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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. AHMAD (Pakistan) said that in the general debate at the second session of the General Conference the delegation of Pakistan had pointed out that the first two years of the Agency's life had to be spent on setting up the machinery necessary for the achievement of its objectives. He was glad to note that that task had been largely fulfilled.
2. The Agency had already embarked upon a useful programme of training and fellowships, and had taken practical steps for the provision of experts in many specialized branches. It had brought out several useful publications, including the Directory of Reactors and the Manual of Safe Handling of Radioisotopes, and had successfully arranged a first series of scientific symposia and conferences. It had started to provide out of its technical assistance funds certain quantities of equipment badly needed by some of its Member States.
3. Thanks were due to those advanced countries whose offers had made those achievements possible, and to the Secretariat which had implemented them successfully. However, the Agency was experiencing some difficulties which he would review in order to offer some constructive suggestions.
4. While for general training in reactor technology, use of radioisotopes and the like, six months to a year might be sufficient, a thorough knowledge of the higher and more advanced aspects of atomic energy, such as shielding and heat transfer, required more time. Moreover, opportunities should be provided for some of the fellowship-holders to engage in research work on their own account in the laboratories and institutions of the advanced countries, with the idea of continuing such work on their return to their own countries, thus opening the way to mutual exchange of knowledge and, as it were, to bilateral co-operation in research. In the future, therefore, the Agency should provide two kinds of fellowship to meet these two different needs. It was also to be hoped that the offers of fellowships made by certain countries would not, as in the past, be partially offset by limiting factors.
5. Pakistan had been delighted when some advanced countries had first informed the Agency that they were placing a number of experts at the Agency's disposal and the Agency had set apart some of its technical assistance allocation for

the provision of experts. But Pakistan's hopes had been disappointed; and, to judge from the Director General's remarks on the Agency's difficulties in obtaining the services of experts^{1/}, other countries must have been disappointed too. If the Agency was to carry out its responsibilities, the present system must be remedied immediately. The Agency might consider the permanent employment of a number of experts, to be paid from technical assistance funds and sent out as and when required. Furthermore, a country might require a series of experts for a specific plan or programme, and adequate flexibility was necessary in that respect. To have the same expert throughout the whole duration of a project might not always be in the receiving country's interest.

6. It had often been said that the Agency was not an organization for the supply of equipment; but atomic energy research entailed expensive equipment and for that reason, even if they had equal qualifications, the experts of the less developed countries might be seriously handicapped. The most skilful mathematician could not replace an electronic computer. The Agency should therefore be willing to provide large sums for the supply of equipment.

7. The various forms of technical assistance required considerable expenditure, but the operational part of the Agency's budget was very small. To raise funds an effort might be made, in accordance with the Director General's suggestion^{2/}, to make the sale of source and fissionable materials through the Agency economically attractive so that the Agency might derive additional revenues under Article XIV.E and F of the Statute. By giving the Agency free of cost three tons of natural uranium for supply to Japan, Canada had set an example which, it was to be hoped, would be followed.

8. The Agency's main task was still to study the generation of electricity from nuclear sources in small and medium-size reactors for the benefit of the less developed countries. Last year a resolution on that subject, sponsored by several delegations, including that of Pakistan^{3/}, had met with scepticism; the studies which had been made in pursuance of it seemed to highlight the difficulties rather than the possibilities. However, there had been a considerable shift of opinion in that respect: for instance, the United Kingdom

^{1/} GC(III)/OR.26, paragraph 15.

^{2/} Ibid., paragraph 30.

^{3/} GC(II)/RES/27.

delegate had urged the Agency to carry out the studies in an understanding and sympathetic manner^{4/}. According to some American sources the cost of nuclear power would come down to 8 - 10 even to 6 mills/kWh by 1970, and six of the 16 reactors in the United States which were planned to become critical before 1962 were small and medium-sized reactors with installed capacities of from 10.5 to 26 MW. The question of nuclear power, with which safeguards were intimately linked, should be assigned a high place in future programmes if the Agency were not to fail in its noble mission.

9. Mr. SAGANE (Japan) stated that Japan would continue to be a staunch supporter of the Agency. As a mark of co-operation the Japanese Government had requested the Agency to supply three tons of natural uranium for the JRR-3 research reactor. The agreement providing for the supply of the metal had been signed in March 1959^{5/}.

10. The Agency could point to various solid achievements: the award of training fellowships, technical assistance, dissemination of scientific information, despatch of fact-finding teams to under-developed areas, compilation of a manual on the safe handling of radioisotopes, convening of expert panels, organization of various international scientific meetings, and so on.

