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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

REPORT OF THE LEGAL SUB-COMMITTEE ON THE WORK OF ITS TWENTY-SEVENTH SESSION (14-31 MARCH 1988)

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INTRODUCTION

Opening of the session

- 1. The Legal Sub-Committee held its twenty-seventh session at the United Nations Office at Geneva from 14 to 31 March 1988 under the chairmanship of Mr. Ludek Handl (Czechoslovakia).
- 2. At the opening meeting, the Chairman made a statement briefly describing the work to be undertaken by the Sub-Committee at its current session. A summary of the Chairman's statement is contained in document A/AC.105/C.2/SR.480.

Adoption of the agenda

- 3. The General Assembly, in paragraph 4 of its resolution 42/68 of 2 December 1987, had endorsed the recommendations of the Committee on the Peaceful Uses of Outer Space that the Legal Sub-Committee at its twenty-seventh session, taking into account the concerns of all countries, particularly those of developing countries, should: (a) continue the elaboration of draft principles relevant to the use of nuclear power sources in outer space through its working group; and (b) continue, through its working group, its consideration of matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union. The Assembly, in paragraph 5 of the same resolution, had also requested the Sub-Committee to finalize the choice of a new item for its agenda, taking into account the proposal made by the Group of 77 and other proposals, in order to begin its consideration of the item at its twenty-seventh session.
- 4. At its opening meeting, the Sub-Committee adopted the following agenda (A/AC.105/C.2/L.163):
 - 1. Opening of the session.
 - 2. Statement by the Chairman.
 - 3. The elaboration of draft principles relevant to the use of nuclear power sources in outer space.
 - 4. Matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

5. Finalization of the choice of a new item for the agenda, taking into account the proposal made by the Group of 77 and other proposals, in order to begin its consideration at the Sub-Committee's twenty-seventh session.

Attendance

- 5. Representatives of the following States members of the Sub-Committee attended the session: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Czechoslovakia, Ecuador, Egypt, France, German Democratic Republic, Germany, Federal Republic of, Greece, Hungary, India, Indonesia, Iraq, Italy, Japan, Kenya, Mexico, Mongolia, Morocco, Netherlands, Nigeria, Pakistan, Philippines, Poland, Romania, Spain, Sudan, Sweden, Syrian Arab Republic, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela, Viet Nam and Yugoslavia.
- 6. Representatives of the following specialized agencies and international organizations attended the session: International Atomic Energy Agency, International Telecommunication Union, World Meteorological Organization, European Space Agency and International Astronautical Federation.
- 7. The Chairman informed the Sub-Committee, at its 480th, 492nd, 497th and 500th meetings, on 14, 22, 25 and 29 March 1988 respectively, that requests to participate at meetings of the Sub-Committee had been received from Bhutan, the Libyan Arab Jamahiriya, Afghanistan and Cuba. The Sub-Committee agreed that, since the granting of observer status was the prerogative of the Committee on the Peaceful Uses of Outer Space, the Sub-Committee could take no formal decision on the matter, but that the representatives of Bhutan, the Libyan Arab Jamahiriya, Afghanistan and Cuba might attend the formal meetings of the Sub-Committee and could direct to the Chair requests for the floor should they wish to make statements.
- 8. A list of representatives of States members of the Sub-Committee attending the session, as well as of States not members of the Sub-Committee, of the specialized agencies and international organizations attending the session, and of the secretariat of the Sub-Committee, is contained in document A/AC.105/C.2/INF/20 and Add.1.

Organization of work

- 9. In accordance with decisions taken at its opening meeting on 14 March 1988, the Sub-Committee organized its work as follows:
- (a) It considered the three substantive items on its agenda in the order in which they appeared in document A/AC.105/C.2/L.163, provisionally allocated eight meetings for the consideration of each item, and decided that such allocation might be varied if, in the light of consultations within the Sub-Committee, it appeared to be desirable to do so;

