any positive action with regard to the programme and had done nothing to help implement it.

22. Since many countries had shown great interest in the medical centres, the socialist countries had submitted a new amended proposal at the last series of Board meetings. In that connection he wished to draw the attention of the Conference to the fact that, on the basis of the programme in question and pursuant to a decision taken by the Board at its February series of meetings, the equipment for a therapeutic unit worth about US $63 000 was being supplied to Algeria. His delegation hoped that other Member States which had been asked in the resolution to contribute two thirds of the cost of the programme would follow that example and thus help the developing countries to benefit from the peaceful uses of atomic energy.

7/ GC(VII)/RES/152.

23. Referring to the achievements of his country during the period under review, he said that Czechoslovakia had completed an experimental 18-MeV betatron for medical use; the machine in question was more powerful than any other of its type in existence. Work had been completed on an experimental helium condenser and the technology of producing superconductor materials had been mastered. The results obtained would help to further the development of nuclear physics, the physics of solid materials and other branches of science. Work had also been completed on a new type of irradiator, the "Chisobalt", whose potentialities were far superior to those of the present "Chisotron". The "Chisobalt" and the betatron would enable Czechoslovak scientists to intensify research in radiobiology, radiotherapy and nuclear medicine.

24. Czechoslovak scientists had also been involved in the discovery of element No. 104 in the periodic table at the Joint Institute for Nuclear Research at Dubna. Good results had been obtained in the application of radioisotopes in industry, scientific research and the dosimetry of ionizing radiations.

25. Particularly important results had been obtained in nuclear medicine. Czechoslovakia possessed a number of well-equipped facilities designed for the medical uses of irradiators and radioisotopes. Several nuclear clinics incorporating the most up-to-date techniques were also under construction and would serve as centres for the use of radioisotopes and radiation in medicine, both for routine therapeutical work and also for research on new therapeutic techniques. For the implementation of its programme, his country was able to call on the services of a number of highly qualified experts. His Government had therefore decided to propose the establishment of an international centre for training in the medical use of radioisotopes. The establishment of such centres was provided for in the Agency's Programme for 1965-66.[8/]

26. Such a centre could be used for training experts to handle equipment in the medical centres to be supplied to the developing countries under the socialist countries' technical assistance programme.

8/ GC(VIII)/275, para. 23.

27. Referring to the statement of the Director General at the 83rd meeting, and in particular to his remarks on the subject of safeguards, he said that in the view of his delegation, the Agency's present work on safeguards was to be viewed solely in the context of the Statute and should also be designed to improve supervisory techniques. It was important that the problem of financing safeguards activities should be carefully studied and solved with the minimum of delay.

28. Mr. PERERA (Ceylon) said that Ceylon had an Atomic Energy Committee which had been functioning for some time under the National Planning Council, and the Government had now decided to set up a statutory body responsible for activities in the peaceful utilization of atomic energy, with the object of making the Committee's work more effective. The need for a body of the kind, together with the necessary regulations to govern its functioning, could not be over-emphasized.

29. The radioisotope centre at the country's main university had been set up with the help of technical assistance from the Agency and its operation had also benefited from the services of a radiochemist and an electronics expert provided by the Agency. Regular training courses at the undergraduate and the post-graduate level were conducted at the centre. Recently, a six-months regional training course in electronics had been held there, for personnel from Ceylon and ten other countries in Asia. Research work in agriculture, on fertilizer uptake by such important crops as rice, had also been undertaken, as well as studies on mutation caused by radiation. At the moment, an Agency adviser on agriculture was engaged in assisting the centre and the Department of Agriculture in organizing agricultural research using isotopes.

30. On the health side, the centre, in close association with the Department of Health Services, was conducting research on filariasis, whose eradication was one of the country's main tasks at the moment. Tea production had also benefited from biochemical studies of the tea plant, carried out in association with the Tea Research Institute. The centre was also used for regular environmental monitoring and radioactive analysis experiments connected with the preservation of Ceylon's rich heritage of antiquities; the results of those experiments were now being closely studied.