11. The confidence which Japan had always placed in the Agency had been abundantly justified. He paid tribute to the wisdom of the Board as well as to the efficiency of the Director General and the Secretariat. The Agency's scientific prestige had been considerably enhanced by the establishment of the Scientific Advisory Committee.

12. The Japanese delegation endorsed the draft Programme and Budget for 1960^{6/}, which provided for a reasonable balance between the Agency's various activities, within the limited financial resources available to it. Japan endorsed the target of \$1.5 million recommended by the Board for voluntary contributions to the 1960 operational budget.

13. As the United Kingdom delegate had recalled, implementation of the technical assistance programme, which was financed from the General Fund, must be

4/ GC(III)/26, paragraph 93.

5/ INF/CIRC/3.

6/ GC(III)/75.

in accordance with the provisions of Article III.B.3 of the Statute^{7/}. In that connexion he shared the view of the delegate of the Union of South Africa^{8/} who had stated that the Agency should place more emphasis on projects which would be of benefit to all Member States, such as the drawing up of health and safety standards and studies on waste disposal, environmental contamination and civil liability.

14. The Japanese Government congratulated the United States Government on the way it was supporting the Agency in connexion with the supply of source and special fissionable materials.

15. Japan had been happy to note the progress achieved by the Board in the establishment of draft rules concerning Agency safeguards. He recalled that, at the second regular session of the General Conference, his delegation had spoken of the possibility of Member States handing over to the Agency the responsibility for applying safeguards under their bilateral or multilateral agreements. To reaffirm his Government's position in that regard, he expressed the hope that Japan would soon be in a position to request the Agency - in agreement with the other countries concerned - to take over the application of safeguards under bilateral agreements which Japan had concluded in connexion with the peaceful uses of atomic energy.

16. The Japanese delegation noted with satisfaction that the Secretariat, in implementing General Conference resolution GC(II)/RES/27, was doing useful work by analysing and evaluating the technical and economic factors governing the utilization of small and medium power reactors. His country attached vital importance to the problem of energy supply, because sooner or later it would be obliged to use nuclear power for the generation of electricity.

17. Although Japan enjoyed high levels of development in various respects, including certain branches of atomic science such as the application of radio-isotopes to medicine, agriculture and industry, it was still to be regarded as a less developed country in regard to nuclear power. For several years Japan had been trying to make up for lost ground, to meet the over-growing industrial demand for electric power.

7/ GC(III)/OR.26, paragraph 91.

8/ Ibid., paragraph 74.

18. The Japanese Atomic Energy Research Institute had spent roughly \$40 million in three years to install various facilities such as a 50 kW reactor of the water-boiler type and the JRR-2 reactor, moderated by heavy water. With those reactors his country expected to obtain a 10 MW thermal output. The design and construction of the JRR-3 research reactor, moderated by heavy water and with a thermal output of 10 MW, for which the Agency had supplied natural uranium, was one of Japan's major efforts in the sphere of basic research. The Institute already possessed a 10 000 curie cobalt-60 irradiation facility, and would install a high-intensity 25 MeV linear accelerator, together with two or three different types of sub-critical assembly.

19. At the same time the Institute was engaged in introducing foreign techniques; it was about to acquire a small 12.5 MW power demonstration reactor of the boiling-water type. For industrial purposes, Japan had decided to purchase from the United Kingdom a 150 MW power reactor of the improved Calder Hall type.

20. In short, Japan's long-term nuclear power development programme, in which Japanese manufacturers were collaborating by combining their resources, had made such good progress that in the course of the next four to five years Japan would no doubt have made up the leeway between it and the more advanced countries. It would then be able to give advice through the Agency to the less developed countries which were launching programmes of the same kind.

21. Japan was fully aware of the obstacles to the utilization of nuclear energy for power generation, such as radiation hazards, waste disposal and the problem of civil liability. For the solution of all those problems the Agency would be able to offer very valuable assistance, which would be every bit as important as its technical assistance programme. The Japanese Government would be happy to offer training and research facilities for students and scientists who might be assigned by the Agency for study in Japan.

22. With reference to the problem of nuclear propulsion of ships, Japanese experts were attempting to decide the type of reactor best suited to that purpose; work on a Japanese nuclear-powered vessel might soon begin. The Agency should not lose time in undertaking, in consultation with the other interested international organizations, the preparation of international health and safety regulations for nuclear propulsion, as well as standards to prevent

the contamination of harbours in the event of a nuclear incident. The Japanese delegation formally proposed the convening of a panel of experts to study the problems of civil liability for marine reactors, similar to the existing panel for land-based reactors.

