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President: Mr. FURUUCHI (Japan)

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* GC(III)/88/Rev.2

N.B. The list of delegations attending the third regular session of the
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GENERAL DEBATE AND REPORT OF THE BOARD OF GOVERNORS FOR THE YEAR 1958 - 59
(GC(III)/73, 85, 89 and Add.1, 92) (continued)

1. Mr. FLOBERG (United States of America) said that he would refrain from mentioning purely political questions, which should not be discussed by the General Conference. The United States Government reaffirmed its faith in the major objective assigned to the Agency by its Statute, namely "to seek to accelerate and enlarge the contributions of atomic energy to peace, health and prosperity throughout the world".
2. Since the second regular session of the General Conference, the Agency had made significant progress in carrying out its programme. In particular, he wished to mention the work done by the Agency's panels, especially the panel on civil liability and state responsibility for nuclear hazards.
3. Since President Eisenhower had put forward the idea of an international body to promote the peaceful uses of atomic energy, significant changes had occurred. For example, there was a glut of uranium on the world market, instead of its being difficult to obtain; the supply of reactor fuels thus presented no problem. On the other hand, the cost of conventional fuels had decreased so that the construction of nuclear power plants appeared less urgent. Moreover, experience had shown that the construction costs of such plants would exceed the optimistic estimates made a few years previously. For those reasons, in spite of advances in nuclear power technology, nuclear power plants were not yet competitive except in areas where conventional fuels were very costly. More detailed study was necessary to reach the point at which nuclear power would be an economic proposition throughout the world. The United States of America, in particular, aimed at developing power reactors which would be competitive with conventional fuels.
4. During the experimental stage of nuclear power development, the Agency could develop its programme in other more pressing spheres: experimental and training equipment, increase of radioisotope production facilities and their better utilization, health and safety programmes, assistance to Member States in the organization and administration of their atomic energy programmes and the training of specialists.

5. He believed that the General Conference would recommend the Board of Governors to strengthen the Agency's programme in all those aspects, following the principle of giving help where it was most required. The moral responsibility rested on the more advanced Member States, while the beneficiaries would be mainly the countries of the "underdeveloped areas of the world", as the Statute stressed. The United States had always had deeply at heart the wellbeing of those countries, many of which were Members of the Agency or, it was to be hoped, would become so on attaining independence.

6. To an increasing degree, the Agency was becoming an information centre where the results of the experience gained by its Members would be centralized. It would thus be able to guide and advise countries which might not understand some of the hard realities of the atomic age. From now on, the Agency would be in a position to provide a co-ordinated effort which would best serve the interests of the less developed countries. For that reason, the United States of America would rely more and more on the Agency to make United States technical aid available. The Agency had also shown an increasing ability to deal internationally with problems of safeguards and of health and safety.

7. The United States was submitting for consideration by the General Conference recommendations concerning seven aspects of the Agency's programme of activity: expanded technical assistance, training, radioisotopes, research, information, nuclear power, and health and safety. Those recommendations were primarily concerned with the Agency's 1961 programme, since the United States supported the programme and budget for 1960 recommended by the Board of Governors.^{1/}

8. The United States strongly hoped that the target of \$1 500 000, set for the operational budget at the second session of the General Conference,^{2/} would be attained by the end of 1959. The United States would make its pledge for 1960 when the General Conference came to that item on its agenda. It wished now to urge every Member State to do its utmost to ensure the success of the Agency's operational programme.

^{1/} GC(III)/75.

^{2/} GC(II)/RES/25, Part B.

9. Turning to the Agency's activities in the seven fields he intended to review, he first stressed the need for increased technical assistance. The programme for providing experts was going well, but it would be advisable in 1961 greatly to increase the supply of specialized equipment to less developed countries: equipment such as sub-critical assemblies, radioisotope irradiation sources, irradiation facilities and laboratory equipment. The methods for carrying out the programme of equipment supply could be worked out by agreement between the donor countries, the Board and the Secretariat. The United States would assist the Agency, to the extent to which funds were available, to meet current requests for equipment submitted by Member States.

10. The rapid growth of the Agency's training programme was encouraging. The United States would continue to make fellowships available in 1960 for Agency-selected students. The Agency should encourage Member States to acquire an independent capacity to provide training, especially for university faculties and secondary schools.

11. The Agency's work in connexion with radioisotopes should be intensified, especially for the benefit of the less developed countries. A wide use should be made of its mobile laboratories for training specialists. The Agency could do useful work in connexion with radioisotopes produced by research reactors, by helping Member States to plan the production of radioisotopes and by providing for their most effective use. It could also assist a number of Member States by suggesting how the accumulated experience of other Member States in the application of radioisotopes could be adapted to their own special needs.