31. The cancer hospital near Colombo had a cobalt-60 source for radiotherapy and also used isotopes of iodine, phosphorus and gold in the treatment of cancer cases. An Agency expert was attached to the hospital and a radiological protection service was being set up with his assistance.

32. The Agency had also provided two experts to help in setting up a laboratory at the Geological Survey Department for radiometric studies in that field - a matter of importance to Ceylon whose mineral wealth was still awaiting full exploitation.

33. He had some comments to make on the report of the Board of Governors (GC(VIII)/270 and Corr.1 and Add.1, 2 and 3, 280), which were intended purely to serve as a guide in the Agency's approach to problems common to the developing countries in his region. The appointment of a regional officer in Bangkok was greatly appreciated and the results of his contacts with authorities in Ceylon were awaited with interest. It was hoped, however, that the Agency would as soon as possible set up a regional office, with a small staff, to help the officer in his growing volume of work. He was fully aware of the financial implications of such a step; hence, the emphasis on a small staff only, which could draw on the scientific and technical expertise available at Headquarters. The importance of a regional office for maintaining contact with the work going on in the region and keeping the Agency informed of specific problems could not be over-emphasized.

34. Under present arrangements, country advisers sent out by the Agency remained for too short a period; sometimes, even, their term of service ended before the specific project on which they were engaged was completed. If possible, they should be made available for longer terms, in order to be able to see the work well through and to train local personnel to carry it on.

35. Equipment provided by the Agency - a useful service - at times was received too late to be of full benefit in the work being undertaken. An effort to remedy that situation should be made. Moreover, if at all possible, some uniformity should be maintained in regard to the equipment supplied, in order to simplify the procuring of spare parts. Then, too, countries like Ceylon often had difficulty in obtaining spare parts from abroad and to obviate such obstacles to the continuous utilization of equipment supplied, the Agency might consider setting up a central fund to cover the cost of necessary replacements.

36. On the question of choice of projects, his Government considered that the Agency should preferably engage on organizing and co-ordinating large projects of national importance concerned, for example, with agriculture or medicine, rather than on projects designed to meet short-term isolated problems. He was glad to note that the French delegation took a similar view. In that connection, regional projects with ample provision for a free exchange of results and personnel could be very advantageous.

37. There was urgent need in the countries of his region for further regional courses such as the one on electronics he had already mentioned; two possible subjects of interest were radiological protection and the use of isotopes in agriculture and medicine. The radioisotope centre in Ceylon was specially equipped to undertake training of the kind and might with advantage be utilized for that purpose, especially given the central location of the country within the region.

38. The Director General was to be congratulated on the effective implementation of the Agency's programme for the past year. Ceylon greatly appreciated the close and continuous interest shown in meeting the needs of the developing countries, within the limits of the resources available. The Director General's broad humanitarian approach to all problems, scientific, technical or administrative, had undoubtedly been conducive to their satisfactory solution.

39. He particularly welcomed the Director General's comments on the need for an impartial international civil service, and agreed that that could best be secured by a wider geographical representation on the Agency's staff at all levels. He also wholeheartedly agreed that a rotation of posts was essential to the attainment of that end. The Director General had appealed for help in achieving those objectives and it was for Member States to respond to that appeal in the spirit in which it had been made.

40. Mr. SALAM (Pakistan) said that, as would be seen from the report of the Board of Governors, the Agency after seven years of operation had come to maturity under the able leadership of its Director General.

41. He would like, at the outset, to express Pakistan's appreciation for the help given to its Atomic Energy Commission in evaluating the bids for its first projected 70-MW power reactor at Rooppur. Assistance of the same kind would be of great value to other developing countries undertaking nuclear power programmes.

42. Secondly, Pakistan welcomed the reorganization of the Department of Technical Assistance, which should ensure efficient handling of technical assistance requests within the Secretariat. It was also satisfied with the fellowship programme, as now functioning. However, with regard to research contracts and the supply of equipment, it was of the opinion that laboratories in developing countries should receive a greater share. The developing countries had reached a stage of maturity which meant that there was now much less need for experts to accompany equipment received from the Agency. The Agency's efforts in connection with the establishment of the International Centre for Theoretical Physics were also appreciated; the Centre appeared to be warmly welcomed by the physics community of the world.