23. The Agency could also play an important part in the dissemination of scientific information through scientific conferences and symposia. One symposium should be devoted to research on fuel cycles, to ensure optimum utilization of nuclear fuels.

24. Finally, he announced that the Japanese Government, wishing to support the Agency to the best of its ability, intended to make a contribution to the General Fund.

25. Mr. El FASSI (Morocco) pointed out that the world had given the Agency the task of organizing a system of documentation, exchange of information and experts, research and control which would enable nuclear energy production to spread gradually throughout the world and would protect all peoples against radiation.

26. The General Conference should first look back and see whether the Agency had so far discharged its duties well, not in order to criticize its failures but to understand better the obstacles to its work.

27. Certain delegates had deplored the Agency's failure so far to play its full part as a broker of nuclear materials. It had been prevented from doing so by the supplying countries, which had preferred bilateral agreements enabling them to control directly the use of their products. If the large producing countries and the less developed countries undertook to channel all deliveries of source and fissionable materials through the Agency, one of its principal objectives would be reached.

28. There must, however, be no pessimism. The Agency's achievements were already numerous. It had contributed greatly to the training of nuclear-energy specialists; it had organized conferences and symposia which had enabled technicians to compare their experiences and methods; it was trying to protect mankind's health against radiations and to ensure safety. It was continuously concerned with certain other important problems, such as waste disposal and the transport of dangerous materials.

29. For all those reasons the Moroccan delegation agreed generally with the Agency's programme for 1960. It welcomed the establishment of the functional laboratory and thanked the United States, through whose generous gift the Agency would acquire a valuable instrument for research and other work. The less developed countries would thus have at their disposal, before their own installations came into operation, a complete laboratory for the preliminary study of their projects and the training of their specialists.

30. The way in which the geographical regions were represented on the Board of Governors was clearly unfair to Africa. It even seemed doubtful whether, when the United Arab Republic's term of office expired in 1960, a single African country other than the Union of South Africa would be represented. He was glad that Spain, a sincere friend of the Arab world, had applied for one of the vacancies. The Moroccan delegation considered that the General Conference should bring about a more equitable representation of the geographical regions on the Board.

31. The United Arab Republic had presented to the Board a request relating to the establishment of a regional radioisotope centre at Cairo. That request came within the Arab League's general policy of inter-regional co-operation, and he hoped it would be approved.

32. The Moroccan delegation thanked the Agency for sending to Morocco in the spring of 1959 a technical assistance mission consisting of two experts who had examined the prospects for using atomic energy in Morocco.

33. Three forms of assistance which the Agency could provide for countries in course of development were of major interest: prospecting for raw material and its extraction and treatment; the installation of small reactors for the training of specialists; and detailed study of the economics of small and medium power reactors under local conditions.

34. Since 1956 Morocco had been assiduously carrying out a prospecting programme to investigate the possibility of exploiting the uranium in Moroccan phosphates which contained 150-500 grammes per ton. Annual output might well reach 7 000 000 tons, which showed the great importance of the deposits.

35. Research on the extraction of uranium by chemical processes was already being carried out, but was being hampered by two difficulties: lack of experience and insufficiency of the information made available by Member States

which had developed methods of extraction that were economic and did not destroy phosphates. The very high cost of the reagents used should also be mentioned. Morocco was planning to submit a request for assistance in that sphere to the Agency.

36. Furthermore, Morocco intended, in the near future, to build a second super-phosphate factory producing uranium as a by-product. Since the second United Nations International Conference on the Peaceful Uses of Atomic Energy (the second Geneva conference) had shown that some countries had developed reasonably effective extraction methods, Morocco hoped that an Agency mission would visit it to advise on how those methods could be adapted for treating Moroccan phosphates.

37. The second subject to which great importance was attached by the developing countries was the training of specialists. Nuclear energy might, within some ten years, become an economic source of power, used throughout the world, and the developing countries were in danger of not having the necessary personnel available in time. Fellows from under-developed countries, after a period of training in foreign laboratories, should be able to continue their research in their own countries, while at the same time training other specialists. For that reason, the Agency should help Member States wishing to install a small experimental reactor on their own territory.

38. The third subject of major interest to developing countries was the study of the economics of small and medium power reactors, with due regard to local conditions and the development programmes of the countries concerned. It was essential that the Agency should carry out investigations in the less developed areas when studying the economics of nuclear power, since it might well be that reactors with considerably higher unit costs than ordinary industrial reactors were economic in certain remote areas.