12. It was advisable to start preparing plans for the standardization work which would be carried out by the Agency's functional laboratory. For example, there were no uniform methods for making precise measurements of radioactivity. Agreed standard measurements of radioactivity were essential to the Agency if it was to carry out waste disposal studies and investigations of natural or reactor-induced radioactivity and of nuclear accidents.

13. It was most important that the Agency should encourage and co-ordinate research activities, especially with regard to the possibility of controlled thermonuclear reactions. The United States would continue the research it was undertaking in conjunction with the Agency. A contract had already been signed for studying the difficult problem of producing calcium-47. Other contracts were being negotiated on the subjects of plant breeding and animal and human genetics.

14. The distribution of technical information should also be intensified. Publication of the Agency's journal on thermonuclear fusion and plasma physics should be expedited. The Agency, which was already publishing useful international reference works such as the directory of reactors and the international directory of radioisotopes, should also collect, for the use of all its Members, technical data communicated to it by the advanced countries as, for example, on nuclear cross-sections.
15. With regard to reactor development and nuclear power, he was pleased to see that the Agency was carrying out a survey on the economic aspects of small and medium power reactors. The United States would contribute to the success of the survey by supplying information and the services of experts.
16. The realistic attitude which the United States took with regard to the prospects for the development of nuclear power should not be mistaken for pessimism. On the contrary, his country was undertaking promising experiments covering various types of small and medium-sized reactor, in particular a small prototype reactor of the pressurized water type, intended solely for generating power. The reactor project had been planned with the Agency's programme in mind, since its purpose was to meet the power needs of areas which were not heavily industrialized. The United States proposed to make arrangements with the Agency whereby technical personnel from the Agency could participate in all stages of the project including design, construction and operation of the prototype. It would also provide the Agency with information on other small and medium-sized reactor projects.
17. The Agency should undertake a study - in which the United States would actively participate - of the economic aspects of reactor systems using thorium.
18. Finally, with regard to the important subject of health and safety, a high priority should be given to the problem of radioactive waste disposal. The number of radioisotope users was constantly increasing, uranium mining was growing and the chemical processing plants to handle the spent fuel would also increase. More than 300 civilian reactors were either already in operation or soon would be. The disposal of the resulting waste raised a problem which could only be solved on an international basis.

19. The United States proposed that the Agency, which was the most suitable organization to deal with that highly complicated problem, should adopt a programme - to which his country would give every possible assistance - consisting of the following five points:

- (a) A study to determine the feasibility of establishing regional or international burial grounds for packaged and solid radioactive waste;
- (b) An investigation to designate specific sea-disposal sites and establishment of an international register for sea-disposal operations;
- (c) Studies to determine the fate of radioactive materials that found their way into international rivers, in order to determine the maximum permissible quantities of radioactive materials in such waterways, particularly those used for irrigation or to provide drinking water;
- (d) The development of basic criteria for radioisotope laboratories, with emphasis on health, safety and waste disposal, and the preparation of a handbook on the treatment and disposal of low-level waste;
- (e) A complete analysis of the problem of waste disposal in order to emphasize its international nature.

20. The Agency, which was acquiring a staff qualified in reactor safety, should also consider assuming responsibility for evaluating reactor hazards. The waste disposal and reactor safety evaluation programmes would lead the Agency to co-ordinate its activities with those of other national and international organizations in order to assist in securing the adoption of standards for maximum permissible radiation exposure.

21. The proposals which he had made on behalf of his Government formed an impressive panorama of the opportunities that lay before the Agency. Their adoption would provide the best possible means for the more developed Member States to help all other Members and to bring the benefits of the atomic age to all nations.

22. With regard to Agency safeguards, he pointed out that the increase in the use of fissionable materials made it imperative that steps be taken to put Article XII of the Statute into effect. The United States Government wished to compliment the Board of Governors on the excellent progress so far made in drawing up a set of principles to govern the application of safeguards. He hoped that during the ensuing year the Board would adopt regulations based on those principles and that both the principles and the regulations would be transmitted to all Member States, well in advance, for consideration at the fourth regular session of the General Conference.

23. The United States delegation had clearly defined its position on safeguards from the time of the earliest negotiations which had led to the establishment of the Agency. At the second regular session of the General Conference, it had endorsed the request of the Government of Japan that the Agency should take over as rapidly as possible the administration of the safeguards provisions in the Agreement for Co-operation between Japan and the United States. It was confident that other countries which were signatories to bilateral agreements would follow the same course.