43. The Third Geneva Conference had foreshadowed the coming of the nuclear age. It had been heartening to learn that the promise of cheap and abundant power was likely to be fulfilled in the near future; also that the technological revolutions heralded by low-cost sea-water desalination and the Plowshare projects might soon be realized. It was a gratifying prospect that as early as 1970, 6% of the world's power requirements might be met from nuclear resources and that as much as 4000 MW of the total might be produced in regions outside Europe and North America. It seemed that the "military" atom was indeed close to being harnessed for peaceful purposes.

44. But alongside that optimism a new and insistent fear was arising: that a growth in the capacity of nuclear weapons might follow in the wake of a civilian nuclear power programme. The four nuclear Powers apart, the world was divided into two groups: the semi-industrialized countries which already had or were planning to procure in the near future foreign power reactors; and the industrialized nations - mainly in Europe - which possessed sophisticated nuclear industries that could be used, if the wish were there, to embark on serious weapons programmes. Barring some exceptions, such as India, Japan and Canada, not all countries had unequivocally declared their nuclear intentions. It was true that most countries had signed the Moscow Partial Test Ban Treaty, that the mere possession of a nuclear power reactor or a plutonium separation facility was no proof that a nation intended to manufacture weapons, and that such weapons were still cripplingly expensive to produce, but despite all that,

the world dared not forget that by 1970 civilian power reactors alone would be producing more than 25 tons of high-grade plutonium a year, in countries at present outside the "nuclear club". Nor should it be overlooked that technology was never static; it was fully conceivable that there might soon be as big a breakthrough in weapons technology as had been witnessed recently in nuclear power technology. Those were sobering thoughts that could be ignored only to the world's peril.

45. The question arose as to what the Agency, which had been set up for the purpose of promoting "safe" nuclear power, could do to reduce the suspicions, tensions and insecurities which the mere existence in any region of a large uninspected nuclear facility was bound to generate. Clearly, the first step was to urge Member States to make an unambiguous declaration of their peaceful nuclear intentions. The Agency, admittedly, was not the ideal forum for action of the kind but it certainly was the right one for the inevitable corollary of such a declaration, namely, announcement of the opening of national facilities to international inspection and safeguards, by both the developed and the developing countries. A second corollary was that the Agency's safeguards system should be simple, straightforward, practical and effective. It was heartening to learn that the Working Group to Review the Agency's Safeguards System was aiming precisely at such a system in its recommendations.

46. Last but not least, the Agency could and should urge upon countries exporting power reactors and fuel fabrication facilities to recognize their immense responsibility to rule out competition in so far as safeguards were concerned. In plain words, no large reactor facility should be offered in the world market until and unless some standard - regional or international - safeguards and inspection practice had been devised and operated. No bilateral system could ever give the requisite sense of security that the world needed.

47. In his address at the Third Geneva Conference, Mr. Smyth of the United States had made a plea for recognition of the fact that in the use of nuclear energy the whole world was involved. And the whole world had to be assured that no material in a nuclear power plant was being diverted to the making of bombs. It was in that spirit that the Pakistan delegation recommended that the

General Conference and the Board of Governors should use their influence to ensure that, as a first step, countries exporting manufactured nuclear facilities reached agreement on a standardized, non-discriminatory safeguards system. In that matter, the larger interests of mankind transcended narrower national, political or commercial considerations.

48. Miss MEAGHER (Canada) said that the Canadian delegation approved the report of the Board of Governors which showed that, during the past year, the Agency had made a worthwhile contribution to the development of nuclear energy for peaceful purposes throughout the world. At the seventh regular session of the General Conference a long-term plan covering the Agency's work over the following five years had been approved, and detailed blueprints for the first two years of that five-year period were now before the Conference. Such biennial programming in the framework of a long-term plan was a sound approach, which would enable the Agency to make the most effective use of its funds and manpower.

49. The Agency's resources, however, were strictly limited and had to be carefully budgeted so as to produce the maximum results. The programme of conferences, symposia and seminars should therefore be drawn up with a view to attracting scientists of the highest calibre and should concentrate on subjects of particular interest. Care should be exercised in awarding research contracts; and strict priorities should be applied to the programme of work in the Agency's laboratories. The eminent scientists who served on the Scientific Advisory Committee were to be congratulated on the assistance they had rendered in those respects to the Director General and the Agency as a whole.