39. In conclusion, he proposed the insertion in the draft resolution submitted by Czechoslovakia (GC(III)/39 and Add.1) of a paragraph (GC(III)/92) inviting France voluntarily to renounce the manufacture of nuclear weapons and not to carry out any experimental explosions of atomic bombs. Without wishing to go into the political and military aspects of that question, he recalled that France was actively carrying out research on the production of an atomic bomb, which was to be tested in the Sahara, namely on Moroccan or

Algerian territory. The harmful effects of atomic bombs were indisputable; he asked therefore that the General Conference request the Director General to despatch a mission of technicians immediately to Morocco to study, with the local authorities, various arrangements which could be made for rapidly installing detection and measurement instruments.

40. He supported the French proposal that the Agency should undertake major projects, as other international organs did^{9/}. He felt, however, that before thinking of constructing, it was first necessary to refrain from destroying; the Agency's first major project should relate to the widespread detection of nuclear radiation and the protection of human life.

41. Mr. BHABHA (India) made the following statement:^{10/}

"I should like first to extend to you the warm congratulations of my Government on your election to the presidency of this Conference. We are confident that this General Conference will prosper under your tactful guidance.

"The first General Conference took place a few days after the first earth satellite had been successfully launched. Since then many other satellites have been launched by the Soviet Union and the United States. And now, immediately preceding this session, there has been yet another dramatic demonstration of scientific achievement in the launching of a rocket that has successfully reached the moon. This spectacular feat by the USSR is a reminder to us of the immense capacities for human betterment which are being opened up daily by the advance of science, and which this Agency, among others, has been set up to guide into peaceful channels.

"In the year that has passed, certain activities of the Agency have grown encouragingly, and we congratulate all those responsible for this success, including the Director General and his staff. The fellowship programme is a striking example. From the very beginning the Preparatory Commission had recognised that 'assistance to Member States in respect of exchange and training should be a major activity of the Agency in its initial years'.^{11/} The first General Conference adopted this

^{9/} GC(III)/OR.28, paragraph 38.

^{10/} This statement is reproduced verbatim, at the speaker's request, under Rule 92(b) of the Rules of Procedure.

^{11/} GC.1/1, paragraph 70.

recommendation but envisaged an expenditure of only about \$250 000 for this purpose.^{12/}

"This recommendation was out of date almost as soon as it was adopted. For, in 1958, the Agency had to find some \$700 000 for the 213 fellows who were selected. In the present year, this total has been nearly doubled; 526 nominations have been received and 349 applicants have been selected, involving an estimated cost of about one million dollars.

"In the draft programme and budget now before this Conference, the equivalent of over one million dollars has been set aside for fellowships. This does not take into account the large number of fellowships which have been provided free of cost or below cost by the various Member Governments and which are not charged against the Agency's General Fund. Thus the Agency's fellowship programme has expanded more than four times in two years. This is indeed vivid proof of the importance which the Agency's training facilities have come to occupy in the atomic energy plans of its Members.

"Similarly, in contrast to the situation at the second session of the General Conference, when it was not yet possible to point to any technical assistance project which the Board had approved, in the past year no less than 62 applications for technical assistance have been submitted to the Agency and technical assistance totalling \$409 150 has been approved for seven countries. The majority of the requests have related to the use of radioisotopes in agriculture and medicine, thus confirming the Agency's view that these particular forms of assistance are likely to be of the greatest immediate benefit in less developed areas. According to the budget estimates before us, the Agency expects to spend the equivalent of some \$900 000 during the coming year on technical assistance.^{13/} This is a rapidly growing programme and may grow even more rapidly as the benefits of the fellowship programme begin to take root in Member States.

"The Agency has also begun to construct a service laboratory which

^{12/} GC.1(S)/RES/6.

^{13/} GC(III)/75, table 53.

should be in operation when the next conference convenes. The very generous and welcome contribution of \$600 000 by the United States Government has made it possible for the laboratory to be built without detriment to the Agency's fellowship or its technical assistance programmes. The Austrian Government has been characteristically generous in donating the site of the laboratory to the Agency. We should like to express our appreciation to both Governments.

