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President: Mr. TORKI (Tunisia)

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* GC(XIII)/418.

GENERAL DEBATE AND REPORT OF THE
BOARD OF GOVERNORS FOR 1968-69
(GC(XIII)/404, 416) (continued)

1. Mr. SANDOVAL VALLARTA (Mexico) said that his country had been studying the advantages of installing a nuclear power station and, in the light of the present demand for power and the increase in demand foreseen over the next few years, had come to the conclusion that it was appropriate to consider the installation of a 600-MW(e) station. Tenders from constructors of nuclear power reactors had already been solicited and a first, preliminary selection had already been made. If a decision was taken in favour of a nuclear power station, the final choice would be made and the order placed in the near future. The Agency had recently sent a mission to Mexico to advise on the selection of a site for the reactor, and should a nuclear power station be installed, his Government intended negotiating a formal contract with the Agency for the supply of the fuel necessary for the power reactor in accordance with the terms of Article XI of the Statute.

2. The Mexican Government had followed with great interest the question of the review and amendment of Article VI of the Statute. It had submitted a memorandum to the Board proposing amendments that would bring up to date the provisions of Article VI, bring them into line with present-day realities, and, above all, take into account the increased responsibilities which devolved upon the Agency pursuant to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Treaty for the Prohibition of Nuclear Weapons in Latin America (Tlatelolco Treaty), which was already in force.

3. The anxieties of the non-nuclear-weapon States had been brought to light in the debates at the Conference of those States¹⁾ at the United Nations a year previously and were reflected in Resolution GC(XII)/RES/241, in which the General Conference had requested the Board of Governors to review Article VI of the Statute. The Board had established an Ad Hoc Committee of the Whole to study the problem, but no satisfactory solution had yet been found.

4. In the final analysis, the proposals of the Government of Mexico were based on the following two criteria: the progress made in nuclear technology for peaceful purposes, including the production of source materials and the ability to supply those materials; and an equitable geographical distribution. Added to that was the wish that the final text of Article VI would make it possible to introduce gradual changes in the composition of the Board so that the situation existing at any given moment would always be reflected.

1) Held in Geneva from 29 August to 28 September 1968.

5. At the beginning of that month, the first part of the first series of meetings of the General Conference of the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL) had been held in Mexico City. Under the terms of the Tlatelolco Treaty the Latin American States had decided to establish that organization, whose principal organs would be a General Conference, a Council and a Secretariat. OPANAL and its principal organs were already in operation. U Thant, Secretary-General of the United Nations, and Dr. Sigvard Eklund, Director General of the Agency, had been present at the inaugural session of the OPANAL General Conference.

6. Up to the present, the following States had become Members of OPANAL: Barbados, Bolivia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru and Uruguay.

7. In its Article 13, the Tlatelolco Treaty provided for the conclusion by the Contracting Parties of multilateral or bilateral agreements with the Agency for the application of the latter's safeguards to their nuclear activities. The General Conference of OPANAL had recommended its Member States to initiate the negotiations referred to in Article 13 of the Tlatelolco Treaty as soon as possible and had invited the Director General of the Agency to study the possibility of preparing a model draft agreement to serve as a basis for those negotiations and, at the same time, had invited him in due course to communicate to the Acting Secretary-General of OPANAL the results of the study and to transmit to the Contracting parties to the Tlatelolco Treaty the text of any draft that might be prepared in accordance with the request that had been made²⁾.

8. The General Conference of OPANAL, in view of the fact that the Tlatelolco Treaty expressly provided for the participation of the Agency in the control system established thereunder, had also decided to invite the Director General of the Agency to participate in or be represented at all its meetings³⁾.

9. The General Conference of OPANAL deplored the fact that as yet not all the nuclear-weapon States had signed Additional Protocol II to the Tlatelolco Treaty and had urged those States to heed fully the appeals that had been addressed to them by the General Assembly of the United Nations and by the Conference of Non-Nuclear-Weapon States to sign and ratify that Protocol as soon as possible.

10. Another matter of interest to Mexico was the use of nuclear explosives for peaceful purposes. The Mexican Government considered that the es-

2) Resolution 11(I) of OPANAL's General Conference.

3) Resolution 16(I).

tablishment, within the framework of the Agency, of an international service for nuclear explosions for peaceful purposes, under appropriate international control, would initially require the drawing up and approval of a special international agreement to define the identity, structure, powers and duties of the service, a task which should be undertaken as soon as possible with the widest possible participation of the non-nuclear-weapon States.

11. According to Articles IV and V of NPT, members of that service would, in the first place, be nuclear-weapon States. As regards the non-nuclear-weapon States, Mexico considered that those States which had renounced nuclear weapons must benefit from the service. The service would function within the framework of the Agency, but would not be confused with the latter in discharging the specific tasks that would be assigned to it. Moreover, difficult problems might arise by virtue of the fact that the Member States of the Agency were not the same as those on which NPT or, naturally and with more reason, the Tlatelolco Treaty were binding.

12. The Mexican Government had submitted two memoranda on the subject to the Conference⁴⁾

13. The foregoing were the points to which the Mexican Government considered it pertinent to draw the attention of the General Conference as a further step towards ensuring that nuclear energy was used exclusively for peaceful purposes.

14. Mr. MALU (Democratic Republic of the Congo) said that as his authorities had already submitted to the Secretariat a document covering nuclear activities in the Democratic Republic during the period 1968-69⁵⁾, his statement would be limited to a few remarks on the Agency's activities since September 1968.

15. The first matter that deserved attention was the inconclusive reports which the Board was submitting to the General Conference on the review of Article VI of the Statute⁶⁾. The Congo had participated in the work of the Ad Hoc Committee of the Whole set up by the Board. It had been able to observe how little enthusiasm there was in the Board to recommend a specific formula to the Conference at its thirteenth session for amending Article VI despite the consensus in favour of swift amendment that had been apparent at the twelfth session.

16. His delegation had already set forth on several occasions the reasons why Article VI should be amended. The validity of its objections to the present composition of the Board had been recognized by

all the delegations. Those objections were the following: the Congo, along with all of independent Africa, refused to recognize South Africa as the representative of the area of Africa and the Middle East, and it challenged the assertion, repeated every year, that Belgium, Czechoslovakia, Poland and Portugal should constitute the representatives of the producers of source materials. On the other hand it had stated that the increase in the number of Members of the Agency warranted better representation of the African area on the Board, in implementation of Article VI.A.3.

17. The wide range of opinion in the Ad Hoc Committee, mentioned in the Board's report⁷⁾, related to questions of detail rather than to the broad lines of the changes which Members would like to have incorporated in the new text of Article VI. No country, for example, had opposed deleting the names of the four countries mentioned in Article VI.A.2. It was that aspect of the discussions in the Ad Hoc Committee which the Congolese delegation would have wanted to be included in the Board's reports.

18. The Board's interpretation of Resolution GC(XII)/RES/241 was rather disappointing. That resolution, of which the Congo had been a co-sponsor, explicitly requested that the Board should submit to the General Conference at its thirteenth regular session a report containing a study of *ways and means* by which the membership of the Board would adequately reflect:

- (a) The progress and developments in the peaceful uses of nuclear energy achieved by many Members of the Agency, including the developing countries; and
- (b) An equitable geographical distribution.