50. The Canadian delegation was ready to co-operate, as in the past, in assisting less-developed countries in establishing and developing their atomic energy programmes, for which the essential foundation was a core of trained personnel and the acquisition of expertise. The recent tendency to favour fairly large-scale technical assistance projects was perhaps unwise, as it could benefit only a few countries and might lead to an undesirable concentration of resources.

51. Perhaps the Agency's most important regulatory activity was that of establishing and administering safeguards; as a Member of the Board of Governors, Canada was participating in the work of the Working Group to Review the Agency's Safeguards System.

52. The Canadian delegation warmly welcomed the proposed establishment of a joint IAEA-FAO division, which symbolized the recognition of the increasing need for the Agency to work more closely with other specialized agencies concerned in the application of atomic energy techniques in particular spheres.

53. For the past two decades, Canada had concentrated on the development of the natural-uranium heavy-water power reactor, and it was heartening that full-scale commercial power stations were now being built which were competitive with alternative sources of power.

54. All the difficulties experienced in connection with the 20-MW nuclear power demonstration reactor (NPD), which had been in operation for two and a half years, had been overcome; on-power refuelling of the reactor had become a matter of routine; no fuel failures had been encountered and present reactivity indicated that the predicted high burn-up would be achieved. Heavy water losses had been reduced to acceptable levels; and the NPD reactor had been operated continuously since the beginning of the year with a capacity factor of 84%.

55. Capital costs of the 200-MW power station at Douglas Point, Ontario, equipped with a CANDU reactor, were within the original estimates, and the station would come into operation in the following year.

56. It had recently been decided to build a 1000-MW station with two CANDU-type reactors. The cost of power from the station would be less than 4 mills/kWh. To ensure minimum-cost heavy water the Canadian Government had supported the construction of a heavy-water production plant with a capacity of 200 tons per year.

57. There had been a notable increase in the use of gamma-ray medical therapy units of Canadian design and manufacture, and also in the demand for large cobalt-60 irradiators to sterilize surgical sutures - a development of great industrial significance. A large number of versatile laboratory-size

irradiators had been produced, one of which - a gamma cell 220 containing 14 000 curies of cobalt-60 - had recently been donated by Canada to the Agency's laboratory at Seibersdorf. Such irradiators had been used in the production of vaccines, in the manufacture of cotton textiles resistant to rot and in the irradiation of staple foods to prevent sprouting and other spoilage.

58. Many foreign experts had visited Canadian atomic establishments and Canadian experts had exchanged experiences with colleagues in many countries. Canada's ninth bilateral agreement had been signed with Spain only the previous week.

59. Canada continued to co-operate with India in the nuclear energy field, and an agreement had recently been signed for the construction of a 200-MW CANDU power station in Rajasthan.

60. The Canadian Government intended to co-operate fully in making the Agency an effective international instrument for the development of the peaceful uses of atomic energy. It wholeheartedly supported the Director General's view that there should be rotation of senior posts in the Secretariat and that retiring officers should not automatically be replaced by candidates of the same nationality. As was known, Canada had been opposed to compulsory assessments on Member States to support the operational programme, but it agreed that the Agency could not carry out its proper functions without the loyal financial support of all Members, and urged all States to contribute to the General Fund on a voluntary basis so that the operational programmes could be fully and effectively implemented.

61. Mr. EMELYANOV (Union of Soviet Socialist Republics) said that the Agency should draw the necessary conclusions for its future work from the exchange of ideas, knowledge and experience between scientists and specialists from different countries at the Third Geneva Conference.