- (b) It provided time for a general exchange of views to enable delegations wishing to make statements in such an exchange to do so, and reserved the last day of its session for the consideration and adoption of its report;
- (c) It re-established its Working Group on agenda item 3, open to all members of the Sub-Committee, and agreed that Mr. H. Winkler, the representative of Austria, should serve as its Chairman;
- (d) It re-established its Working Group on agenda item 4, open to all members of the Sub-Committee, and agreed that Mr. R. Lagorio, the representative of Argentina, should serve as its Chairman;
- (e) It began its work each day with a plenary meeting to hear delegations wishing to address the Sub-Committee, and then adjourned and reconvened, when appropriate, as a working group.
- 10. The following delegations participated in the general exchange of views: Argentina, Brazil, Bulgaria, Chile, China, Czechoslovakia, Ecuador, Egypt, France, German Democratic Republic, Hungary, India, Mexico, Mongolia, Nigeria, Pakistan, Poland, Romania, Union of Soviet Socialist Republics, United States of America and Venezuela.
- 11. The Working Group on agenda item 3 held eight meetings. The Working Group on agenda item 4 held nine meetings.
- 12. The Chairmen of the working groups reported to the Sub-Committee at its 503rd meeting, on 31 March 1988 (see annexes I and II to the present report). The Sub-Committee took note with appreciation of the reports and of the work done in the working groups.
- 13. At the 480th meeting, on 14 March 1988, the Chairman of the Sub-Committee made a statement concerning the utilization of conference services by the Sub-Committee. He drew attention to the importance the General Assembly and the Committee on Conferences attached to the economical utilization of conference services by all United Nations deliberative bodies, particularly in view of the present financial constraints of the Organization. The Chairman noted that the percentage of the use of conference services by the Sub-Committee at its twenty-sixth session in 1987 was higher than at its twenty-fifth session in 1986. However, he believed that there was still room for further improvement in this field. In this connection, the Chairman proposed and the Sub-Committee agreed on the following measures to be followed at the current session of the Sub-Committee:
- (a) The Sub-Committee and its working groups should begin their meetings punctually at the scheduled time, even if there was no quorum (14 members);
- (b) Morning meetings should be scheduled from 10 a.m. to 1 p.m. and afternoon meetings from 3 p.m. to 6 p.m.;
- (c) The Department of Conference Services should be notified as early as possible whenever it was anticipated that any of the services usually provided were not going to be required. If possible, there should be 24-hour prior notice;

- (d) Informal consultations (i.e., outside the auspices of the Sub-Committee and its working groups) should not interrupt the work of the Sub-Committee or its working groups.
- 14. Some delegations expressed their grave concern over the threat of extending the arms race into outer space. They believed that every effort should be made to avert that danger and that the Committee on the Peaceful Uses of Outer Space, as well as its sub-committees, could make important contributions in that regard, playing a supportive role for other international forums dealing with the problem of preventing an arms race in outer space. These delegations pointed out, in particular, that the Legal Sub-Committee, having elaborated the Outer Space Treaty, containing a number of important restrictions on certain military uses of outer space, was sufficiently competent to consider the question of the prevention of an arms race in outer space.
- 15. Other delegations expressed the view that disarmament questions did not fall within the competence of either the Committee on the Peaceful Uses of Outer Space or its subsidiary bodies. They pointed out that the question of the prevention of an arms race in outer space was properly a matter for the Conference on Disarmament. They were of the view that the Committee and its sub-committees should not be distracted from the task of promoting international co-operation in the peaceful uses of outer space by being drawn into the areas belonging to the mandate of other forums.
- 16. The Sub-Committee expressed its gratitude to Mr. John de Saram for his contribution to the work of the Sub-Committee during his tenure as Secretary of the Sub-Committee.
- 17. The Sub-Committee held a total of 24 meetings. The views expressed at those meetings are summarized in documents A/AC.105/C.2/SR.480 to 503.
- 18. At its 503rd meeting, on 31 March 1988, the Sub-Committee adopted the present report and concluded the work of its twenty-seventh session.
 - I. THE ELABORATION OF DRAFT PRINCIPLES RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE (AGENDA ITEM 3)
- 19. The Chairman made an introductory statement on agenda item 3 at the 480th meeting of the Sub-Committee, on 14 March 1988. He referred to the work of the Sub-Committee at its twenty-sixth session in 1987.
- 20. The Chairman drew attention to the fact that the General Assembly, in its resolution 42/68, had decided that the Sub-Committee, at its current session, taking into account the concerns of all countries, particularly those of developing countries, should continue, through its working group, the elaboration of draft principles relevant to the use of nuclear power sources in outer space.
- 21. The Sub-Committee noted that the subject of the use of nuclear power sources in outer space had been under consideration in the Scientific and Technical Sub-Committee at its twenty-fifth session, in 1988, and that this part of the

report of the latter Sub-Committee was contained in document A/AC.105/409 and Corr.1, paras. 58-61 and annex III.