24. The United States had accumulated a considerable body of information on accounting for and control of fissionable materials, and was prepared to make that information available to the Agency.

25. The uranium market situation had changed greatly since the establishment of the Agency. The scarcity of uranium in 1953 had given way to plenty. However, the United States delegation still considered that the Agency had a vital role to play in the distribution of nuclear materials throughout the world. The Agency was in a position to supply substantial quantities of those materials and many nations might wish to satisfy their requirements through it rather than through bilateral arrangements. In that connexion, the United States delegation was glad to learn that two countries, one of them being Austria, had made enquiries of the Agency with regard to the supply of uranium. The United States would not fail to encourage its bilateral partners to draw upon the Agency's pool of fissionable materials to satisfy their requirements.

26. After recalling the offer of uranium-235 which the United States had made to the Agency, and which had led to an agreement^{3/} that had come into force on 7 August 1959, he said that the United States Government was prepared, subject to appropriate authorizations and the development of an adequate Agency safeguards system, to supply the Agency with as much fissionable material as it might need to meet the requests of its Members.

27. The United States was also prepared to donate, in the course of the coming year, up to \$50 000 worth of enriched uranium (nearly 3 kilogrammes at present prices) for use in Agency-sponsored research projects. Moreover, as had been announced in February 1959, the United States was ready to supply enriched uranium for Agency-sponsored power projects, payment to be spread out, if desired, over a period of 20 years.

28. Finally, he stressed the fact that the existence of an organization such as the Agency was indispensable in the atomic age, and hoped that all Member States would make every effort to contribute to the Agency's work in a way which would enable it to expand further its role in promoting the peaceful uses of atomic energy.

29. Mr. COUTURE (France) said that, at the end of the Agency's first normal working year, it was becoming clear where the Agency would have a specific role to play while it was equally becoming apparent that it would not be called upon to carry out certain other functions contemplated at the time of its establishment.

30. For instance, it had been intended as one of the Agency's main tasks that it should act as a broker in nuclear raw materials which were to be used exclusively for peaceful purposes. So far, however, despite the large quantities of uranium-235 offered to the Agency, no country had asked its help in obtaining that material, which was used in most research reactors, everything being arranged by bilateral agreements. Similarly, no bilateral agreement had been submitted for implementation under Agency supervision, despite the provision made in the Statute. In the case of natural uranium, now certain to be in abundant supply for many years to come, the Agency was involved in only one agreement, which concerned less than 0.01% of present production. On the other hand, the somewhat laborious negotiation of that agreement had had the useful effect of inducing a 25% reduction in the prices which had obtained up till then.

^{3/} INFCIRC/5, section III.

31. France would therefore continue, as it had always done, to recommend moderation in regard to safeguards and controls. The work now being done by the Board of Governors to devise practical means of giving effect to Article XII of the Statute was an interesting attempt to get away from principles which were too broad. Over-rigid rules should also be avoided, however; it should be remembered that control had psychological and political as well as purely technical aspects. Flexibility and some measure of empiricism, taking into account in particular the stage of development reached by the receiving countries, were essential if it was desired that the Agency should be asked for substantial assistance.

32. On the other hand, the Agency had in 1959 begun useful and serious work - and was doubtless the only body which could do it effectively - in regard to technical assistance and technical co-operation, including the training of technicians, the organization of conferences and the despatch of teams of experts.

33. The French delegation fully approved the Agency's fellowship programme. France had undertaken to receive 19 Agency fellowship holders from 11 countries in 1959; 12 of them had been given fellowships which France had placed at the Agency's disposal. France would receive about 30 more in 1960 and, as in 1959, would continue to make fellowships available to the Agency.

34. Conferences and symposia offered a fruitful and rapid method for bringing together technical experts from distant countries and for disseminating knowledge, and it was the Agency's duty to employ it. In July 1959, France had been pleased to receive at the Saclay Nuclear Research Centre participants in a symposium on atomic energy and its educational problems. Small specialized gatherings of not more than 20 to 30 people would probably be more useful than very large meetings which were necessarily infrequent and required a financial outlay out of keeping with the Agency's present budget.

35. With regard to publications, the usefulness of the Agency and its staff had been shown up particularly clearly by two important productions - the international directory of power reactors, and the directory of radioisotopes which were available from various manufacturers.