"We must remember that in describing some countries as less developed, what we are primarily concerned with is the low national income per head of population. In sufficiently large countries, however, this may be coupled with a total production which is quite considerable and varied. India, for example, produces considerable amounts of steel, though amounts which are small for the size of its population. It produces cars, locomotives, aeroplanes and a variety of other things usually associated with industrially developed countries. By the end of our Third Five-Year Plan in 1966, the country will have a self-sufficient industrial base. This technical ability is reflected in the progress of our atomic energy programme. I will not take your time in repeating what I told you here last year of our programme.^{14/} We have now had a research reactor, designed and built by ourselves, but fuelled with enriched uranium from the United Kingdom, in operation for over three years. As I said last year, considerable quantities of uranium ore have been located, and work has now started on mining this ore in quantity. A uranium mill is being designed by our own scientists and engineers to produce concentrates enough to feed our first nuclear power station of a capacity of approximately 250 MW. A small plant has already been constructed to produce uranium metal of nuclear grade and the first ingot was produced in January 1959. Several tons of metallically pure uranium have been produced in the course of the last few months. A fuel-element facility has been built which will be able to produce fuel elements of varied types. A few fuel elements for the Canada-India Reactor have already been produced and we expect to provide the first charge of the reactor with fuel elements produced at Trombay. All this has been done by our own scientists and engineers. A few months ago our staff started design

work on a small plutonium plant to extract from used fuel elements plutonium that can be made into plutonium fuel elements for use in the nuclear power stations which are planned in the second stage of our power programme.

"The Atomic Energy Establishment at Trombay has now a staff of over 1 000 scientists and engineers, most of whom were trained in India, and the Commission's Training School now turns out about 200 scientists and engineers a year for feeding the requirements of our expanding programme. Facilities are under construction for using the used fuel elements of the Canada-India Reactor as a powerful source of radiation for studies in sterilisation, food preservation and for agricultural and biological research. The Canada-India Reactor will be completed ahead of schedule by the end of the year and is expected to reach criticality by about April 1960. This 40 MW reactor will be a very powerful research tool with facilities for engineering studies comparable with those available anywhere. And as a next step, we have already set up groups which are doing preliminary design work on a prototype power station of about 15 MW using natural uranium and heavy water as moderator.

"Extensive studies of the economics of nuclear power in various parts of the country have been made, and a decision has been taken to go ahead with the construction of the first nuclear power station with a capacity of about 250 MW based on natural uranium; this will be located on the coast between Bombay and Ahmedabad.

"We shall be glad to make our extensive facilities available to all countries of the region and beyond - indeed to those who wish to send their scientists either for training or co-operative work. In this connexion, I am happy to announce that the Government of India has decided to contribute to the General Fund of the Agency a sum equivalent to \$20 000 which will be available for spending in India in any manner which the Agency thinks fit, such as in providing fellowships, or in acquiring equipment or materials, such as thorium and beryllium, for atomic energy work. My Government hopes that this contribution will play its part in furthering the objectives of the Agency and the development of its programme.

"Mr. President, we welcome the statement that the recent discussions between Professor Emelyanov and Mr. McCone are likely greatly to increase and strengthen the Agency as a centre for disseminating information on the peaceful uses of atomic energy. Such a result would carry further the progress made in the last year, which has seen nine Agency publications, including the useful Directories of Reactors and Radioisotopes, and the Manual on the Safe Handling of Isotopes. The Agency's non-technical bulletin also made its appearance during the year and will certainly lead to an increased and widening interest in the Agency's activities. We also welcome the decision of the Agency to publish a scientific journal on fusion.

"In connexion with the expanding programme of symposia and seminars - which we welcome - my delegation has a suggestion to offer which we feel will enhance the value of these important meetings for the exchange of information and ideas in fields relevant to the Agency's activities. This suggestion is that the Board should give immediate consideration to siting as many of these meetings as possible in Asia, Latin America and Africa. The advantage of doing this, instead of following the present practice of holding virtually all these meetings in Europe, would be that interest in the Agency would be stimulated in the areas I have mentioned. Moreover, the present practice throws on the poorer countries the main burden of transport costs. This suggestion is in line with the practice followed by most other international agencies, and my delegation will, if necessary, introduce a draft resolution on this point in the appropriate committee at this session of the General Conference.