Those were two essential points.

19. Apparently the only ways and means adopted by the Board had been to set up an Ad Hoc Committee of the Whole, simply to take note of the proposals of Member States — without summarizing them or trying to determine, for the benefit of the General Conference, areas in which they converged — and, finally, to decide on the need for further studies and consultation.

20. That conclusion was virtually the same as the one reached by the Board when the Congo had presented its draft amendment to Article VI.A.2 in 1965⁸⁾.

21. The Congo was opposed to such delaying tactics, which consisted in referring problems to

4) GC(XIII)/411.

5) GC(XIII)/INF/113/Rev.1.

6) GC(XIII)/408 and 415.

7) GC(XIII)/408, para.5.

8) See document GC(IX)/309.

committees and engaging in endless consultations and studies which never led to concrete proposals that would have the advantage of getting discussions started and moving the debate forward.

22. Meanwhile, the perpetual nominations of South Africa and Portugal were submitted year in and year out for the approval of the General Conference. In that connection, it would be desirable that the example of Belgium should be followed to the extent that it was realistic.

23. For those reasons and with a view to advancing the discussions, the Congolese delegation was submitting for the approval of the General Conference a draft resolution supplementing Resolution GC(XIII)/RES/241 and empowering the Board to propose to the fourteenth regular session concrete proposals for amending Article VI, taking into account the draft amendments which had been or would be submitted to the Board through the Secretariat⁹⁾

24. On the subject of technical assistance, it must be recognized that the action of the Agency, given the resources at its disposal, had been praiseworthy. The Congo welcomed the very valuable assistance which it had received from the Agency in organizing the Symposium on the Peaceful Uses of Atomic Energy in Africa held by the Organization of African Unity (OAU) in Kinshasa.

25. The Agency's technical assistance had, however, not been without its short-comings. For example, the 30% proportion of resources reserved for the agricultural and medical uses of isotopes and radiation appeared to be insufficient, considering the nature and the extent of the needs of the developing countries, the number of such countries and the importance of agronomy and medicine to the well-being of their inhabitants.

26. The Symposium mentioned earlier had clearly demonstrated the high priority that should be assigned to that type of research. It had also placed great emphasis on the pressing need in Africa for adequate training at all levels of education as far as the applications of radioisotopes were concerned. It had made an urgent appeal to the Agency for increased assistance in that regard, especially in the form of studies on and development of inexpensive demonstration materials. The problem of equipment arose not only in connection with training but also, in particular, with research proper.

27. Very often radioisotope laboratories in developing countries had staff with sufficient training to carry out worth-while nuclear research; however,

they lacked the required equipment or spare parts. The Agency could make a decisive contribution to promoting worth-while and profitable research merely by seeing to it that its assistance in kind was more abundant and more diversified. The Congo had already urged that such assistance in kind be substantially increased, even if it meant eliminating certain expert posts. The policy of combining the supply of material with a visit by an Agency expert was one which should be amended so as to permit adaptations in accordance with the merits of individual cases which might be brought to the attention of the Secretariat.

28. The Agency's fellowship programme appeared to be carefully thought out and satisfactorily implemented. The Congo could express only satisfaction with that aspect of the Agency's work.

29. The proportion of technical assistance provided for Africa under the United Nations Development Programme (UNDP) was definitely insufficient. The situation appeared to be all the more alarming in that the Governing Council of UNDP had just decided that, as from 1970, funds would be allocated on the basis of preliminary projects approved by the Administrator of UNDP. Such a procedure was a considerable drawback to Africa which, generally speaking, did not have administrative personnel sufficiently well-trained to prepare the elaborate documentation required by certain international organizations responsible for distributing assistance. It should be a concern of the Agency to help Africa in such matters and to insist that the distribution of funds between various geographical regions should be based on the urgency of need and on the countries' actual capabilities.

30. The Congolese delegation noted with satisfaction the development of ties between the Agency and OAU. The latter was embarking, with makeshift means, on the genuine promotion of science and technology in Africa. For example, it was considering the establishment of centres throughout Africa which would be responsible for training technicians and competent research workers and for encouraging useful research work.

31. Such a policy deserved to be encouraged; moreover, it was in keeping with the excellent idea of regional centres, but it had not obtained all the support which the Agency might have been expected to give it. That attitude should be changed and an attempt should be made to understand that the regional association concept in the field of nuclear research was a very valuable one.

32. In that connection, Africa was not starting from the zero point. The TRICO Nuclear Centre in Kinshasa had been accepted in principle as a regional centre of the Agency. OAU had, in addition,

9) GC(XIII)/COM.2/44.

decided to take up, on its own account, the idea of a regional nuclear centre in Kinshasa. The financial implications of that project, although within reasonable bounds, were nevertheless quite extensive, considering the scant material resources of the Congo.

33. For that reason the Congo needed additional aid from the Agency. There was certainly a need in Africa for such a centre. The participants in the OAU Symposium had repeatedly expressed the wish that nuclear research should be organized on a wider basis, which would group several African nations around a reactor, a well-stocked library and radio-isotope facilities. The TRICO Nuclear Centre had such facilities at its disposal. However, they needed to be diversified and expanded so as to be adapted to the needs of the large number of research workers which could be brought together through regional association.

34. On the subject of the International Nuclear Information System (INIS), the Congo was prepared to contribute to the success of that enterprise to the best of its ability. It wished to issue an invitation for the organization in Kinshasa of an information and working meeting covering the African region.

35. Mr. MOUSTAFA (United Arab Republic), referring to the fact that the Agency was entering the fourteenth year of its existence, said that noteworthy advances had been made in nuclear technology and its peaceful applications by many countries in Asia, Africa and Latin America during that period. The membership of the Agency had increased from 54 in 1957 to 102 in 1969.

36. Fields in which progress had been made were the generation of electric power, the desalting of sea water and the potential uses of nuclear explosions for peaceful purposes. Those developments could be expected to have an impact on economic, industrial, scientific and social progress.

37. As a result of those advances, and also of the conditions created by such international developments as the conclusion of NPT and the adoption of resolutions by the General Assembly of the United Nations in response to the resolutions of the Conference of Non-Nuclear-Weapon States, the Agency's activities were likely to be considerably expanded and intensified.

38. In connection with Article V of NPT, the General Assembly had adopted a resolution at its twenty-third session requesting the Secretary-General to prepare a report on the establishment, within the framework of the Agency, of an international service for nuclear explosions for peaceful purposes, under appropriate international control¹⁰.

10) General Assembly Resolution 2456 C (XXIII).

39. The technology involved in such use of nuclear explosions was still at an early stage of development and much work would have to be done before it could be applied in major projects in civil engineering, in mining or in the petroleum and natural gas industries. The data presented to the Board of Governors at its June meetings had shown that a wide range of technical problems in many areas (e.g. seismic effects, radiation hazards to the environment) would have to be solved before such applications became feasible. In any event, it was evident that the Agency had a major role to play in that field.