- 22. The Sub-Committee had before it a working paper submitted at its current session by the delegation of Canada (A/AC.105/C.2/L.154/Rev.3), and two working papers submitted by the delegation of China (A/AC.105/C.2/L.164 and L.165). These working papers are reproduced in part A of annex III to the present report.
- 23. The views expressed by delegations during the debate on agenda item 3 are contained in summary records A/AC.105/C.2/SR.480 to 487.
- 24. As noted in paragraph 9 (c) above, the Sub-Committee at its 480th meeting re-established its Working Group on agenda item 3 under the chairmanship of Mr. H. Winkler, representative of Austria.
- 25. At the 503rd meeting, on 31 March 1988, the Chairman of the Working Group reported to the Sub-Committee, which took note with appreciation of the report (see annex I to the present report).
- 26. On 31 March 1988, the delegation of Canada submitted a working paper (A/AC.105/C.2/L.154/Rev.4), reproduced in part A.4 of annex III to the present report.
- 27. The Sub-Committee noted the close connection between, on the one hand, progress made by the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee and, on the other hand, the possibility of the Legal Sub-Committee agreeing on principles concerning the scientific and technical aspects of the use of nuclear power sources in outer space.
- 28. It was suggested that the Sub-Committee recommend to the Committee on the Peaceful Uses of Outer Space that it recommend to the General Assembly that it recognize the need to allot the Scientific and Technical Sub-Committee's Working Group on the Use of Nuclear Power Sources in Outer Space a greater number of meetings than was the case in 1988, in order that it may be able to provide solutions to the scientific and technical problems that are currently impeding the work of the Legal Sub-Committee in this field.
 - II. MATTERS RELATING TO THE DEFINITION AND DELIMITATION OF OUTER SPACE AND TO THE CHARACTER AND UTILIZATION OF THE GEOSTATIONARY ORBIT, INCLUDING CONSIDERATION OF WAYS AND MEANS TO ENSURE THE RATIONAL AND EQUITABLE USE OF THE GEOSTATIONARY ORBIT WITHOUT PREJUDICE TO THE ROLE OF THE INTERNATIONAL TELECOMMUNICATION UNION (AGENDA ITEM 4)
- 29. The Chairman made an introductory statement on agenda item 4 at the 488th meeting of the Sub-Committee, on 18 March 1988. He referred to the work of the Sub-Committee at its twenty-sixth session in 1987.
- 30. The Chairman drew attention to the fact that the General Assembly, in its resolution 42/68, had decided that the Sub-Committee, taking into account the

concerns of all countries, particularly those of developing countries, should continue, through its working group, its consideration of matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit, without prejudice to the role of the International Telecommunication Union.

- 31. The Sub-Committee noted that the subject of the geostationary orbit had been under consideration in the Scientific and Technical Sub-Committee at its twenty-fifth session in 1988, and that this part of the report of the latter Sub-Committee was contained in document A/AC.105/409 and Corr.1, paras. 67-72.
- 32. The Sub-Committee had before it working papers submitted at previous sessions by the delegation of the Union of Soviet Socialist Republics (A/AC.105/L.122 and L.168 and A/AC.105/C.2/L.139), the delegations of Colombia, Ecuador, Indonesia and Kenya (A/AC.105/C.2/L.147), the delegation of the German Democratic Republic (A/AC.105/C.2/L.153) and the delegation of Kenya (A/AC.105/C.2/L.155). These working papers are reproduced in part B of annex III to the present report.
- 33. The Sub-Committee, in connection with the question of the geostationary orbit, took note of a letter dated 16 October 1985 from the Secretary-General of the International Telecommunication Union to the Secretary-General of the United Nations (A/AC.105/360), a copy of which is set out in part B.8 of annex III to the present report, concerning a decision reached at the first session of the World Administrative Radio Conference in 1985, on the use of the geostationary satellite orbit and the planning of the space services utilizing the orbit.
- 34. The views expressed by delegations during the debate on agenda item 4 are contained in summary records A/AC.105/C.2/SR.488 to 495.
- 35. As noted in paragraph 9 (d) above, the Sub-Committee at its 480th meeting re-established its Working Group on agenda item 4 under the chairmanship of Mr. R. Lagorio, representative of Argentina.
- 36. At the 503rd meeting of the Sub-Committee, on 31 March 1988, the Chairman of the Working Group reported to the Sub-Committee, which took note with appreciation of the report (see annex II to the present report).
 - III. FINALIZATION OF THE CHOICE OF A NEW ITEM FOR THE AGENDA,
 TAKING INTO ACCOUNT THE PROPOSAL MADE BY THE GROUP OF 77
 AND OTHER PROPOSALS, IN ORDER TO BEGIN ITS CONSIDERATION
 AT THE SUB-COMMITTEE'S TWENTY-SEVENTH SESSION
 (AGENDA ITEM 5)
- 37. The Chairman made an introductory statement on agenda item 5 at the 496th meeting of the Sub-Committee, on 24 March 1988. He referred to the consideration of the choice of a new item for the Sub-Committee's agenda at its twenty-sixth session and at the thirtieth session of the Committee on the Peaceful Uses of Outer Space in 1987.