62. For the continued development of international co-operation - within the framework of such conferences as those held at Geneva or, on a more permanent basis, within the framework of the International Atomic Energy Agency - a stable international situation was the first necessity. International tension had lessened, thanks partly to the conclusion of the Moscow Partial Test Ban Treaty, as a result of which for more than year there had been no testing of atomic

weapons either in the atmosphere, under water or on land and radioactive contamination of the atmosphere had been halted. It had been agreed not to put nuclear weapons into outer space and to curtail the production of fissionable material for military purposes. He welcomed those first steps which showed that where good-will was present ways could be found to resolve even the most complicated problems. However, his delegation wished to express its anxiety at the fact that among some nations there had been increased evidence of forces at work which were deeply hostile to the interests of peace and co-operation; that could only hinder collaboration in the use of atomic energy for peaceful purposes.

63. Turning to the matter raised by the delegations of several African countries concerning sanctions against the Republic of South Africa and Portugal, he observed that the question of those countries had been the constant preoccupation of the United Nations for many years, and that in numerous resolutions the Government of the Republic of South Africa had been urged to discontinue its criminal policy of racial discrimination and apartheid and the Government of Portugal had been called upon to implement the Declaration on the Granting of Independence to Colonial Countries and Peoples. The Soviet delegation was very sympathetic to the demands of the African countries, and shared their deep anxiety at the policies practised by the Republic of South Africa and Portugal.

64. Speaking of the Agency's activity over the past year, he recalled that for the first time the Agency had taken an active part in the organization of a Geneva Conference on the Peaceful Uses of Atomic Energy, and had acquitted itself satisfactorily. Useful work had been carried out relating to the training of personnel and the exchange of information, in particular the organization of various scientific and technical conferences attended by scientists and specialists from many countries. The Agency's activity in regard to radioisotope applications should promote the wider use of isotopes in agriculture, industry and, more especially, in therapeutic medicine. A certain amount of work had been done on the revision of the Agency's safeguards system, by a working group appointed by the Board of Governors. But that was only a beginning, and the work in question must be developed and co-operation of every kind increased.

65. An example of such co-operation was the meeting of specialists from the United States of America and the Union of Soviet Socialist Republics to consider the problems of water desalination. Agreement had been reached on the precise form the scientific and technical co-operation between the two countries should take, including the exchange of scientific papers and of experience gained in work on experimental plants. The specialists of both countries had agreed that such scientific and technical co-operation was of benefit not only to the two countries concerned bu also to many countries where there was a shortage of fresh water.

66. Co-operation within the framework of the Agency could develop in the context of joint projects such as the programme proposed by the socialist countries for the establishment of medical centres and physics laboratories in the developing countries. In putting forward that programme in 1962 the socialist countries had assumed that it would be a combined project. From the very beginning the socialist countries had expressed their willingness to defray one third of the total cost. That had not prevented their proposal meeting a cool reception from the Western Powers, while receiving a good response from the developing countries, many of which had expressed an earnest wish to see such centres constructed.

67. Analysis of the requests received from various countries, together with the discussions held on the matter in the Board of Governors, showed that it was no accident that the developing countries were more interested in the establishment of radiological centres than of physics laboratories. The information collected by the Agency regarding available radiological centres indicated that there were very few such centres in the developing countries. Out of 698 cobalt plants in use in the world, there were, for example, only two in Africa, in Asia (excluding Japan) - 18, and in Latin America - 38.

68. When the proposal had been discussed by the Board at its September meetings, the socialist countries had accordingly proposed that the physics laboratories be replaced by an equivalent (in terms of cost) number of medical centres. However, on that occasion too, the Western Powers had declined to take part in the programme. The United States had proposed an amendment to the draft resolution submitted to the Board, which referred to what was to be done about one third of the resources only, namely that part offered by the socialist countries; about the remaining two thirds the resolution had nothing whatever to say.

69. He recalled that in resolution GC(VII)/RES/152 the General Conference had expressed the hope that further offers might be forthcoming to provide the equipment, apparatus and fellowships for, or the financial resources required to implement, the remaining two thirds of the programme. In that connection he reproached the Secretariat for not having displayed the necessary energy to carry out the project in full, but rather having concerned itself with studying purely formal questions, without taking any effective action.

70. Although the Western Powers were unwilling to participate in the project, the socialist countries had decided nevertheless to offer that help to the developing countries which were Members of the Agency. They were placing at the disposal of those countries equipment for the construction of the number of radiological centres provided for under the terms of their proposal, i.e. up to a value of 700 000 roubles, regardless of whether the Western Powers took part in the programme or not.