40. His delegation considered that, given its statutory functions and technical competence and experience, the Agency was the most appropriate international body for carrying out the tasks referred to in Article V of NPT. The obligations arising under Articles III and IV of NPT would require further expansion of the Agency's activities relating to safeguards and inspection, and to the peaceful applications of nuclear technology.

41. To cope with those growing responsibilities, it would be necessary to make a number of structural changes in the composition of the Board and to reorganize the sections of the Secretariat concerned with problems of safeguards, inspection, and health, safety and waste disposal.

42. The problem of the composition of the Board was not new and had already been the subject of extensive discussion. His delegation considered it to be one of the most important matters in which revision of the Statute was required. The United Arab Republic had always supported amendment of the Statute, not only of Article VI, but also of many other articles when developments in nuclear science so warranted.

43. His country's views on the revision of Article VI had been clearly stated in the discussions of the Ad Hoc Committee of the Whole dealing with the question. The principles governing the composition of the Board should be such as to enable it to work most effectively within the framework of NPT. The United Arab Republic was concerned solely with rectifying the present unbalanced composition of the Board, having particular regard to the inadequate representation of African and Asian countries. It believed that whatever solution was arrived at should be based on a genuine balance, be really workable and be acceptable to both the advanced and the developing countries.

44. The rapidly growing demand for nuclear power plants meant that uranium consumption would increase sharply during the next decade. According to Agency estimates, it would rise from about 16 000 tons of U₃O₈ in 1970 to about 90 000 tons per

annum in 1980. Forecasts indicated future demands of the order of one million tons. Although prospecting for uranium, thorium and other nuclear raw materials was under way in a number of countries, exploration on a large scale was still limited by a shortage of funds and lack of experience. Those were problems to which the attention of the Agency should be directed.

45. It would be desirable for the Agency to find ways and means of financing the inclusion in its programme of projects for large-scale exploration work in developing countries. Work along those lines, involving expenditure on a scale of millions of dollars, was being done under projects sponsored by UNDP and other United Nations organizations.

46. Nuclear power plants (for electricity production and desalting of sea water) could be expected to play an increasingly important role in meeting the future energy requirements of developing countries as well as of advanced countries. However, the introduction of nuclear plants in developing countries faced a number of problems. The threshold size for nuclear plants, to be competitive with conventional plants, was around 300 MW(e)—a figure still much too high for most developing countries. Moreover, nuclear power plants required huge investment, a large proportion of it in foreign currency. Proper financing of such projects therefore met with serious difficulties.

47. For those reasons, the introduction of nuclear power plants in developing countries was still proceeding much too slowly. In fact, as the Director General had warned in presenting the Agency's annual report to the United Nations Economic and Social Council¹¹⁾, nuclear power was at present an illustration of the technological gap between the developing and advanced countries. His delegation endorsed those views and believed that the Agency should devote considerable attention to that problem in its future activities relating to nuclear power.

48. Industrial companies should be urged and encouraged to increase their efforts and their research and development work in connection with improving the technology and economics of medium-size nuclear plants.

49. An important potential application of nuclear energy was in the production of fresh water by desalting of sea water. The availability of vast new supplies of water for use in agriculture opened up prospects for the development of large arid and semi-arid areas in various parts of the world.

50. The results of recent studies on the feasibility of combining fresh-water and power production with

11) INFCIRC/126.

energy-intensive industries indicated that large agro-industrial complexes represented a promising solution for the distant future.

51. Meanwhile, however, it was imperative, as a first step, to construct one or more pilot or demonstration plants to carry out research on the problems of desalting water for agriculture. The Agency could play a part in planning and implementing such pilot projects.

52. It would also be useful if the Agency increased its assistance to the developing countries in the preparation of long-range nuclear power programmes and in carrying out feasibility studies on specific projects. The Agency and other international financing institutions could also help in the solution of the important problem of financing. It was relevant to refer in that connection to Resolution 2456 A (XXIII) of the United Nations General Assembly inviting the Agency, the International Bank for Reconstruction and Development (IBRD) and UNDP to continue the study of the problems of financing nuclear activities for developing countries. Consideration could be given to an international, special fund arrangement for peaceful nuclear development projects, to be established in co-operation with IBRD, to make financing available solely on the basis of economic and technical feasibility of the projects, as decided by some appropriate international procedure.

53. An important element in achieving progress in the developing countries was effective and fruitful co-operation at all levels. It was the policy of his Government to encourage international, regional and bilateral co-operation in all fields of scientific development. An outstanding achievement in that direction had been the establishment in Cairo of the Middle Eastern Regional Radioisotope Centre for the Arab Countries in 1963.

54. In the six years during which the Agency had participated in the work of the Centre, the latter had made valuable contributions to the application of radioisotopes in the solution of many problems of the region and to the training of visiting specialists from Member States. Although the Agency's participation had terminated during 1968, various forms of co-operation were still being maintained.

55. The extent to which the Agency could carry on its technical assistance activities depended largely on an increase in voluntary contributions to the General Fund. The figures in the Board's annual report indicating that the percentage of requests from Member States which could be met by the Agency was steadily declining was a matter of great concern to the developing countries. His delegation, which emphasized the need for a substantial increase in the Fund, would be prepared to co-sponsor a draft

resolution on the subject. The United Arab Republic, in line with its policy of consistent support for the Agency, had decided to maintain its voluntary contribution to the General Fund for 1970 at the same level as its contribution for 1969. That amount corresponded to about three times its assessed contribution.

56. His delegation wished to welcome the Republic of Ireland as a Member of the Agency.

57. Mr. LE-VAN-THOI (Viet-Nam) wished to express his keen appreciation of the Agency's growing achievements in the peaceful uses of atomic energy and desired to see a still greater intensification of international co-operation for the common good. The success of the Agency's role in implementing NPT would certainly be governed by that intensification of co-operation. The same applied to the operation of INIS.

58. As the Viet-Nameese delegation had repeatedly stated at sessions of the General Conference, that co-operation was avidly desired by developing countries, whose nuclear programmes could certainly not be successfully carried out without the co-ordinated support of the Agency and of the advanced countries. In that connection he noted with satisfaction that the Agency had made every effort to meet the technical assistance requests of the have-not countries, naturally within the limits of its still slender resources. With the constant increase in technical assistance requests, the Agency would doubtless have difficulties to overcome unless all Member States without exception acknowledged their obligations regarding solidarity and mutual aid.

59. For its part Viet-Nam was prepared to provide a financial buttress for that solidarity, in an amount equal to its assessed contribution to the Regular Budget for 1970. Although modest, that contribution represented a great sacrifice for his country. It had made the gesture as a mark of gratitude to the Agency, for it was thanks to the latter that Viet-Nam had been able to make quite rapid progress in the introduction of the use of radio-isotopes in medicine and in agriculture. The Agency had also provided valuable assistance in the drafting of Viet-Nameese nuclear energy legislation. It had made a substantial contribution to the training, including the advanced training of Viet-Nameese nuclear scientists and technicians. Research had been undertaken with the Agency's assistance and in the year under review Viet-Nam had obtained from the Agency two research contracts, one in medicine and the other in agriculture.