- 38. The Chairman drew attention to the fact that the General Assembly, in its resolution 42/68, had requested the Sub-Committee to finalize the choice of a new item for its agenda, taking into account the proposal made by the Group of 77 and other proposals in order to begin its consideration of the item at its twenty-seventh session.
- 39. The Sub-Committee had before it working papers submitted at its previous session by the delegation of the United Kingdom (A/AC.105/C.2/L.159), the delegations of Australia, Belgium, the Federal Republic of Germany, Italy, Japan, the Netherlands, the United Kingdom of Great Britain and Northern Ireland and the United States of America (A/AC.105/C.2/L.160), the delegation of Czechoslovakia (A/AC.105/C.2/L.161) and the Group of 77 of the Legal Sub-Committee (A/AC.105/C.2/L.162). These working papers are reproduced in part C of annex III to the Sub-Committee's 1987 report (A/AC.105/385). The Sub-Committee also had before it a working paper submitted to the Committee on the Peaceful Uses of Outer Space at its thirtieth session by the delegations of Canada, France, the Netherlands and Sweden (A/AC.105/L.169). This working paper is reproduced in annex VI to the 1987 report of the Committee (A/42/20).
- 40. The views expressed by delegations during the debate on agenda item 5 are contained in summary records A/AC.105/C.2/SR.496 to 502.
- 41. At the commencement of the consideration of agenda item 5 by the Sub-Committee, the delegation of Austria stated that it had co-ordinated extensive consultations among States members of the Sub-Committee with a view to reaching consensus on a new item to be included in the agenda of the Sub-Committee. Those consultations had resulted in wide acceptance of the following as a new item:

"Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries."

- 42. The delegation of Austria further stated that as a result of such consultations an understanding was reached that, together with a decision to adopt that item as a new agenda item, the Sub-Committee would decide to set aside three meetings at its current session to enable interested delegations to express their views on how the efficiency of the working methods of the Sub-Committee might be enhanced.
- 43. The delegation of Austria added, however, that consensus had not yet been reached on the proposed new agenda item, and hoped that consensus might be achieved through discussions conducted in a spirit of compromise.
- 44. Some delegations expressed the view that the formulation of the new agenda item presented by Austria was too restrictive, in that it was primarily of interest to developing countries. They believed that, based on past experience of the progress of work within the Sub-Committee, an item, if adopted, would remain on the agenda for 10 to 12 years before work on it was completed. In their view any agenda item to be adopted should therefore be formulated in such a manner as to permit the Sub-Committee, under that agenda item, to undertake work of interest to

- all groups of States represented in the Sub-Committee, including States currently engaged in space activities. Those delegations wished the Sub-Committee to continue its work on the progressive development of legal principles regulating space activities, and considered that the new agenda item should be formulated so as to permit the Sub-Committee to consider "legal aspects related to the development of space activities".
- 45. The observer delegation of Bhutan, speaking on behalf of the Group of 77 of the Sub-Committee, stated that the Group had originally proposed as a new agenda item the "Consideration of the legal aspects related to the access of States to the benefits derived from the exploration and utilization of outer space" (A/AC.105/C.2/L.162), that this subject was of very great interest to the developing countries, and that the Group of 77 had firmly supported it. He further stated that in the course of consultations on this subject extending over two years, however, the Group of 77, in a spirit of compromise, had made major concessions in an attempt to accommodate the differing views of other delegations, and that the resulting new agenda item as presented by Austria, which the Group of 77 could accept, was therefore a compromise proposal which should be accepted by the Sub-Committee. Some delegations, members of the Group of 77, supported the views expressed by the delegation of Bhutan, and also stated that they would not object to a discussion on enhancing the legal work of the Sub-Committee.
- 46. Some delegations stated that they had reservations about the need for the Sub-Committee to have a new agenda item. However, they expressed the view that they were ready to accept the new agenda item with its two interrelated aspects (see paras. 41 and 42 above).
- 47. Some delegations stated that they would agree to a discussion at the current session on enhancing the efficiency of the working methods of the Sub-Committee only if a new agenda item was adopted by consensus at the session. The view was also expressed that this issue should be dealt with in a spirit of further compromise in order to resolve it in a satisfactory manner.
- 48. At its 500th meeting, on 29 March 1988, the Sub-Committee adopted by consensus the new agenda item as indicated by the delegation of Austria at the 496th meeting (see para. 41 above).
- 49. The Legal Sub-Committee decided that interested delegations are entitled to raise the subject of the legal aspects related to developments in the exploration and utilization of outer space which can be discussed during the general exchange of views starting with the twenty-eighth session of the Legal Sub-Committee.
- 50. The Legal Sub-Committee decided that three meetings be set aside at the current session for the consideration of the question of enhancing the work of the Sub-Committee.
- 51. Some delegations expressed the view that, with the adoption of the new agenda item, a need had arisen to place the items on the Sub-Committee's agenda within the framework of a time-schedule, in order to make the work of the Sub-Committee more productive. Those delegations also expressed the view that, to facilitate work on the new agenda item, the Secretariat might be requested to prepare a preliminary

study of the relevant norms of international space law and general international law related to the concept of international co-operation, especially those which define and regulate concrete conditions for access and participation of developing countries in the conquests of science and technology. In this respect some delegations requested that this suggestion be sent to the Committee on the Peaceful Uses of Outer Space for consideration at its next session.