"In establishing international standards, in exploring the problems of international law which are raised by the peaceful uses of nuclear energy and in providing training and technical assistance to Member States, the Agency's activities have developed fruitfully and rapidly. Yet it would be unwise to allow our satisfaction with the Agency's work in these areas to blind us to another area, perhaps the most important of the Agency's work, in which what we have done has fallen below expectations. When the Agency was born the common element in the expectations of most Members was that the Agency would become a truly effective international

instrument for assisting countries in their power programmes, thus contributing vitally to their economic development and to the raising of their standards of living. Significantly, the production of electric power is the only application of atomic energy that is specifically mentioned in the Statute. Authority is, of course, implicitly given by it to promote other uses, but this is the use which was clearly foremost in the minds of the world's peoples as well as in those of the Agency's founders. Recognizing this, the General Conference last year adopted Resolution GC(II)/RES/27 authorising the Agency to examine the economics of small and medium-scale power reactors and to ascertain as specifically as possible how nuclear power could be fitted into the power programmes of its Member States. The Agency's response to this resolution has so far been restricted to attempting to ascertain which countries are interested in having such studies made. More than twenty countries have expressed their interest in having such studies undertaken and this indicates clearly the great importance of this aspect of the Agency's work and the basic needs to which it answers. The time has clearly come to press these studies vigorously forward. Mr. President, if I may be permitted to refer to what I said in the debate in this room on 22 September 1959 in which Sir John Cockcroft and Mr. Goldschmidt also took part, the practical next step in meeting the prime needs of Member States is to assist States, at their request, to work out the economics of nuclear power production in specific areas. Here again, we will, if necessary, submit a draft resolution to this Conference which will take further the decision embodied in resolution GC(II)/RES/27.

"When the Agency was established it was implicitly assumed by many of us that it would become the principal supplier of source and fissionable materials. This assumption has failed to materialise. The only supply so far arranged has been that of three tons of uranium metal to Japan. The occasion was indeed historic. Unfortunately, history has since shown no overwhelming inclination to repeat itself. The total amounts supplied hitherto by the Agency should be viewed, I submit, in the light of the total annual production of uranium in the world, which far exceeds 30 000 tons. The Agency can hardly be considered to have made any impression on the uranium business in the world. We may well ask why this is so.

"The facts of supply have radically changed. New deposits of uranium have been discovered all over the world. The output of uranium oxide has steadily increased. If the current year's estimated production, for example, were to be used entirely for peaceful purposes, it would be sufficient to produce over 100 000 MW of electric power. Even with the continuing high rate at which atomic weapons are being produced and stockpiled, a surplus of uranium production has developed, and there is no doubt that uranium could be made available to the world at lower prices than at present. Sir John Cockroft drew attention at our discussion on 22 September 1959 to the effect of the lowering of uranium prices on the economics of nuclear power. As soon as nuclear weapons tests are finally stopped or other agreed steps of controlled disarmament are achieved, there will be a further effect both on the supply and price factors which would certainly stimulate the more rapid development of nuclear power in the world.

"In these conditions governing the supply of uranium, the Agency can play a useful and practical role only if it is prepared to offer terms no less advantageous than those of its competitors. If the Agency burdens itself with a cumbersome and expensive safeguards system, and one which raises difficulties for recipient countries, it can only blame itself if these countries turn to other suppliers or prefer to exploit, even at greater expense, domestic sources of supply. We realise that the Agency has a responsibility for applying safeguards, but it is clear from the Statute and from the prolonged discussions which surrounded Article XII, on safeguards that that responsibility is to be exercised only 'to the extent relevant'. It was only on the basis of this phrase, which was incorporated at our suggestion, that many countries were persuaded to accept the article at all. In our opinion, 'the extent relevant' for source material is simply to require an undertaking from the recipient country that the material will be used solely for peaceful purposes. Indeed, uranium can be obtained today with no more than this condition, and it is no use the Agency trying to require more. Nor should we forget the fact that much larger quantities continue to be supplied by certain countries to others without even this condition as to its peaceful use.

"Another point which we should like to stress is that, in our opinion, safeguards should be devised in such a manner that even those countries which do not require assistance from the Agency would be prepared to buy uranium through the Agency. It cannot be too strongly emphasized that the effectiveness of the safeguards system is a function not only of its intensity but of its coverage. Perfection is sterile when it applies to nothing.

"Mr. President, as we pointed out at the Conference on the Statute of the Agency, the safeguards proposed will create onerous conditions for countries which are not in a position to manufacture atomic weapons, while leaving unaffected those countries which are either manufacturing such weapons or may be capable of doing so. You will pardon me, if I recall a sentence from my statement at the Conference on the Statute of the Agency held in New York in 1956. I pointed out that the proposed system of safeguards was intended, to use an analogy, to ensure that not the slightest leakage took place from the sides of a vessel while ignoring the fact that the vessel had no bottom. Even today, although, or perhaps because, attention continues to be focussed on the sides of the vessel, it still has no bottom.