36. The French delegation unreservedly approved the Agency's work on health and safety and would continue to take part in the study groups on radioactive waste disposal and the transport of highly radioactive materials.
37. The Agency's main activities were in the vast field of technical assistance. As in the past, France would continue to provide experts for preliminary technical assistance missions and would endeavour to satisfy requests for technical assistance from States Members of the Agency.
38. The success of the technical assistance programme was shown by the number of requests received during 1959 but, in the light of the Agency's modest operational budget - even including the contribution received under the United Nations Expanded Programme of Technical Assistance - that success itself gave rise to some anxiety. It might well be that the piecemeal financing of a large number of projects which, although of individual interest, were unco-ordinated, was a step in the wrong direction. The Agency should perhaps copy other international organizations and place more emphasis on "major projects" which, through co-ordinated action backed up by all the Agency's resources, would help whole regions to advance in the peaceful uses of atomic energy. To increase the effectiveness of the programme of technical assistance and to ensure that the Agency's resources were distributed as fairly as possible, France was also in favour of draft rules whereby technical assistance requests would have to be considered at fixed dates and a ceiling would be placed on appropriations for supplies of equipment.
39. The extensive survey of small nuclear power plants carried out in pursuance of resolution GC(II)/RES/27 seemed to correspond exactly to the French delegation's conception of a "major project". A study of that kind should enable nations with inadequate power resources to benefit by the accumulated experience of the highly industrialized countries. In France the G-2 reactor at the Marcoule Centre had become operational in 1959; for several months past it had been supplying some 30 megawatts of electricity to the national grid. Under the power programme for 1965 there would be a capacity of almost 1 000 megawatts, to be provided partly by the stations included in the national plan and partly by a station to be built under the Agreement between the United States and the European Atomic Energy Community (EURATOM). That showed France's faith in the future of the new source of

power. Nevertheless the French delegation felt in duty bound to point out that experience gained in France and in the other highly industrialized countries confirmed that, generally speaking, nuclear power would not in the near future provide a solution to the problems of those countries which were embarking on a programme of industrialization: the production of nuclear power demanded considerable investments in industrial equipment and highly skilled manpower that might very likely handicap the national economy as a whole.

40. That was his delegation's understanding of the Agency's present role. During discussions on the budget his delegation had opposed an increase of more than 10% in the Agency's staff, in the hope that 1960 and even 1961 would be years of consolidation and not of expansion. It was satisfied with the present division of the Agency into four departments, and paid a tribute to the work of their heads.

41. The Agency's technical staff would be assisted in their work by the laboratory which was under construction; France had already made it a gift of electronic equipment and intended to present a substantial amount of the same type of equipment in 1960 to a total value of approximately 15 million francs.

42. The French delegation was still dissatisfied with the cumbersome working of the Board of Governors; preparation for its meetings took up a large amount of the Secretariat's time, to the detriment of its productive work. The Board should restrict itself to a quick survey of the major projects, and should hand over the secondary questions entirely to its committees (which, the French delegation was concerned to note, were decreasing in number).

43. The French delegation welcomed the establishment of the Scientific Advisory Committee, whose composition was such that it would help to strengthen the Agency's links with the United Nations. France continued to hope that the Agency would steadily develop closer relations with the United Nations, and become, so to speak, its right hand in all technical problems concerning atomic energy.

44. For those reasons France approved the 1960 programme in its broad lines; it marked a stage in the development of the Agency into an indispensable instrument of international co-operation in atomic energy.

45. Mr. BILLIG (Poland) pointed out that the Conference was opening at the very moment when the whole world was deeply impressed by the launching of the moon rocket by Soviet scientists.

46. He noted with satisfaction that current world events - of which the most important was obviously the historic exchange of visits between Mr. Khrushchev and President Eisenhower - gave room for hope that the idea of co-existence was on the way towards final triumph. He was deeply convinced that that new development would further enhance the Agency's role.

47. The first harbinger of a new, more active and more fruitful period in the work of the Agency was the agreement between Mr. Emelyanov and Mr. McCone that the Soviet Union and the United States should refer important information concerning the peaceful uses of atomic energy to the Agency for circulation.

48. There could be no doubt that during the previous year the Agency had become much more active.

49. Everywhere in the world attention was now being paid to the training of specialists in atomic energy. That was a serious problem, not only for the countries which had to make great efforts to catch up, but also for those which had an extensive atomic industry.

50. In that connexion, the Polish delegation expressed its satisfaction at the Agency's fellowship programme. A few Polish fellowship-holders had already returned home, and his Government thanked those countries which had so generously welcomed them and endeavoured to make their stay as profitable as possible. However, he felt that Member States, including Poland, were not yet drawing the maximum possible benefit from the Agency's fellowship scheme.