60. Apart from the difficulties peculiar to Viet-Nam, the implementation of its atomic energy programme was hindered by the lack of qualified staff. That situation came about partly as a result of the "brain

drain" and partly owing to the lack of the means to train staff in the country itself. It might in that connection be appropriate for the Agency to promote, along the lines of the International Centre for Theoretical Physics, the establishment of centres dealing with other activities in the nuclear field. To offset the shortage of trained staff, the Agency might also draw up a list of teachers who would be prepared to give instruction in various disciplines in countries requesting such services. In addition the Agency could also supply experts and equipment in order to make a greater contribution to the local training of the technicians required by the developing countries. All those activities could be rationally got under way by the establishment of a regional nuclear training centre. For that purpose the Agency might seek the co-operation of regional organizations such as the Southeast Asian Ministers of Education Secretariat.

61. Turning to research, he said that his delegation wished once again to express the desire, already formulated at the eleventh and twelfth sessions of the Conference, that the Agency should establish an appropriate procedure ensuring the rapid supply of scientific equipment to countries urgently requiring it¹²). While equipment of that kind was sometimes available to excess in the research establishments of the advanced countries, it was almost non-existent on the local markets of the developing countries, where the lack even of a single spare part could often bring work to a standstill.

62. Viet-Nam strongly supported the planned extension of the India/Philippines/Agency regional joint training and research programme using a neutron crystal spectrometer¹³) in the form of regional co-operation on a larger scale. However, the programme should be defined by common agreement, in the interests of the whole region, and its ultimate aim should be to enable each country concerned to specialize in a particular field, while being in a position to derive full advantage from the work carried out in other fields by the other participants. In that regard he would reaffirm his wish that the Regional Representative for Asia and the Far East should play an active part as co-ordinator.

63. Mr. MOROKHOV (Union of Soviet Socialist Republics) made the following statement*:

(1) "Mr. President, distinguished delegates, ladies and gentlemen, allow me, Mr. President, first of all to congratulate you on your election to this high office. The Soviet delegation is confident that

12) GC(XI)/OR.113, para. 6 and GC(XII)/OR.122, para.21.

13) See documents INFCIRC/56 and Add.1.

* This statement is reproduced verbatim at the speaker's request under Rule 92(b) of the Conference's Rules of Procédure.

your election as President will contribute to the successful work of the thirteenth session of the General Conference of the International Atomic Energy Agency.

(2) "The past year in the Agency's work can be characterized as a period qualitatively different from the preceding years of its operation. The past year has seen the conclusion of the Treaty on the Non-Proliferation of Nuclear Weapons, and the Agency's work has begun to be affected by a whole series of new functions resulting from that treaty.

(3) "The Agency's successful discharge of these new responsibilities will depend on the efforts of all Member States, on the endeavours they make to contribute to the maximum extent to the accomplishment of the tasks devolving on the Agency as a result of the Non-Proliferation Treaty.

(4) "The Treaty has now been signed by almost 90 States. As far as the Soviet Union is concerned, it will be known to those present that the foreign affairs commissions of the Supreme Soviet of the USSR have unanimously recommended the Presidium of the Supreme Soviet of the USSR to ratify the Treaty, and we hope that the time is not far distant when the Non-Proliferation Treaty will enter into force.

(5) "Unfortunately not all States Members of the IAEA have yet acceded to the Non-Proliferation Treaty. The position adopted by some States Members of the Agency is strange, to say the least, in that while stressing the great importance of the peaceful use of atomic energy and of international collaboration in that field, not least through the Agency, they nevertheless refuse to participate in the Non-Proliferation Treaty, with all the prospects it offers for the further development of international collaboration.

(6) "At the present stage the Agency's entire work must be viewed in the light of the requirements stemming from the Non-Proliferation Treaty. This relates first and foremost to the Agency's vitally important task of applying safeguards to ensure that atomic energy is used for peaceful purposes. Even before conclusion of the Non-Proliferation Treaty the Agency had worked out and put into practice a trustworthy safeguards system, and the Non-Proliferation Treaty provides that this system will be used in order to supervise implementation of its main provisions. The Agency has already begun preparing to carry out these new responsibilities. The Secretariat has done considerable work in drawing up a draft model safeguards agreement. What now remains is to bring this important work to completion in order that once the Treaty enters into force the Agency should be ready to discharge its control responsibilities in practice. This import-

ant work lays a heavy burden of responsibility on States Members of the Agency, on the Board of Governors and on the Agency's Secretariat.

(7) "In addition to drawing up a draft model agreement the Agency is devoting close attention to working out the technical aspects of safeguards, and for this purpose is convening panels comprising expert consultants, etc. One group of consultants has completed its work and presented its reports to the Director General. The main conclusion that can be drawn from the results of its work is that, from the scientific and technical points of view, the Agency's existing safeguards system is the system on which the work of supervising implementation of the Non-Proliferation Treaty should be based.

(8) "The Agency's responsibilities in connection with the Non-Proliferation Treaty go beyond making the necessary preparations to carry out its new functions in the field of safeguards. The Treaty gives the Agency definite responsibilities in regard to peaceful nuclear explosions. Most States are of the opinion that it is the Agency which should play the role of the organ through which the non-nuclear Powers parties to the Non-Proliferation Treaty may benefit from the peaceful use of nuclear explosives.

(9) "As we have indicated in the Soviet Union's reply to the Director General's query we believe that with its present structure the Agency is in a position to assume responsibilities in connection with such explosions. The Agency has played an active part in preparing the report which will be submitted to the General Assembly of the United Nations for consideration at its present session, and it is collecting and disseminating information in regard to the possible practical applications of nuclear explosives for peaceful purposes.

(10) "In accordance with the Non-Proliferation Treaty the USSR will take a direct part in carrying out peaceful nuclear explosions for non-nuclear States. In our desire to contribute to the Agency's work in this field we have already sent to the Agency a number of scientific and technical reports by Soviet scientists on the problem of using nuclear explosions for peaceful purposes. These reports discuss, on the basis of specific examples, possible applications of nuclear explosions in the USSR's national economy, in regard, for example, to the construction of canals and reservoirs, the underground development and opening up of mineral deposits and steps to increase petroleum and gas production. The reports also deal with such important questions as methods of forecasting radioactive contamination. We will continue sending the Agency similar information in future.

(11) "We think this material will be of value to the Agency in assessing the prospects of using

nuclear explosives for peaceful purposes. Naturally these prospects must be considered realistically, taking into account the actual current level of technical development.

(12) "There is no room for doubt that the General Conference was perfectly correct in the resolution it adopted at its twelfth session regarding the Agency's role in this question of peaceful explosions. There is a great deal of work for the Agency to do in making the necessary organizational and material preparations for discharging its responsibilities in this field.

(13) "We fully approve the report of the Board of Governors on "The Agency's responsibility to provide services in connection with nuclear explosions for peaceful purposes", adopted by the Board last June. It is certain that this document will be one of the key elements in preparing the report of the Secretary-General of the United Nations on the question of nuclear explosions.

(14) "In the view of the Soviet delegation, the Agency's new functions resulting from the Treaty should also be kept in mind when considering the question of the membership of the Board. This question was raised at the last session of the General Conference. In this connection I should like to recall that in the resolution then adopted one on the main reasons given for reviewing Article VI of the Statute and enlarging the composition of the Board was the necessity of enabling the Agency to carry out its new responsibilities under the Treaty.