"Finally, in connexion with safeguards we believe that it is a truism that a realistic structure can only be built on the foundation of a wide agreement among Member States. We think therefore that it is essential that any tentative conclusions reached by the Board of Governors should be placed before the General Conference for its consideration before they are adopted by the Agency.

"Mr. President, some of the facts I have mentioned show that the Agency's achievements during the last year are much greater than those in its first year. The setting up of a Scientific Advisory Committee, with the same membership as that of the United Nations Scientific Advisory Committee, has added great strength to it. But the Agency is still in its infancy, and will need the care and help of its Member States to grow to its full strength. We on our part will do whatever we can to assist it to fulfil the great role for which it was conceived."

42. Mr. THIRRING (Austria) noted with satisfaction that the Agency had begun work on all the activities provided for in its Statute, and that it was on the right road towards achieving its objectives.

43. Austria was interested in the future of the Agency, not only as the host country, but also because it required international help to develop its own programme for the peaceful use of atomic energy.

44. Co-operation between the Agency and the Austrian authorities was becoming increasingly close. An agreement had been concluded between the Agency and the Austrian Studiengesellschaft for the joint use of the facilities of both parties at Seibersdorf; Austria hoped that that agreement would contribute to the success of the Agency's laboratory. It was to be hoped that the Agency would award a substantial number of fellowships for training in that laboratory specialists from countries which did not possess such facilities.

45. In order to extend further its co-operation with the Agency, the Austrian Government had informed the Director General that it would be glad if the Agency could supply the uranium needed in future for the "Astra" reactor, a 5-12 MW installation of the swimming-pool type which was under construction at Seibersdorf and was expected to become critical in March 1960. The Austrian Government had invited the Agency to consider the matter and open negotiations in due course. He hoped that other Member States would follow Austria's example and help to make the Agency the world's atomic bank.

46. The close contacts which had been established between the Agency and the Austrian universities had resulted in the award of research contracts to various institutes. That co-operation would be further strengthened on completion of the research reactor of the Austrian Universities' Atomic Institute, the first stone of which had recently been laid.

47. The rich resources of the central library of the Vienna Institute of Physics, combined with those of the Agency's library and with the future laboratories at Seibersdorf, would provide particularly favourable conditions for nuclear studies in Austria. Austria intended to make the University of Vienna an international training centre for fundamental research in nuclear physics. Fifteen Agency-selected students would be able, without paying tuition fees, to take the advanced course in theoretical nuclear physics which

was to be given at the Vienna Faculty of Science by a visiting professor remunerated by the Agency; it was important that the agreement between the University and the Agency should be concluded as soon as possible.

48. As delegate of the host country, he wished to thank the Director General and all the delegates who had spoken so kindly of Austria, which would continue to give the Agency its full support.

49. Mr. CARCANI (Albania) pointed out that the third regular session of the General Conference was taking place during the historic days of the meeting between the Chairman of the Council of Ministers of the Soviet Union and the President of the United States of America, at a time when international tension had begun to relax and a few weeks after the launching of the Soviet moon rocket. Those successes opened to the Agency new and even better prospects of attaining its objectives, but also made still more urgently necessary the achievement of its statutory aims. The peaceful uses of atomic energy were of great historical importance, for they postulated peaceful co-existence and broad co-operation between States. The cold war increased the danger of a world catastrophe and prevented the full realization of the peaceful possibilities of atomic energy, but a ban on nuclear and thermonuclear weapons testing would release considerable resources which could be placed at the Agency's disposal.

50. The Albanian delegation therefore warmly supported the draft resolution submitted by Czechoslovakia on the prohibition of nuclear weapons testing. In that connexion he protested against the French Government's intention to test its first atom bomb in the Sahara.

51. The Agency would achieve its objectives provided that it secured the participation of all countries; hence the People's Republic of China - the only real China - should be a Member of the Agency. Similarly, the World Federation of Trade Unions should be granted consultative status.

52. Although he agreed with the remarks made by various delegates on the Agency's methods of work, the inflation of the administrative machinery and the use of funds and equipment, he did not wish to minimize the results achieved. Praise was due to the Agency for the practical measures taken to implement the resolutions adopted by the General Conference at its previous sessions, the

exchange of scientists and experts, the dissemination of scientific knowledge on atomic energy, agreements for the supply of uranium-235, the examination of requests for assistance sent to the Agency by more than 20 countries, etc.

53. However, the results achieved were far from exhausting all the Agency's possibilities, and Albania, which wished to see atomic energy used in the interests of science and human progress, hoped that the Agency would discharge its duties even better in the future.