- 52. The following views were expressed on the question of enhancing the work of the Sub-Committee.
- 53. Some delegations, drawing attention to the working paper submitted by the delegations of Australia, Belgium, the Federal Republic of Germany, Italy, Japan, the Netherlands, the United Kingdom of Great Britain and Northern Ireland, and the United States of America to the Sub-Committee at its previous session (A/AC.105/C.2/L.160), expressed the view that improving the organization of the work of the Sub-Committee was of great importance, particularly in view of the financial difficulties of the United Nations. Those delegations expressed the view that the duration of future sessions of the Sub-Committee should be reduced to two weeks, having regard in particular to the fact that it had only three items currently on its agenda. Those delegations expressed the view that the Sub-Committee would be able to give full consideration to its agenda items despite the reduction, and that the reduction would bring the length of the sessions of the Legal Sub-Committee into line with the length of the sessions of the Committee on the Peaceful Uses of Outer Space and of the Scientific and Technical Sub-Committee. In that connection, the following view was expressed, relating to the organization of the work of the Committee and its two sub-committees:
- (a) The Committee on the Peaceful Uses of Outer Space, the Scientific and Technical Sub-Committee and the Legal Sub-Committee should be convened jointly, at most once a year, during the same period;
- (b) The joint session should be convened for less than three weeks altogether. The sessions of the Scientific and Technical Sub-Committee and the Legal Sub-Committee should be convened for less than two weeks at the same time, and after that, the session of the Committee should be convened for less than a week;
- (c) However, the Scientific and Technical Sub-Committee meetings and the Legal Sub-Committee meetings should not be convened simultaneously, to allow the same representatives to attend both meetings if necessary, and the periods of these two Sub-Committees' sessions should be extended for a maximum period of one week when further discussions become necessary;
 - (d) The joint sessions should be held in New York.
- 54. Some delegations expressed the view that the general exchange of views which was held at sessions of the Sub-Committee was unproductive, and also prevented some of the time available from being devoted to a consideration of the substantive items on the agenda; it should therefore be discontinued, or curtailed. Some delegations expressed the view that it would be desirable to allocate to the general exchange of views a limited number of meetings held at the commencement of

- a session, and to indicate this allocation in the schedule of meetings to be annexed to the provisional agenda. Other delegations expressed the view that the general exchange of views was an important aspect of the work of the Sub-Committee.
- 55. Some delegations expressed the view that a text from the Secretariat containing a synthesis of views, as a basis for improving the work of the Sub-Committee, would be a more productive approach to enhancing the work of the Legal Sub-Committee. Other delegations expressed doubts concerning the need to prepare such a document.
- 56. Some delegations expressed the view that the Sub-Committee should devise a mechanism for reviewing, from time to time, progress on the various items on its agenda. Those delegations stated that if limited progress was being made on an item, the Sub-Committee should suspend consideration of the item for some sessions, or terminate its consideration of the item.
- 57. Some delegations expressed the view that the enhancement of the efficiency of the work of the Sub-Committee should be considered together with the enhancement of the efficiency of the work of the Committee on the Peaceful Uses of Outer Space and of the work of the Scientific and Technical Sub-Committee.
- 58. Some delegations expressed the view that the Sub-Committee should make full use of the meeting time available, and that late starting or early adjournment of meetings should be avoided. Those delegations stated that the conference time which was thereby lost was sometimes not used productively.
- 59. Some delegations expressed the view that, in evaluating the efficiency of the working methods of the Sub-Committee, the primary objective should be to evaluate the legal efficiency of the Sub-Committee, and not its efficiency in the use of the meeting time available. Those delegations expressed the view that unused meeting time had, on many occasions, been used for essential informal consultations which had been more productive than formal statements during meetings.
- 60. Some delegations expressed the view that the duration of future sessions of the Sub-Committee should not be reduced to two weeks. Those delegations referred to the fact that the Legal Sub-Committee had already reduced the duration of its session from five to four and then to three weeks. They considered that in view of the continuing expansion of State activities in outer space, which needed regulation, it was essential that the duration of the session should be maintained at three weeks to enable the necessary development of space law to be carried out. Those delegations also expressed the view that the Sub-Committee had three items on its agenda at present, and that practice had shown that one week was needed for the satisfactory consideration of an agenda item.
- 61. Some delegations expressed the view that a general exchange of views in the Sub-Committee served a useful purpose, particularly because in its current practice the Sub-Committee did not have an item entitled "Other matters" on its agenda under which relevant issues which were not agenda items might be considered by the Sub-Committee. Those delegations further pointed out that the fact that a great number of delegations took part in the general exchange of views also proved its usefulness.