51. The conferences and scientific meetings organized by the Agency were most valuable. He was pleased to see that the resolution proposed by the Polish delegation at the second regular session of the General Conference, that the Agency should take a more active part in organizing scientific meetings, seminars and conferences,^{4/} was being put into operation, and that the Agency was itself organizing conferences and meetings of that type.

52. The Agency's first scientific conference, held in Warsaw, showed that the Secretariat considered such meetings highly important. The experiment had confirmed their value - provided, of course, that they were well prepared and dealt with questions of importance to many countries.
53. Among the Agency's successes should be included the publications it had issued during the previous year; they were very useful and sure to contribute to the dissemination of valuable scientific and technical information. The rapid and efficient dissemination of information on the state of research and the latest progress in atomic energy had become a sheer necessity, opening up a vast field of activity for the Agency.
54. Another of the Agency's notable achievements was the conclusion of agreements whereby the United States of America, the United Kingdom and the Soviet Union had placed uranium-235 at the Agency's disposal for supply to Member States.^{5/} The Agency had also begun to give technical assistance to Member States, sending missions and experts and supplying certain materials and equipment.
55. The Secretariat and the Board of Governors had devoted a great deal of time and effort to the problem of safeguards. Poland was not, of course, opposed to the application of the safeguards mentioned in the Statute, which it had ratified; but those safeguards should be reasonable and should provide security without discouraging Member States which wished to obtain the Agency's assistance. The assistance which the Agency would be able to give its Members during the next few years did not require the sort of safeguards proposed by certain Member States.
56. When the Agency had been established, the presumption had been that it would be the sole supplier of source and fissionable materials. Now, however, several countries were receiving reactors and other materials under bilateral agreements, and there was no reason for thinking that that state of affairs would change soon.
57. For instance, Poland had received from the Soviet Union an enriched-uranium reactor, some special appliances and much other equipment. The Soviet Union had also supplied Poland with three tons of uranium metal for experimental purposes. That had been a purely commercial transaction, with

^{5/} See INFCIRC/5.

no extra conditions attached. Another agreement had already been made with the Soviet Union to supply Poland with fuel for a second experimental reactor and to assist in its construction, without imposing any control.

58. Poland had already stated in the Board of Governors, and now repeated, that in so important a matter as control it was hard to understand such anxious haste to impose a system of safeguards. In such a matter as that, there was need for discretion and prudence, and unanimity amongst Member States. No decision on the implementation of safeguards should be taken until the Agency had acquired some practical experience in its relations with the various countries.

59. Similarly, assistance to less developed countries called for special care on the Agency's part. That delicate question must be handled wisely if surprises were to be avoided.

60. Agency activities concerning less developed countries could be extended only on the basis of a long-term plan and an intimate knowledge of their needs. The Agency should use the data already assembled by the specialized agencies and the United Nations regional organizations in co-operation with the countries concerned and be guided by them in preparing a long-term programme of assistance to less developed countries. That, of course, did not mean that the Agency should pursue unduly ambitious or remote aims.

61. The Agency's financial resources were very slender, so that in drafting its programme of assistance to less developed countries it should give priority to those forms of assistance that would yield tangible results quickly. It ought to begin, as the first stage, by endeavouring to encourage the use of radioisotopes in medicine, agriculture and industry in those countries. For that purpose it should encourage the necessary research, paying special attention to the training of specialists and the provision of suitable working conditions.

62. The second stage would consist essentially, once nuclear power had become economic, in developing the production of nuclear power - a matter of vital importance to the less developed countries - together with other applications of atomic energy.

63. At the moment, the Agency, in co-operation with other competent organizations, should concentrate on studying the stage of development reached by the various countries and regions, and providing assistance in any sectors where it was required. That involved considerable expenditure, however, and the necessary funds were still lacking. But it could be done with a mere fraction of what was spent on atomic weapons.

64. Technical assistance to the less developed countries was financed from a fund made up of voluntary contributions from Member States. The Agency must therefore see that that fund was not used for purposes not approved by the contributing States, such as the despatch of a mission to Taiwan - done in spite of the objections of several States, including Poland, which had asked that no discord should be introduced, and that major decisions should be adopted by unanimity.

65. Poland was by no means opposed to such missions, but considered that, during its initial period, the Agency should, in the organization of training centres for example, give regional assistance mainly. Missions had to be carefully prepared in the light of general conditions, the economic needs of the regions concerned, and results of economic and social development schemes carried out by the regional economic commissions of the United Nations.

66. On the administrative side of the Agency's work, he said that international organizations usually tended to inflate their administrative machinery, and the Agency had fallen into the same error. It should modify the Secretariat's structure by appointing relatively more technical staff and fewer pure administrators, and by making better use of the abilities of those taken on during the initial period of organization.