(15) "For this reason it is essential that the composition of the Board should be attuned to a factor of such great political importance as the Treaty on the Non-Proliferation of Nuclear Weapons, which has been signed by the overwhelming majority of States Members of the Agency. The Soviet delegation has stressed repeatedly, both in the Board and in the Ad Hoc Committee to Review Article VI, that this is a prerequisite for the effective functioning of the Board in the new conditions that have arisen.

(16) "Naturally in deciding so important a question as the expansion of the Board it is necessary to proceed cautiously and with due regard to all the relevant factors. As the Soviet delegation pointed out at the last session of the General Conference, enlargement of the Board must not lead to undermining the political compromise on which its composition was based. That means that due attention must be paid to the legitimate interests of the socialist countries, which make a substantial and important contribution to the work of the Agency. It is also necessary to take into account those historic processes which have taken place since the Agency's Statute was drawn up, processes which have led to

the liberation of African, Asian and American countries from the colonialist yoke and their emergence as new independent States. The Soviet Union fully understands the desire of the developing countries of these regions to increase their representation in the Board.

(17) "Consolidation of the Agency's international authority is also manifest in closer links between it and other international organizations. Conclusion of the Non-Proliferation Treaty, which entrusted the Agency with a whole series of important functions, has led to much closer relations between it and the United Nations. The Agency's relations with regional organizations are also being consolidated. During the past year the Soviet delegation has noted with satisfaction the conclusion of a Co-operation Agreement between the Agency and the Organization of African Unity. This year, only a few days ago, the Board of Governors, in response to a request from the League of Arab States, has instructed the Secretariat to engage in the necessary negotiations regarding conclusion of a similar agreement with that organization. In our view, that is the next useful step in establishing relations between the Agency and other international organizations.

(18) "In this connection the Soviet delegation would like in particular to refer to the collaboration which has been established and which is developing between the Agency and the Council of Mutual Economic Assistance (COMECON) in regard to the peaceful uses of atomic energy.

(19) "Pursuant to a decision of its twenty-third (special) session, held in Moscow in April 1969 at the highest governmental level, COMECON is at present deeply engaged in drawing up a comprehensive long-term programme covering all branches of science, technology and industry, including the widespread use of atomic energy in the national economy of its Member States. In accordance with this programme new forms of co-operation will be developed and intensified.

(20) "In view of the considerable experience of an organization such as the Agency and the far-ranging scientific, technical and economic activity of COMECON we consider that collaboration between the two organizations in regard to the peaceful uses of atomic energy will continue to be mutually beneficial in attaining the lofty objective of world-wide peace.

(21) "When speaking of the new tasks with which the Agency is faced as a result of the conclusion of the Treaty on the Non-Proliferation of Nuclear Weapons we should always bear in mind that an important prerequisite for the effective execution of these tasks is that the Agency should be converted into a genuinely universal organization, in

other words that its membership should be broadened. We accordingly welcome the addition to the Agency's Members of a country such as Ireland, which was one of the first to sign and ratify the Non-Proliferation Treaty. It is at the same time all the more intolerable that owing to the resistance of a number of countries the German Democratic Republic has so far been denied the possibility to become a Member of the Agency. As is shown in particular by the message sent by the Government of the German Democratic Republic to the President of the Conference, this country has considerable achievements to its credit in the peaceful uses of atomic energy. It was one of the first to sign the Non-Proliferation Treaty and declare its readiness to place its nuclear facilities under Agency safeguards in accordance with the Treaty, and as delegates will have heard, the Parliament of the German Democratic Republic yesterday ratified the Treaty. It is indisputable that the admission to the Agency of a country such as the German Democratic Republic will enormously contribute to the Agency's successful work in all fields.

(22) "Mr. President, a sound tradition has grown up during the General Conference to sum up what has been done towards developing the peaceful applications of atomic energy and international collaboration in this field during the period that has elapsed. The Soviet delegation would like to present certain comments on the main trends in regard to the peaceful uses of atomic energy, in the establishment of which the Agency plays an active part.

(23) "First of all we deem it necessary to comment favourably on the Agency's work in the field of nuclear power and on the use it makes in its activities of the accumulated information and experience of the Soviet Union and other countries advanced in this field.

(24) "At the twelfth regular session of the General Conference, the Soviet Union, wishing to promote still further the development of the peaceful uses of atomic energy — and especially of nuclear power — in the non-nuclear countries, expressed its readiness to enrich natural uranium for interested countries up to 2.5-5% in uranium-235, i.e. to the level of enrichment required for nuclear power stations.

(25) "The Soviet Union now reaffirms its readiness to do this and, in view of the interest expressed by a number of non-nuclear States, the appropriate organizations in the USSR have formulated terms for natural uranium enrichment in the USSR on behalf of non-nuclear States parties to the Non-Proliferation Treaty. These terms are being communicated to the Secretariat. In this connection it is envisaged that such uranium-enrichment

operations will be carried out by the Soviet Union either on a bilateral basis or through the Agency.

(26) "International co-operation has also developed through collaboration between scientists involved in fundamental physics.

(27) "Last year in the Soviet Union, in the field of fundamental research, new data were obtained on the Serpukhov-70 GeV accelerator. Interactions between high-energy protons were measured and the first experiments in the search for quarks etc. were carried out. This accelerator has formed a basis for the continued expansion of scientific co-operation between physicists in the Soviet Union and those in France and at CERN.

(28) "Great success has been achieved by the scientists of socialist countries at the Joint Institute for Nuclear Research. They have proved by experiment that it is basically possible to build accelerators based on the collective method of accelerating charged particles, as propounded by Veksler and developed and put into practice by his pupil Sarantsev.

(29) "Successful experiments have been carried out on the Institute's IBR reactor in the production of ultra-cold neutrons. Work has also successfully progressed there on the synthesis of the transuranium elements, including the search for elements around the transition number 114. It should be pointed out that at the Joint Institute for Nuclear Research, scientists of the socialist countries are working on their own projects under their own initiative and are making their national contribution to the development of world science.

(30) "In the field of thermonuclear research, investigations into the properties of hot plasma and methods of containing and heating it have been continuing with the close co-operation of scientists from other countries. Special attention has been paid to the study of closed toroidal systems of the TOKAMAK type. Work has also continued on closed traps of the "Stellarator" type. The success achieved in this sphere has brought us closer yet to the point where we can embark on the design of a prototype thermonuclear reactor.

(31) "Another important aspect of the Agency's activity is the treatment of radioactive waste. We are totally opposed to the disposal of industrial waste at any level of activity into the sea or fresh water. For this reason the Soviet Union has developed systems to remove the active elements from solution and place them in concentration. More than thirty centralized collection and burial points for radioactive waste have been constructed in our country.

(32) "We are freely sharing the experience acquired with the Agency. For this reason we were prompted to organize with the Agency a study tour for specialists from 14 developing countries which are Members of the Agency to study the problem of radioactive waste disposal; the aim of the tour was to acquaint the representatives of these countries with the work being done by Soviet scientists, to show them the scientific centres and burial points and to pass on the knowledge and experience we have gained in this field so that they might put it to use themselves.