71. The resolution adopted by the Board of Governors left two possible courses open: either to place the programme on the same footing as the Agency's regular technical assistance projects, or to handle it on a bilateral basis, outside the Agency. If the Western Powers did not participate in the programme proposed by the socialist countries, or if the developing countries themselves did not wish to become involved with the whole complicated bureaucratic system of obtaining help through the Agency, then there was no alternative for the socialist countries but to provide such help on a bilateral basis. In any case the socialist countries would consider that they were providing the help in question as their voluntary contribution to the Agency's technical assistance programme.

72. The Soviet delegation had more than once pointed out the connection between the prospects for the Agency's activity and the progress in disarmament talks, and called upon the Agency to help in settling that most important problem. Two years previously the Agency had finally got round to studying the question of the economic and social consequences of disarmament. That study had resulted in the first draft of a document that would graphically demonstrate the advantages disarmament would bring to mankind in regard to the development of nuclear power. However, although the study had been continued during the past year, very little had been accomplished in practice. No thorough study

of the economic and social consequences of disarmament was at present being carried out in the Agency. Moreover, the Western Powers were not in favour of any such study, as had emerged at a meeting which the Director General had held with representatives of the United States, the United Kingdom and the Soviet Union. The Agency was being allotted the role of consultant to the United Nations. Meanwhile, a serious study of the economic and social consequences of disarmament could have been embarked upon, and might have helped to mobilize support for solving the problem of disarmament as soon as possible.

73. After listing the Agency's activities over the past year in the field of safeguards, he declared that the Soviet delegation was in favour of safeguards, and therefore considered that the decision to extend the safeguards system to large reactors was a step in the right direction, as it would have been illogical to impose controls on small reactors and to leave large reactors uncontrolled. The decision to carry out a general review of the safeguards system was also correct, as the present system was difficult to apply.

74. However, in that connection, certain tendencies had appeared against which it was necessary to be on guard. For example, some members of the Working Group to Review the Agency's Safeguards System evidently thought that the Agency should be used for the purpose of controlling nuclear disarmament. His delegation could not support that view. In its Statute it was laid down as the Agency's objective "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world".

75. The representatives of certain Western Powers were more and more frequently heard to remark that the Agency's main task was to discharge controlling functions. He could not agree. He disagreed even more strongly with the idea that the Agency should be used for controlling nuclear disarmament.

76. As regards the practical application of safeguards, the Agency had a number of things to be controlled and the necessary control machinery. But how did that machinery work? It comprised a staff of ten inspectors, approved by the Board of Governors. In all, twenty-two inspections had been carried out on eight inspection missions. A national of Argentina had participated in all twenty-two inspections, while a national of the Soviet Union had not participated in one. While he had nothing against the representative of Argentina who

was taking part in such important work, he was concerned that neither the Soviet representative nor the representatives of certain other countries had taken part in the inspections. As far as qualifications were concerned, the Soviet member of the staff was a specialist in reactors and had worked for many years on atomic power stations.

77. In political language that would be called "discrimination", and that was what he had had in mind when he had urged that the principle governing selection of the inspection teams should be clarified.

78. Concerning the application of safeguards to bilateral agreements, although the Statute empowered the Agency to discharge the control functions envisaged by such agreements, it also provided for the parties to the bilateral agreement to pay the expenses the Agency incurred in connection with the implementation of such safeguards.

79. The United States of America had recently placed several of its bilateral agreements under Agency safeguards: those with Japan, Norway, Austria and other countries. In that connection it was surprising that the Agency had taken upon itself not only the responsibilities but also the expense, thereby freeing the United States from both. That was not good practice. It should be borne in mind that the Agency's expenses in that respect might well rise considerably in the future. During consideration of the question in the Board one Governor had said that the Agency's budget might reach fifty to one hundred million dollars a year. It was therefore important to take the right line on the matter in question from the very outset.

80. It was agreed that the Agency's safeguards should be regarded as a means of preventing the spread of nuclear weapons; but there was no point in perfecting the safeguards system so that the Agency's assistance should not be used for promoting the spread of nuclear weapons, while at the same time turning a blind eye to the fact that there were other channels open which could also ultimately lead to the spread of nuclear weapons.