67. The Agency had failed to make use of certain resources offered to it. It could, for example, send the experts made available to it free of charge by certain Member States to the less developed countries either as consultants or in order to organize certain types of work.

68. As an example of problems of Member States which the Agency could help in solving, he referred to research on thermonuclear energy, which could be considerably speeded up and advanced if co-ordinated as between the different countries. Poland welcomed the Board's decision to publish a specialized journal on fusion research and plasma physics and eagerly awaited its appearance, it hoped that that first step would be followed by others.

69. The Agency could also usefully promote closer co-operation on high-energy particle accelerators. They were very costly to build, and several countries and groups of countries competed in building them, with scientific results not always proportionate to the scale of the installations. If those countries could agree under Agency auspices to co-operate closely and draw up their future plans, they could reduce their expenses considerably and get better scientific results.

70. Those examples showed that during the next few years, by a judicious use of its relatively modest resources, the Agency could play an important part in the development of international research.

71. The Agency's activities, however, could only be expanded if all obstacles to far-reaching co-operation between the various countries were removed. Conditions favourable to the free development of human thought must also be established, and a relaxed political atmosphere created in which the greatest scientists of the world could pool their efforts. The tension generated by international conflicts was unresolved, and the "cold war" and the armaments race which inevitably accompanied it charged the atmosphere with a distrust which inhibited or even prevented altogether any serious exchange of information and the co-ordination of research in all branches of learning, including nuclear science. Moreover, that state of affairs immobilized large material resources which could be used for constructive purposes. The Polish delegation therefore warmly supported the Czechoslovak delegation's proposals and the draft resolution it had submitted (GC(III)/89 and Add.1). The Agency was directly interested in the cessation of nuclear explosions and in steps to ensure that atomic energy was used exclusively to ~~serve the peaceful~~ purposes for the promotion of which it had in fact been established.

72. The Agency already had considerable success to its credit. It would be able to do more when the remains of the "cold war" had vanished from the atmosphere. But the road to peace was long and arduous. The world was haunted by the memory of the "mushroom cloud" and by the occurrence of new nuclear explosions. Nevertheless, the Polish people remained full of optimism. The forthcoming resumption of negotiations for disarmament, and the progress already made in the negotiations between the Great Powers on the cessation of nuclear explosions, were conclusive evidence that reason would prevail and point the way to universal peace and co-operation between nations.

73. Mr. RAGGATT (Australia) found it encouraging that the Agency, which had been established little more than two years previously, had already brought into being a sound and constructive programme, attuned to the objectives laid down in the Statute and in line with the available resources.

74. The Australian Government considered that the Agency's three most important present activities were the provision of technical assistance, regulatory activities - particularly in regard to safety - and the collection of information.

75. Many serious health and safety questions could be dealt with satisfactorily only at the international level: for example, standardization of measurements and techniques - e.g. for handling radioisotopes -, regulations for the transport of radioactive materials and the discharge of radioactive waste into the sea and waterways.

76. The importance of the technical assistance activities could not be over-emphasized. Many Member States were doubtless aware that the Australian Government itself granted technical assistance to certain less developed countries, in particular to its neighbours in South and South-East Asia (under the Colombo Plan), and also to other countries as part of the United Nations Expanded Programme of Technical Assistance.

77. Australia had set up an Institute of Nuclear Science and Engineering at Sydney, near the Australian Atomic Energy Commission's research reactor. The Institute provided excellent facilities for training technicians and for research.

78. It was well known that there was a world shortage of personnel highly qualified in atomic energy. Australia itself was suffering from that shortage. It was important that the Agency's attempts to remedy that situation should be closely co-ordinated with those of the other organizations within the United Nations family and of the members of the Colombo Plan and other regional organizations. It was also necessary to estimate future progress in technical development and to relate to that assessment the need to avoid training technicians who would not immediately find employment.

79. The development of atomic energy held out great prospects, but it had to be remembered that the atomic era was only just beginning. The present aim

should therefore be to find the types of reactors which could give the best results in particular situations. While any reactor admittedly could be used for training personnel, such training could often be given just as well and probably at lesser cost in existing centres.