(33) "An important Agency activity is the solution of problems connected with the increase in agricultural productivity. A clear example of this is the work being done on the irradiation of seeds before sowing.

(34) "As a result of these investigations it has been established beyond doubt that specific doses of ionizing radiation have a stimulating effect. There is now a theoretical basis to support the introduction of irradiation before sowing. It has been shown that irradiation before sowing can be applied in practice subject to a number of conditions which ensure reproducibility of the stimulating effect.

(35) "We are prepared to co-operate more and more with the Agency in this field.

(36) "A vital problem today is the preservation of food products and the Agency a playing a leading role in this field.

(37) "Extensive research into the use of ionizing radiation to irradiate food products was begun in the USSR twenty years ago.

(38) "One result of the investigations into the irradiation of food products carried out in our country is a list of irradiated products which the Ministry of Health of the USSR has passed as fit for consumption. This list, information about which was passed on by us to the Agency, entitles the appropriate Ministries and Departments to introduce the new and efficient method of food processing into industry on a broad scale.

(39) "Soviet scientists, working on the radiation processing of food products, are actively co-operating with the Agency and are assisting the developing countries in this matter by various means, including the Agency's technical assistance programme.

(40) "In carrying out its extensive programme in the use of atomic energy, the Soviet Union consistently supports broad economic, scientific and technological co-operation with all countries.

(41) "Our country has a significant number of bilateral agreements on the peaceful use of atomic energy with States at various stages of development in this respect. However, whilst expanding co-operation on a bilateral basis, the Soviet Union is also each year intensifying its efforts to co-operate with international organizations, above all with the Agency.

(42) "Eminent Soviet specialists are actively participating in scientific and technological conferences and symposia organized by the Agency.

(43) "The Soviet Union is a regular location for Agency conferences and seminars, as well as study tours arranged for scientists from the developing countries under the technical assistance programme. In November of this year, in Moscow, a meeting of the four nuclear data centres is to be held. And at the beginning of 1970, also in Moscow, there will be a meeting of the international working group on thermionic energy conversion.

(44) "The appropriate organizations in our country are constantly sending the Agency information about the results of scientific research carried out by Soviet scientists in the peaceful uses of atomic energy. This flow of information will increase considerably in 1970, since the Soviet Union has announced its willingness to participate in the International Nuclear Information System (INIS) and will carry out all the duties that this entails. Soviet scientists are helping, partly on a cost-free basis, in scientific research being carried out at the Agency's request, and they are also helping to prepare co-ordinated scientific research programmes. The results of these activities will be of benefit to all the Agency's Member States.

(45) "An important event for the further course of work on the peaceful utilization of atomic energy will be the Fourth Geneva Conference. The Agency played an active role in organizing the Third Geneva Conference on the peaceful utilization of atomic energy. It is a matter for satisfaction to note that the Agency is now being entrusted with duties relating to the scientific and technical organization of the Fourth Geneva Conference and we are sure that the Agency will successfully carry out these duties. In order to do so, the Agency must already start to take account of the forthcoming conference in planning its activities.

(46) "The Soviet Union is also actively participating in the Agency's programme of technical assistance to developing countries.

(47) "At the twelfth regular session of the General Conference we announced our intention of making our usual voluntary contribution of 150 000 roubles.

(48) "We note with satisfaction that the Agency has now made use of practically this entire amount. In this connection, we should like to mention the useful work which the Agency's Secretariat has done in using these funds for the provision of equipment to developing countries.

(49) "In order to help in implementing the Agency's technical assistance programme, the Soviet delegation is authorized to state that the USSR will make a voluntary contribution of 150 000 roubles in national currency to the Agency's technical assistance fund for 1970; this contribution is both for the provision of equipment, apparatus and supplies and also for the organization of meetings, study tours, seminars and courses in the USSR for specialists and scientists from developing countries.

(50) "Soviet scientists sent to developing countries as Agency experts have made an important contribution in the provision of technical assistance.

(51) "We feel sure, too, that scientists from the developing countries who have undergone training as Agency fellows on the basis of the 20 fellowships previously made available by the Soviet Union have derived considerable scientific advantage therefrom.

(52) "In view of the satisfactory results of this work the Soviet Union, starting in 1970, will make available a further 10 fellowships a year — in addition to those offered through the IAEA — to train scientists from developing countries for work on installations built with Soviet aid or for carrying out joint scientific and technical work within the framework of bilateral agreements between the Soviet Union and the developing countries concerned. The USSR will acquaint the Agency's Secretariat with the use made of these fellowships in due course.

(53) "The year 1970 will be a year marked, not only in our own country, but throughout the whole world, by the centenary of the birth of Vladimir Ilich Lenin, a brilliant thinker and man of learning and the founder of the Soviet State.

(54) "Scientific meetings, conferences and symposia are being held both in the Soviet Union and within the framework of international organizations to commemorate this jubilee. We hope the senior staff of the International Atomic Energy Agency will be able to participate in the symposium entitled 'V.I. Lenin and Education, Science and Culture' to be organized by UNESCO in Tampere (Finland) and Leningrad. We feel sure that the celebration of this jubilee, which is so important to the Soviet people, will help to promote peaceful international collaboration.

(55) "The Soviet delegation welcomes the decision of Dr. Eklund to remain in his post as Director General of the IAEA, which he has led so effectively for many years.

(56) "In conclusion, I should like to point out that the Agency is assuming ever-increasing importance in the world of today. In addition to its important scientific, technical and economic duties in connection with the peaceful utilization of atomic energy it is now also being called upon to perform important duties relating to the Treaty on the Non-Proliferation of Nuclear Weapons. This responsibility places our organization in the front rank of those concerned with ensuring international peace and security. On this very question of international peace and security the Government of the USSR has submitted important proposals for discussion at the twenty-fourth General Assembly of the United Nations. We are convinced that the Agency and its administration are fully aware of the Agency's new role and are properly equipping the organization to carry out its new duties. We can guarantee that the Soviet Union will give the Agency and its Secretariat full support in the performance of its important new duties."

64. Mr. HIRSCH (France) said that over the past twelve years the Agency's role in connection with the provision of technical assistance to the developing countries, the drafting of international legislation governing the transport of radioactive materials, waste management and radiation protection had gradually become established. However, the Agency had not carried out on a large scale the functions of broker in nuclear materials, since countries continued to prefer bilateral exchanges in that field. The same applied to transactions concerning power reactors. The Agency's fund of special fissionable materials was in fact still quite fully stocked. When that was no longer the case the French Government would be prepared to give its close attention to the matter of placing the required amounts of fissionable materials at the disposal of the Agency's fund.

65. The development of the political situation gave grounds for casting the Agency in an ever-wider role in the control of the peaceful uses of nuclear energy. In that connection France approved the Agency's safeguards activities, the position of the French Government on the matter of financing those activities remaining unchanged. France was interested in all the studies undertaken by the Department of Safeguards and Inspection aimed at developing methods of control and expanding the practical field of their application. In particular, it had made a positive response to an Agency request to supply the material necessary for a study on control at an isotope separation plant. The French offer had received no reply and he would be interested to know how things stood in that respect.