- 62. Some delegations, pointing out the importance of informal consultations which constitute an integral part of the work of the Legal Sub-Committee, expressed the view that devoting conference time to informal consultations was, on certain occasions, clearly necessary for the progress of work in the Sub-Committee. Those delegations noted that the non-use of conference facilities during such informal consultations was sometimes incorrectly regarded as indicating inefficiency in the working methods of the Sub-Committee. Those delegations proposed that the Sub-Committee should record the time used for such informal consultations, so that the proper use by the Sub-Committee of the time allotted to it might be established.
- 63. Some delegations expressed the view that the joint holding of the sessions of the Committee on the Peaceful Uses of Outer Space and its two Sub-Committees would be unproductive and, in practice, create difficulties and would slow down progress in the work of these three bodies. Those delegations noted that the Legal Sub-Committee should be in a position to submit technical issues for consideration by the Scientific and Technical Sub-Committee, and that each Sub-Committee should be in a position to evaluate the work of the other through their respective reports; those activities would be impeded if the two Sub-Committees met simultaneously.
- 64. The view was expressed that the current system of rotation of venue of the Legal Sub-Committee's sessions between New York and Geneva had been arrived at as a compromise between the wishes of those delegations which desired all sessions to be held in New York, and those delegations which desired all sessions to be held at Geneva. That delegation was therefore opposed to a change in that system.
- 65. Some delegations expressed the view that the work of the Sub-Committee would benefit if an in-depth technical discussion and analysis of some relevant legal issues, with the participation of legal experts, could be arranged during the sessions of the Sub-Committee.
- 66. Some delegations expressed the view that the relationship between the Legal Sub-Committee and the Scientific and Technical Sub-Committee needed re-examination. Those delegations expressed the view that an important aspect of the work of the latter Sub-Committee should be to provide the Legal Sub-Committee, and in particular the delegations of developing countries which were members of that Sub-Committee, with an understanding of the scientific and technical issues necessary for the conduct of their work.
- 67. Some delegations expressed the view that a significant improvement in the efficiency of the work of the Sub-Committee would result not from changes in its methods of work but from an increased political commitment by member States to the progress of work within the Sub-Committee. Those delegations were of the view that increased good will and co-operation among all groups of States would greatly accelerate the progress of work.
- 68. One delegation expressed the view that the proposals made at the current session for enhancing the efficiency of the Sub-Committee fell into three categories: restructuring the existing meeting arrangements of the Committee and its two Sub-Committees; reducing the duration of the session of the Legal

Sub-Committee; and improving the organization of the work of the Legal Sub-Committee during its sessions. That delegation expressed the view that it was necessary to be cautious concerning the first two categories and that attention should be focused particularly on the third category. In particular, as a result of the decisions concerning the adoption of a new agenda item, the general exchange of views had assumed a new importance, should be maintained and should be allocated sufficient time.

- 69. Some delegations expressed the view that work on the new agenda item would be facilitated by the creation within the Sub-Committee of a working group to examine that item.
- 70. Some delegations expressed the view that in implementing its work programme, the Sub-Committee had in the past achieved an impressive record. Those delegations were of the view that this indicated that the working methods of the Sub-Committees were satisfactory, and that the slow progress on some agenda items was not due to inefficient working methods, and could be explained by a number of other reasons, including a lack of political will on the part of some delegations.
- 71. Some delegations commended the Secretariat for annexing to the provisional agenda of the current session a provisional allocation of conference time among the various agenda items. Those delegations expressed the view that the practice should be continued for future sessions and that, in addition, the Secretariat might provisionally allocate a period for a general exchange of views at the commencement of each session.
- 72. Some delegations expressed the view that the various suggestions made at the current session for enhancing the efficiency of the Sub-Committee should be recorded in the report on the current session of the Sub-Committee. Those delegations were of the view that the attention of the Committee on the Peaceful Uses of Outer Space should thereby be drawn to those suggestions, and a discussion initiated in the Committee on those suggestions. Other delegations did not agree with those views.