54. Albania, which was a member of the Joint Nuclear Research Institute of Dubna, was having experts trained in the Soviet Union and would thus soon be able to use atomic energy in industry, agriculture and other sectors of its economy.

55. By working effectively to achieve the objectives prescribed in its Statute, the Agency would win the confidence of the whole world. That would help it to accomplish its main task: the use of atomic energy exclusively for peaceful purposes, for the good of mankind. The Albanian Government was prepared to support any proposals which would contribute to that end.

56. Mr. CUNHA (Brazil) congratulated the Board of Governors, the Director General and the Secretariat on the commendable work they had accomplished in spite of all the difficulties that they had had to overcome. In view of the world situation at the time when the establishment of the Agency had been proposed by the President of the United States of America, the progress made in developing the use of atomic energy for peaceful purposes was certainly a matter for satisfaction. The eagerness of all countries for even more rapid development was understandable, but the documents submitted by the Director General and the Board of Governors amply demonstrated that the Agency was sparing no effort to achieve the objectives laid down in its Statute and to enlarge the contribution of atomic energy to peace, health and prosperity throughout the world.

57. Brazil had already been able to see how much the Agency's assistance helped to strengthen international co-operation, for at its request an Agency mission had come to study its national programme for atomic energy development on the spot. The very fruitful discussions the mission had had with Brazilian scientists and engineers had given it a clear idea of Brazil's needs and potentialities and it had given valuable advice on the different projects in

progress, particularly with regard to the kind of assistance the Agency could supply. It seemed that such personal contacts were one of the most effective ways in which the Agency could draw up a world balance-sheet of atomic energy activities and thus assemble the data which would enable it to allocate available assistance to the best advantage. In addition, such international collaboration should eventually make it possible to distribute between a greater number of countries the heavy burden borne by the more advanced countries in carrying out the Agency's programme.

58. With the assistance of the Agency, Brazil was establishing a laboratory for radiation dosimetry at Rio de Janeiro. The necessary equipment was being received and three Agency experts would soon be working on that project in collaboration with Brazilian scientists and technicians.

59. Brazil, under Article XI of the Statute, had requested the Agency's assistance in investigating whether or not the electric power supply in the central-southern region of Brazil could be supplemented in the near future by nuclear power. While the Brazilian Nuclear Energy Commission had been carrying out a preliminary study, the Board of Governors had considered the question and decided to send a special mission to Brazil at the appropriate time. During the recent visit of the programme mission already mentioned, it had been suggested that the Brazilian Nuclear Energy Commission should apply to the United Nations Special Fund for the funds needed for the initial capital outlay. The Brazilian Government intended to request the Board of Governors to support its application to the United Nations Special Fund.

60. In a spirit of international co-operation, Brazil was determined to make available such means as it could for the furtherance of the Agency's programme. It had accordingly offered the Agency 30 fellowships for the following courses (for which students from Portugal and Latin America had already been enrolled): nuclear engineering, nuclear physics, radiochemistry, and radioisotopes methodology. The Brazilian Nuclear Energy Commission had also decided to offer, through the Agency, five fellowships which would enable scientists and engineers to do reactor research at the São Paulo Atomic Energy Institute.

61. In that connexion he stressed that there was already extensive co-operation between the Latin American countries in training and research work - including the exchange of students, teachers and experts. For example, the Brazilian

Nuclear Energy Commission had organized in Paraguay a course on radioisotope applications in medicine and supplied the University of Asunción with all the necessary laboratory equipment. The experiment had been so successful that Brazil was planning a similar course in radiochemistry and intended to prepare a report on the means used and the results achieved for the benefit of any countries interested.

62. The Brazilian Nuclear Energy Commission also intended to carry out a study of the genetic effects of radiation in districts with a very high natural radioactive level where a sizable population had been living for many years. Brazil was prepared to collaborate with the Agency in that regard as well as in other activities such as radiometric surveying by air, for which it had two well-equipped companies, and the processing of monazite, with special reference to research work on the separation of thorium, for which it had suitable laboratories and pilot plant facilities.

63. With the installation of new laboratories which would be attached to the research reactor at São Paulo, the production of artificial radioisotopes would be placed on a more regular basis and short-lived radioisotopes could be made available to Latin American countries still lacking facilities for their production.

64. Brazil was confident that the execution of its nuclear development programme would contribute to the achievement of the Agency's objectives; it would spare no effort to that end. The development of nuclear energy for peaceful purposes should enable all countries to assist and trust one another, and thus to banish forever the spectre of atomic war.

The meeting rose at 12.55 p.m.