66. As regards the inspectorate, the persons chosen for that work should be drawn from a wide range of countries, while at the same time the recruitment of large numbers of insufficiently qualified staff should be avoided; it might be possible to reduce the number of inspectors by making greater use of atomic energy experts who had had experience in the operation of nuclear installations. As to the financing of inspection work, the time had come to subject it to close scrutiny, since the cost involved could not continue to be charged to the Regular Budget in view of the relative increase in the funds allocated to safeguards. The cost of inspections would sooner or later have to be incorporated, in one way or another, in the price of services rendered or in the sales of nuclear materials subject to control.

67. Conscious of the expansion which had taken place in the Agency's role and in the interest shown in it by its Members, whose numbers had registered a substantial increase, the French delegation considered it appropriate to make provision for the review of Article VI of the Statute. Numerous proposals for that purpose had been submitted to the Ad Hoc Committee set up to deal with the problem. Two trends had emerged in that committee: some Members were extremely cautious about upsetting the delicate balance achieved in 1956 when the Statute had been drafted, while others would like to have visible confirmation of the technical progress they had made or to buttress the importance of the geographical area to which they belonged by increasing the number of permanent seats. The proposal of the Italian Government represented, in the view of his delegation, a useful basis for discussion. France had therefore supported that proposal in principle, although the concomitant increase in the number of Governors from 25 to 33 seemed somewhat excessive, and it was to be hoped that the whole delicate question could be settled during the coming months.

68. The French delegation regretted that it would be obliged to abstain on the vote for the budget for 1970, for reasons which it had set forth on various occasions, particularly in the Board's Administrative and Budgetary Committee. Stricter efforts should be made to arrive at a budget increase which remained reasonable in absolute terms, and at a proper distribution of funds between various activities.

69. The concept of strict efficiency should also be applied to the Agency's staff, in terms of maintaining its quality, a feature by which France set ever-greater store. When an official was of undoubted value, there should be no hesitation in endeavouring to retain his services with the Agency, even sometimes at the expense of geographical distribution. Such action was necessary to ensure continuity in the implementation of the scientific programme.

70. On the subject of geographical distribution, the French delegation wished to enter a protest at the fact that certain job descriptions implied the necessity for candidates to be of English mother tongue. That was an act of discrimination of which the French Government would be obliged to take official cognizance should it recur in either the letter or the spirit.

71. He was pleased to see that the agreement with the International Laboratory of Marine Radioactivity at Monaco had been renewed, and stated that France would continue to supply the laboratory with the radioisotopes necessary for its research work. France was likewise prepared to continue its free deliveries of radioisotopes to the Laboratory at Seibersdorf for the fabrication of standards and for other activities. In that connection he wished to pay tribute to the work carried out by Mr. Seligman during the eleven years which he had spent at the head of the Department of Research and Isotopes; in particular, it was to Mr. Seligman that the Agency owed the existence of the laboratories at Seibersdorf and Monaco and the launching of the system of research contracts.

72. Turning to the INIS project, he said France had followed the preparatory work with great interest and considered that something of universal value could thereby be achieved, particularly if account were taken of the experience obtained in operating already well-tried documentation systems. For that reason the French Government was prepared to participate in INIS as now defined, within the limits of the subject scope chosen by the experts.

73. Conscious of the limitations of the French financial effort in connection with voluntary contributions, he was happy to announce that his Government had decided to make a gift to the Agency of electronic equipment for its laboratories and for use in research in the developing countries. The equipment in question was worth about 100 000 francs.

74. At the recent Symposium on the Handling of Radiation Accidents it had emerged that France possessed an infrastructure particularly well suited to rendering technical and medical assistance to irradiation and contamination victims. His Government was therefore signifying to the Agency its willingness to accept trainees for instruction in clinical radiopathology, and the training courses could begin as from January 1970.

75. In addition the French Government was placing at the Agency's disposal, for the current year, ten fellowships for scientifically well-qualified candidates, the subjects for study being clinical radiopathology or any other nuclear discipline taught in France.

76. During the past year the French Government had endeavoured to meet the Agency's requirements in the technical assistance field, and about a dozen French experts had taken part in missions, some of them of long duration. French research centres had furthermore received for training some 40 Agency fellows. France would also be host country to a symposium on radiation safety problems and to a number of study groups during the coming months.

77. Without giving a full analysis of French nuclear activities, he wished to point out, regarding nuclear power generation, that the main effort of the Commissariat à l'énergie atomique (CEA) (French Atomic Energy Commission) was at present concentrated on the fast-neutron type of reactor, which was considered to be the reactor of the future. The "RAPSODIE" experimental reactor had been in very satisfactory operation for two years at Cadarache. It had irradiated fuel pins to burn-ups exceeding 60 000 MWd/t without any problems arising, whereas the initial programme had made provision for a maximum burn-up of 30 000 MWd/t. Construction of the "PHENIX" prototype 250 MW(e) power station, representing one of the priority investment projects of CEA, had begun at Marcoule early in 1969. That was a field in which France considered itself to be in a position to make a contribution to the international cause. The success obtained with "RAPSODIE" had indeed already induced several countries to turn to France with a view to future co-operation.

78. The start of 1969 had also been marked by the commissioning of the Saint-Laurent power station, and six months after its connection with the Electricité de France grid the station had generated more than 500 million kWh; that was a quite remarkable performance by a plant which was one of the only three in the world with a capacity exceeding 400 MW(e).

79. In the production and export of artificial radioisotopes, which was a responsibility of CEA, France was making an ever-increasing effort and according priority to the perfecting of all those applications which could be of service to the developing countries, especially in agriculture.

80. Finally CEA was also playing a leading part in France in studies on the desalting of sea water, an activity which, perhaps sooner than had first been expected, could be associated with the generation of nuclear power. It was in that context that French industry, after having constructed a small desalting plant in Mauritania, was now going to erect a much larger one in Kuwait.

81. He was gratified that the Agency would be responsible for organizing the Fourth United Na-

tions International Conference on the Peaceful Uses of Atomic Energy in Geneva in 1971. The Agency should make certain that no symposium was planned which might overlap with the topics to be dealt with in Geneva. The French delegation knew in advance that the Secretariat would display great efficiency, diligence and competence in the preparation of the Geneva conference, which should yield interesting conclusions. Among other things the conference would make it possible to assess the situation regarding the use of nuclear explosives for peaceful purposes, a topic which had recently acquired justified importance, although some countries had displayed a tendency to suggest that practical results could be achieved much sooner than was in fact the case, doubtless in order to calm the anxieties of countries which feared that they might be permanently excluded from activities in that field. The Agency should state the situation as it was and, in a general way, one of its functions should always be to place in proper perspective the sometimes exaggerated hopes originating in poorly industrialized countries regarding the possibilities of rapidly introducing the use of nuclear energy techniques. France had confidence in the Agency's capacity to succeed in that important assignment, as in all the other functions which were entrusted to it.

82. Sir John HILL (United Kingdom) thanked the Director General for all his work over the past eight years and expressed his delegation's confidence that he (Mr. Eklund) would continue rendering equally valuable service during his new term of office. He also welcomed the appointment of Mr. Rometsch as Inspector General, who was in charge of safeguards activities, a vital and growing part of the Agency's responsibilities.