Annex I

REPORT OF THE CHAIRMAN OF THE WORKING GROUP ON AGENDA ITEM 3

(THE ELABORATION OF DRAFT PRINCIPLES RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE)

- 1. On 14 March 1988, the Legal Sub-Committee re-established its Working Group on agenda item 3.
- 2. The Working Group had before it the report of the Legal Sub-Committee on the work of its twenty-sixth session in 1987 (A/AC.105/385), which contained, in annexes I and III, the report of the Chairman of the Working Group and the working papers that were before the Working Group at the twenty-sixth session; it also had before it the report of the Scientific and Technical Sub-Committee on the work of its twenty-fifth session in 1988 (A/AC.105/409 and Corr.1), which contained in annex III the report on the sixth session of its Working Group on the Use of Nuclear Power Sources in Outer Space.
- 3. The Working Group further had before it a working paper submitted to the Legal Sub-Committee at its current session by the delegation of Canada (A/AC.105/C.2/L.154/Rev.3), and two working papers submitted by the delegation of China (A/AC.105/C.2/L.164 and L.165). Those working papers are set out in part A of annex III to the report of the Sub-Committee. As explained by the delegation of Canada, the seven draft Principles proposed in its working paper (1. Applicability of international law; 2. Safety assessment and notification; 3. Guidelines and criteria for safe use; 4. Notification of re-entry; 5. Assistance to States; 6. Responsibility of States; and 7. Compensation) were a revision of the corresponding seven draft Principles contained in the Canadian delegation's working paper (A/AC.105/C.2/L.154/Rev.2 of 31 March 1987) submitted to the twenty-sixth session of the Sub-Committee. Consensus had been recorded on the texts of draft Principles 4 and 5 on "Notification of re-entry" and "Assistance to States", at the twenty-fifth session of the Sub-Committee in 1986 (see A/AC.105/370 and Corr.1, para. 36 and annex II, paras. 5.1-5.5).
- 4. Following a suggestion of the Chairman to concentrate on those draft principles where consensus had not been recorded, the Working Group carried out several readings of the provisions of draft Principles 1, 2, 3, 6 and 7 of the working paper submitted by the delegation of Canada (A/AC.105/C.2/L.154/Rev.3). The working papers submitted by the delegation of China and the suggestions made in the course of the discussions, some in informal written form, were also considered.
- 5. In regard to draft Principle 4 and draft Principle 5, some delegations expressed the view that in order to avoid the existence of two different régimes on the use of nuclear power sources in outer space, it was necessary to bring the draft Principles under elaboration by the Sub-Committee into accord with the 1986 Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency of the International Atomic Energy Agency (IAEA). In this connection, those delegations believed that,

since the texts of draft Principles 4 and 5 had already been approved by the Sub-Committee and many delegations considered it inadvisable to amend them, it was necessary to add to those draft Principles independent paragraphs indicating the relationship between the provisions of those draft Principles and the relevant obligations of the IAEA Conventions. The view was expressed that it was unnecessary to reopen draft Principles 4 and 5 to add measures to the draft Principles similar to those provided in the IAEA Conventions, even if that was desirable.

- 6. The view was expressed that, while progress could be made at the present session in clarifying and reaching agreement on the draft Principles, decisions on certain linguistic formulations (e.g., whether "shall" or "should" was to be used in the texts) should be deferred.
- 7. The views expressed and decisions taken during the discussions of the Working Group on the individual draft Principles contained in the working paper submitted by the delegation of Canada (A/AC.105/C.2/L.154/Rev.3), on the two working papers submitted by the delegation of China (A/AC.105/C.2/L.164 and L.165) and on proposals and suggestions of other delegations are set forth below.

Principle 1 (Applicability of international law)

8. The Working Group recorded a consensus on the following text of Principle 1:

"Activities involving the use of nuclear power sources in outer space shall be carried out in accordance with international law, including in particular the Charter of the United Nations and the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies."

9. It was agreed that such consensus was without prejudice as to the use of the words "shall" or "should" throughout the text of the draft Principles, which was to be decided later.

Principle 2 (Safety assessment and notification)

Paragraph 1

10. Some delegations noted that clarification was needed as to which States were to be regarded as launching States for the purposes of this paragraph. Some delegations expressed the view that the obligations under this paragraph should attach to States designing, manufacturing or launching a space object. Those delegations felt that States which only participated in the launching, or which only made their territory available for the launching, need not make the required safety assessment. The view was expressed that, instead of having a definition of the expression "States launching space objects with nuclear power sources on board", it might be better to specify in the paragraph the different categories of States (e.g. manufacturing State, designing State, launching State) to which it was

to apply. According to that view, that approach was also preferable because the expression, which appeared in different draft Principles, might not have the same meaning in each one of them (see below discussion on draft Principle 6, paras. 1 and 2, and draft Principle 7, para. 1). In this connection, attention was drawn to the definition of "launching States" in article 1 (c) of the 1972 Convention on International Liability for Damage Caused by Space Objects. That definition covered cases of participation by States in the launch by providing their territory or their facilities for the launch. In the view of some delegations, in view of the close link between the draft Principles and the Convention on Liability, it was inadvisable to use the term "launching States" with different meanings in the draft Principles and in the Convention, and it was also inadvisable to attribute different meanings to that term in the different Principles.