81. In conclusion he wished success to the eighth regular session of the General Conference and expressed his hope that a spirit of co-operation and good-will might govern its work.

82. Mr. SUDARSONO (Indonesia) warmly welcomed Cyprus, Kuwait, Madagascar and Kenya as Member States of the Agency but regretted that the People's Republic of China was still not represented and that Africa was represented on the Board of Governors by South Africa, whose apartheid policy his country condemned.

83. In Indonesia, the Atomic Energy Institute had been set up in 1958. Because of the absence of scientific manpower, one of its first tasks had been to create training centres, two of which were being set up under the first five-year programme: one at the University of Jogjakarta, equipped with a sub-critical assembly, a radioisotope laboratory, a gamma irradiator and a reactor simulator; and the other at Bandung, whose activities would be centred on a TRIGA reactor. The centre at Jogjakarta was completed, while that at Bandung was waiting for its first shipment of fuel and should be in full operation early in the coming year.

84. Work had already begun on two research centres: one of which, at Serpong, near Djakarta, would have an IRT reactor and various laboratories; while the other, at Pasar Djumat, would specialize in research into minerals and materials and the application of radioisotopes.

85. Preliminary surveys for radioactive minerals had been carried out in Java and Kalimantan. The Atomic Energy Institute had conducted a number of courses on health physics, the medical and agricultural applications of radioisotopes and reactor operation. A nationwide seminar had been held in March 1962 and a study group on atomic energy policy in March 1963. The X-ray clinic at the Djakarta General Hospital, intended for medical applications of radioisotopes, was being extended, and work was being resumed on a radioisotope distribution centre at Pasar Minggu.

86. Progress on the whole had been satisfactory, but much of course remained to be done. His delegation believed that the Agency could be of great assistance in at least three respects. One was the fellowship programme. The Agency had been largely instrumental in increasing the number of qualified scientists and engineers in Indonesia, but the length of time that candidates for fellowships had to wait before receiving a decision from the Agency had led to a number of withdrawals, and that had affected the Institute's programme. Secondly, he

hoped that the Agency would play a more active role in encouraging the establishment of a radioisotope training centre, which would help to stimulate scientific activity in a developing country like Indonesia. Thirdly, while many developing countries already possessed experts in certain fields - thanks partly to Agency help - they lacked the foreign exchange necessary for obtaining equipment. The Agency should explore possibilities of making outright grants of equipment, instead of sending experts with some equipment. That would save effort and expense all round, as countries sometimes requested experts primarily with a view to obtaining equipment.

87. The Third Geneva Conference had revealed that economic comparisons of methods of providing nuclear power were as conflicting as ever. The Indonesian delegation proposed that the Agency - which had already made some studies of nuclear power generating costs - should assist Member States which were still in the process of formulating their nuclear power programmes by providing technical evaluations of existing nuclear power stations of different types.

88. Indonesia was emphatically opposed to the use of atomic energy for military purposes; it had signed the Partial Test Ban Treaty and was therefore not opposed to safeguards in principle; but the existing safeguards system was highly discriminatory in that it was directed only towards States receiving assistance, i.e. the developing countries, which in any case lacked the resources for nuclear weapons programmes. The latest proposal of the Working Group to Review the Agency's Safeguards System was to extend safeguards to equipment, services, facilities and information. That would be highly detrimental to developing countries, as it would probably lead to long delays in the provision of Agency assistance, if not to its complete cessation, which was wholly contrary to the purposes and aims of the Agency.

89. Mr. BAXTER (Australia), commenting on the Agency's activities, noted with satisfaction the continued expansion of its work in South East Asia and the Pacific. The Agency had greatly stimulated the progress of nuclear technology in that area, and the conferences held had afforded Australia a new insight into the problems facing the development of the peaceful uses of atomic energy in that part of the world.

90. Referring to the use of atomic explosives in civil engineering, the first of three aspects of the peaceful use of atomic energy which he particularly wished to mention, he considered that that revolutionary technique was of special interest to countries which still had to undertake major development work. Australia was heartened by the progress being made under the United States Atomic Energy Commission's "Plowshare" programme.