83. Though there had been no sudden change in the world's nuclear industry, there had, nevertheless, been a continued acceleration of the process by which it was becoming, in many ways, a normal, even if rapidly expanding, commercial industry - an industry governed by the criteria of customer demand, price, reliability and contractual guarantees. The estimates made by economists of the costs of hypothetical nuclear power stations, or the arguments of the physicists to demonstrate that one reactor type was to be preferred to another, were things almost of the past. The present lay, to a much greater extent, with the engineers, the construction teams and the electricity utilities. What station would be built was determined by the hard facts of economic life, and that was how it should be.

84. At the same time nuclear power was unique. Applied properly and responsibly, it could contribute enormously to man's welfare and progress and to a better life for all. But used irresponsibly or misused, it could be a hazard to everyone. That was true both of the possible manufacture and misuse

of nuclear weapons and of the possible release of excessive quantities of radioactive materials and radiation by carelessness or irresponsibility. Many industries were having to submit to an ever greater degree of control to ensure that their wastes and effluents did not harm the environment and that the people who worked in the industry were not exposed to harmful or toxic materials. That was particularly true of the nuclear industry. But the nuclear industry had additionally the problem of possible diversion of fissile material, a problem without parallel in any other large peaceful industry. In those circumstances it could not expect to have the degree of freedom enjoyed by most other industries. It was vital that nuclear power should not be used carelessly or incompetently or for narrow economic advantage in a way that could be detrimental to all.

85. All countries recognized the need for control with regard to atomic energy and nuclear power. Standards had to be set up for permissible radiation levels, for maximum internal doses, for the movement and disposal of radioactive substances, etc. To do that sensibly needed international agreement on the basic data and principles to be applied, and it was to the great credit of the Agency that its recommendations had been so universally accepted. Not only had that ensured that proper standards were maintained, but it had also greatly facilitated movement of nuclear materials from one country to another and hence expansion of the nuclear industry.

86. In connection with the Agency's statutory responsibility to encourage and foster the great new nuclear industry and, at the same time, ensure that its power was not misused, the United Kingdom believed that the Board of Governors could properly authorize the Director General to act as intermediary in the supply of reactor fuel and nuclear material for use in reactor fuel on a long-term basis and in greater quantities than the Agency had previously dealt with. If it were to offer to supply fuel in such cases, the United Kingdom would do so on commercial terms no different from those which would apply to a direct sale to another country.

87. The promulgation of scientific and technological data relating to atomic energy was similarly of great value, and the United Kingdom endorsed fully what the Agency was doing in that area. At the present stage in the evolution of nuclear power, however, the practical engineering and operating problems were coming to the front as many of the basic problems became better understood. There was in fact a tendency today to contract and reduce the amount of work in fundamental research, and he did not think there was any need for the Agency to increase its activities in that field, as ample resources already existed.

88. The Agency's technical assistance activities were of the greatest interest to many Members, and he was glad to be able to say that the United Kingdom was prepared to increase its contribution to the General Fund for 1970 to £50420 in convertible sterling, subject of course to the usual budgetary procedures. Moreover, as in previous years, it was ready to support the Agency's operational activities by providing, on short-term assistance missions, experts and so on free of charge. It could also make available to the Agency free of charge up to seven training places at the Central Electricity Generating Board, nuclear power stations and laboratories.

89. Though the Agency's Statute had served well for the past ten years, there was now general agreement that the membership of the Board might with benefit be modestly increased, to take account of changed circumstances and conditions. His delegation agreed with that general view. But to achieve that in a manner satisfactory to all Members of the Agency was not easy, for many claims and interests had to be reconciled. Nevertheless, progress had been made, and he believed it should be possible to achieve agreement in time for the next session of the General Conference, on the basis of the proposal put forward by the delegation of Italy.

90. Finally, with regard to safeguards and the Agency's responsibilities under NPT, he warmly welcomed the Director General's suggestion for the establishment of a safeguards committee in which the complex and important issues could be freely and openly discussed.

91. Turning to the atomic energy programme in the United Kingdom, he said that although the country was continuing to develop the same reactor systems as in the past, the structure of the industry, including the Atomic Energy Authority, was being progressively changed to meet the changing circumstances and requirements.

92. The main reactor programme in the United Kingdom had always been based on gas cooling, and the impressive thing about such reactors was the enormous development potential they seemed to have. As part of a steady process of development, their safety and economics had been greatly improved, the former to the point where the United Kingdom now felt completely justified in siting such reactors close to populous areas. Further improvements were in view, and the United Kingdom expected to go on building gas-cooled reactors of ever improving design for as far ahead as could at present be foreseen.

93. The steam generating heavy water reactor — a light-water-cooled, boiling-water reactor moderated with heavy water — had been developed to meet the requirements for somewhat smaller reactors where

flexibility of operation was of more importance than high thermal efficiency. That design should be of particular value in areas where the requirements of the electricity network limited the size of reactor that could be employed. The 120-MW(e) prototype reactor at Winfrith Heath had performed well and had demonstrated the satisfactory performance of that reactor type.

94. The United Kingdom's other main line of reactor development was the sodium-cooled fast reactor. Though construction of the prototype reactor had been delayed somewhat by late delivery of certain engineering components, the real problems of future fast reactor development related to the fuel, the metallurgy, the instrumentation and the performance of structural materials under irradiation. In all those areas his country's development programme was continuing well, greatly assisted by the irradiation experience obtained from the Dounreay experimental fast reactor. The United Kingdom also welcomed the growing use of that irradiation facility in the fast reactor development programmes of other countries.

95. Plutonium was only now becoming available in the quantities required for fast reactor use, but in a few years' time the production of plutonium from the civil nuclear power plants of the world would be very substantial and he believed the fast reactor would provide the most economical way of using that plutonium.

96. As far as the nuclear power programme and nuclear fuel services were concerned, the stations

now in operation in the United Kingdom were producing 4000 MW and stations with a capacity for a further 6000 MW were under construction, while, as indicated in document GC(XIII)/INF/113/Rev.1, the Authority's factories at Springfields, Windscale and Capenhurst had been adapted and modified to meet the expanding requirements for a complete nuclear fuel service. The operations of those factories were being carried out on a commercial basis and it was the intention to complete that process by making them into a separate company, initially at any rate as a subsidiary of the Atomic Energy Authority.

97. In the industrial sector the reorganization carried out in 1968 was working well. The four separate design and construction teams—one designing gas-cooled reactors for the electricity authorities—had been merged into two design and construction companies, with the Atomic Energy Authority taking a 20% shareholding in each. That had resulted in a considerable strengthening of the two companies while at the same time maintaining a measure of choice and competition in the industry.

98. To conclude, one could see, looking back a few years, that the atomic energy organizations in the world had then been suffering from growing pains. What they were suffering from now was the pains of adapting themselves to a very rapidly changing environment. That was the price of rapid technological progress, but adjustment would be much more rapid if policies were based on the realities of the present and sensible anticipation of the changes in the future.

The meeting rose at 1 p.m.