80. Australia's power situation illustrated some of the problems facing many countries. The total installed power capacity in Australia was about 4 000 MW. At the present rate of economic expansion, the needs would be doubled in the next eight or nine years. Those needs could be met by thermal and hydro power stations, because the industrial regions where the demand for energy was greatest were also rich in bituminous and brown coal deposits and in sources of hydro power. In the near future, therefore, Australia would be interested in nuclear plants only if their generation cost was particularly attractive - for example, 4 to 5 mills per kWh. In addition, the speedy general economic development of the country called urgently for capital. Thus, even if nuclear power cost little more than conventional power, nuclear power stations would still be less attractive than the others because of the heavy investment needed for their construction at the expense of other branches of the economy.

81. In certain regions of Australia, however, power was dear because it had to be generated from coal or oil transported over very long distances. Places in those regions fell into two distinct categories: mining centres where the power demand was within the range 60 - 120 MW and the load factor very high; and isolated places with a much lighter power demand and a load factor of no more than about 40 per cent. In the first category, the Mount Isa Company - a typical example - had decided after an exhaustive enquiry into nuclear power to instal additional coal-generated capacity. In places of the second category, on the other hand, the need was to develop small economic power units. Australian research in atomic power development had therefore mainly taken that direction: because of the shortage of water in those regions Australia was carrying out research into high-temperature gas-cooled reactors which could drive a gas turbine.

82. Although he had emphasized the development of power reactors, the Australian delegation did not underrate the importance of radioisotopes in medicine, agriculture and industry. Indeed, probably the largest plant in

the world for the sterilization of animal fibres by radiation was being installed in Australia.

83. The Australian delegation appreciated the work done by the Agency in its early years. Though it would offer some criticism on budget procedures and on the scale of the programme, it was generally in accord with the programme and budget proposed for 1960.

84. Mr. FOCACCIA (Italy) observed firstly that the continual increase in the Agency's membership was the best proof of the excellence of its aims. On behalf of the Italian Government he welcomed the Governments of Iran, Iraq, the Philippines and Sudan, which were now taking part in the work of the General Conference.

85. The Italian delegation wholeheartedly approved the realism with which the Board had prepared its report (GC(III)/73). From all the lines of activity theoretically open to the Agency, the Board had succeeded in selecting those best suited to present trends in industry and the world market and to the Agency's objectives.

86. The Italian delegation particularly welcomed the fellowships and training programme, the holding of conferences and symposia, the exchange of documentary material and the sending of missions, and hoped that those activities would be progressively increased. Indeed, technical assistance to the less developed countries offered the Agency its most important role. However, that should not be taken only to mean the assistance which the more advanced countries could give to the others; it also included reciprocal aid between countries which had much the same level of nuclear development but had individually done more towards solving one or other problem, and so were in a position to exchange information and help each other.

87. For example, an Italian expert had recently gone with the Agency's mission to Brazil, to bring to the Brazilian project for the construction of a nuclear power station the experience acquired by Italy on the "ENSI" project. Needless to say, the Italian authorities would be very glad to place that experience at the disposal of interested parties - for example in a study project of the same kind, organized and co-ordinated by the Agency.

88. An Italian expert would shortly go to Egypt to collaborate in the development of that country's nuclear electronics programme; on his return an Egyptian expert would come to work in the Italian laboratories.

89. The Italian delegation attached great importance to radioactive waste disposal. However, it was not enough to lay down standards and impose regulations; provision had to be made for preliminary basic research. The first step might be to establish a co-ordinated system of radiation measurement. Thereafter it would be advisable to determine the factors influencing the distribution of radioactive substances in the Mediterranean; the imminent entry into service of the first nuclear power stations on the shores of that sea made it urgent to establish the zero point for the measurement of artificial contamination.

90. The Italian National Committee for Nuclear Research had, indeed, already been making studies on those lines for a year, and a laboratory had been established near Spezia. That laboratory, for which the Agency's financial assistance had been requested, could later become a centre of collaboration between the various research workers interested in the subject. The competent Italian bodies would like to participate in the work of the Agency's panel on disposal of radioactive waste into the sea, on which they had already collected interesting documentary evidence.

91. With regard to the economic aspects of power reactors, the Italian delegation appreciated the grounds for the prudence shown by the Board. However, although the building of nuclear power stations had not been as rapid as had been expected in 1955, important projects were nonetheless under way. He hoped that to increase the available information and experience, economic studies would be encouraged.

92. His delegation was gratified at the importance ascribed to extending the use of radioisotopes and radiations. The human and social significance of their medical and biological uses were self-evident. To avoid widening the gap between countries at unequal stages of development, the industrial application should not be a monopoly of the advanced countries; the spread of knowledge and techniques was therefore of particular importance.

93. The Italian delegation noted with pleasure the strengthening of the Agency's ties with other international organizations. Co-operation with the United Nations Economic and Social Council was of particular value, since it made easier the task of guiding into useful channels the influence which nuclear energy could and should exert on all sectors of the world economy and in international relations, for the furtherance of universal peace and prosperity.