91. The second aspect he wished to mention was a far more familiar one, namely the use of radioisotopes in agriculture, medicine and industry. That was another area in which atomic energy could contribute to solving vital human problems.

92. Although Australia's main effort in the field of the peaceful uses of atomic energy was power reactor development, to which he would refer subsequently, the country was also producing a wide range of radioisotopes - from high-activity cobalt to short-lived isotopes for medical and biological research - for both domestic use and export. Powerful radiation sources were being used regularly in industry for sterilization, and very promising research had been in progress for some time on the reduction and control of the fruit fly and on the extension of the storage life of fruit and other foodstuffs.

93. Australia was also examining the possibility of using radiation to disinfest cereal products. There was already considerable evidence to show that radiation disinfestation in no way affected the wholesomeness of grain, and the principal outstanding problem was to devise a process of radiation disinfestation which was acceptable from the point of view of cost. Much work remained to be done in that field.

94. In civil engineering extensive use had been made of isotopes in the solution of silt problems in estuaries and harbours, and a most important study of that type had just started in Botany Bay.

95. The Australian authorities realized that public reaction to the use of radioactive materials in engineering and in industry generally was a most important matter, and an investigation of public feeling on the subject had recently been initiated.

96. He then turned to the subject of power reactors, the third aspect of the peaceful uses of atomic energy to which he wished to refer. It was expected that the immediate role of nuclear power in Australia would be small unless it could be produced at costs significantly below those expected from current types of reactor. However, although nuclear power could not compete with cheap coal in Australia, a number of nuclear power stations would probably be built in the near future, with the object of providing technical experience, serving special localities and perhaps providing test facilities.

97. Australian scientists had for some years been working on a very high-temperature reactor system and agreed with views expressed at the Third Geneva Conference that the ultimate low-cost, high-efficiency power reactor would probably be developed on the basis of that system.

98. The Australian delegation was pleased to note the progress made during the year in the field of regulatory activities, particularly with regard to the revision of the Agency's Regulations for the Safe Transport of Radioactive Materials, the Code of Practice for the Provision of Radiological Protection Services, and the Code of Practice for Personnel Monitoring. Those regulations and manuals would prove of considerable value, and Australian regulations and procedures were broadly compatible with those formulated by the Agency. He had, however, to confess to misgivings about some aspects of the Regulations for the Safe Transport of Radioactive Materials. Their effect should not be to restrict everyday transactions unnecessarily or to place nuclear technology at a disadvantage relative to other technologies which might well be regarded as less safe. While on the subject of the transport of radioactive materials, he wished to place on record his Government's appreciation of the co-operation received from countries involved in Australia's international transport of those materials.

99. Turning to safeguards, he said that his delegation considered three points of cardinal importance: firstly, the Agency's system should be simplified; secondly, it should embrace relevant facilities and equipment as well as nuclear materials; and thirdly, provisions relating to quantities, sizes and so on should be based on realistic considerations, both as regards the circumstances of each case and the state of development of nuclear technology.

100. In conclusion, he wished to thank the Agency for inviting Australia to sit on some of the panels which had worked on the Agency's regulatory codes. His Government was pleased to assist in that work and looked forward to the day when the Agency's Safety Series would be universally accepted by Member States.

CLOSING DATE OF THE SESSION

101. The PRESIDENT recalled that, under Rule 7 of the Rules of Procedure, the Conference was required to fix the closing date of the session in the light of a recommendation by the General Committee.

102. The General Committee had discussed the question and had unanimously agreed that sufficient time must be allowed for thorough discussion of all items on the agenda. It had been recognized that it would be undesirable for a closing date to be fixed which would in any way limit the amount of time available for discussion of any item and particularly for the general debate.

103. The General Committee had authorized him to propose a closing date, once the general debate was well under way. He was accordingly now suggesting that the Conference should provisionally set Friday, 18 September, as the closing date of the session. If during the course of Friday it became apparent that more work remained than could reasonably be completed during that day, the session would continue, without question, until such time as all business had been disposed of in good order.

104. The President's suggestion was accepted.

The meeting rose at 1 p.m.