94. Mr. TAMMES (Netherlands) stressed the symbolic significance of the election of Mr. Furuuchi to the Chair, as representative of the first country which had chosen to accept nuclear material subject to the Agency's control. The supply of such material under the Agency's safeguards procedures was one of the Agency's most important statutory functions. It was therefore highly satisfactory that the Board of Governors should be engaged in drafting general principles for the application of safeguards by the Agency.

95. Although that urgent task had not yet been completed, there was no reason to differ from the Board's opinion that 1960 should be a year of consolidation. Since sufficient progress had been made in fulfilling the Agency's other statutory functions, its efforts to consolidate those achievements could be regarded as a statesman-like policy.

96. The Agency's present activities were twofold: those directed towards establishing rules and recommendations in the interest of all Member States, and those benefiting more particularly the less developed countries.

97. The first category included the establishment of the Agency's functional laboratory, the early completion of which was facilitated by the United States' generous gift.

98. The Board's report on technical assistance to less developed countries for the production of nuclear power^{6/} would without doubt be fruitfully discussed in the Programme, Technical and Budget Committee. For the present, however, he would merely deal in general with the Agency's technical assistance activities.

^{6/} GC(III)/76.

99. The Statute stated in several places that the Agency, in carrying out its functions, should bear in mind the special needs of the less developed countries. Ten years previously, the United Nations and its specialized agencies had embarked upon the Expanded Programme of Technical Assistance (EPTA) under which they had since been trying to improve standards of living in many areas, first of all by developing their national resources. The need for capital investment was more clearly understood at present, and that had resulted in establishment of the Special Fund. He hoped that, when outlining the principles by which the Agency would be guided in its technical assistance programme, the Board of Governors and the Director General would not deviate from the well-established policies within the United Nations family. He warned the Agency against embarking on a supply programme of its own. The provision of equipment and supplies should in general be confined to demonstration and research and made in conjunction with visits by experts.

100. The Netherlands delegation was pleased that the Agency was participating in EPTA. As a result it had received certain funds, but that would not justify Member States in overlooking the need for voluntary contributions to the General Fund, so that the target of \$1.5 million would be reached.

101. One of the basic problems of technical assistance was that of co-ordinating the programmes of the various organizations in the United Nations family. It was therefore a matter for satisfaction that the Agency had established good relations with the United Nations and its specialized agencies. Co-ordination should not be confined to technical assistance activities. The Agency must also establish rules and regulations for the safe handling of radioisotopes, the transport of large radiation sources and the disposal of radioactive wastes in co-operation with the competent United Nations organizations and other inter-governmental and non-governmental bodies.

102. At the twenty-sixth plenary meeting the representative of the Secretary-General of the United Nations had referred to the proceedings of the twenty-eighth session of the Economic and Social Council.^{1/} During that session considerable attention had been given to the twenty-third Report of the

^{1/} GC(III)/OR.26, paragraph 38.

Administrative Committee on Co-ordination (ACC). For the work of the General Conference, two annexes to that document were of particular value. The first dealt with the advantages and disadvantages of concerted action when studying the effects of radiation resulting from the peaceful uses of atomic energy, the second with co-ordination of atomic activities in general. The Netherlands delegation unreservedly supported Economic and Social Council resolution 743 (XXVIII), which requested the ACC to give further attention to multilateral and other measures designed to secure concerted action between the organizations concerned with the peaceful uses of atomic energy. The Netherlands Government was convinced that the adoption of such multilateral measures would produce the desired results.

103. In the same resolution the Economic and Social Council requested the Agency to join the specialized agencies in submitting a "five-years' appraisal" of its proposed activities during the years 1959-1964 and a forecast of the scope and trends of its programme and the expenditure involved. The Netherlands delegation believed that the decision of the Board of Governors to accept that invitation was of paramount importance for the success of the Agency's future work.

104. Since its inception the Agency had given rise to the genuine hope that rapid progress would be achieved. Even more than in the case of other international organizations, it was the conviction of an urgent need, of a vital task, which had made some 80 States decide unanimously to set up the Agency. It seemed that the rapid development of nuclear power would, as a by-product, create conditions for mutual trust in the most solemn international undertakings. The fact that many immediate practical problems had to be solved every year by the General Conference should not prevent delegates from keeping in mind the initial concept out of which the Agency was created. They should not forget that they were planning for the year 2000 and approaching an era of international relations of a new type.

The meeting rose at 1.5 p.m.