- 11. Questions were raised as to what standards were to be used in making the safety assessment, and how the international community was to be assured that the safety assessment had in fact been made. In reply, some delegations stated that those standards, and the acceptable levels of risk, had to be determined by each State making the assessment, and that States making such an assessment had an interest in ensuring that the standards employed were adequate. Some delegations expressed the view that the object of the safety assessment was, primarily, to lead to greater safety in the use of nuclear power sources, and, secondarily, to create within the international community a climate of confidence in their use. The view was expressed that an assurance that the safety assessment had in fact been made would be provided by making the assessment publicly available (the issue raised in the second footnote to the paragraph). The view was also expressed that making safety assessments publicly available would promote the objective of the draft Principles to encourage the safe use of nuclear power sources in outer space.
- 12. One delegation stated that, since the inception of its programmes involving the launching of space objects with nuclear power sources on board, it had made safety assessments prior to launching, and that such assessments were publicly available. In the view of that delegation, the draft Principles should encourage the publication of such assessments.

Paragraph 2

13. Some delegations expressed the view that the paragraph should be amended to require the information in question to be furnished prior to launching. In their view, since uncontrolled re-entry into the Earth's atmosphere of a nuclear power source might occur during the launching period, it was important that the information be furnished to the international community prior to launching. The attention of the Sub-Committee was also directed to a working paper (WG/NPS(1987)/WP.8 of 23 March 1987) reflecting that proposal, submitted to the twenty-sixth session of the Sub-Committee (see A/AC.105/385, annex I, appendix, para. 8). Other delegations, however, were of the view that safety in the use of nuclear power sources would be ensured by the preparation of safety assessments (draft Principle 2, para. 1) and compliance with guidelines and criteria for safe use (draft Principle 3), and not from the furnishing, whether prior to or after launching, of the information specified in paragraph 2. Some delegations expressed the view that that provision related primarily to confidence-building rather than

safety considerations. The view was also expressed that that provision was unnecessary and ill-advised, since it did not relate directly to the safe use of nuclear power sources in outer space and since it addressed matters already dealt with by the General Assembly. In that respect the view was expressed that Article IV of the 1975 Convention on the Registration of Objects Launched into Outer Space permitted any State to provide the information described in paragraph 2 if it wished to do so; it was unnecessary to include in the draft Principles a provision, such as paragraph 2, requiring such information to be furnished. It was noted in that connection that the General Assembly had recently completed a 10-year review of the Registration Convention without recommending any changes to that Convention.

- 14. Other delegations expressed the view that it was inadvisable to leave the furnishing of such information to the discretion of States, and that a provision such as paragraph 2 was therefore necessary. In the view of these delegations paragraph 2 did not, in any way, affect the interpretation of the 1975 Convention on Registration of Objects Launched into Outer Space. However, as a result of the change in the title of its agenda item on nuclear power sources in 1985, the Legal Sub-Committee clearly had a mandate from the General Assembly to supplement the norms of international law relevant to the use of nuclear power sources in outer space.
- 15. The view was expressed that the expression "State launching space objects with a nuclear power source on board" should, in paragraph 2 (but not in other provisions of the draft Principles), be replaced by the words "the State on whose register a space object with nuclear power sources on board is carried"; that amendment would bring the wording into line with that of Article VIII of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. It was also proposed that the reference to the 1975 Convention on the Registration of Objects Launched into Outer Space should precede the reference to General Assembly resolution 1721 B (XVI).
- 16. In connection with the discussion of draft Principle 2, the view was expressed that a provision should be added which would entitle a State threatened with damage from the unplanned re-entry into the Earth's atmosphere of a space object with a nuclear power source on board to have consultations with the launching State regarding that re-entry and the risks to be addressed. While not prejudging the position as to the substance of the provision mentioned above, the view was also expressed that the appropriate place for the inclusion of such a provision was draft Principle 4. Some delegations, while not questioning the usefulness of such a provision, expressed the view that such a provision should be formulated as a separate draft Principle to follow draft Principle 4.
- 17. Some delegations expressed the view that draft Principle 2 should be restructured as two separate Principles; the first paragraph would constitute draft Principle 2, with the title "Safety assessment", while the second paragraph would constitute a new draft Principle 3, with the title "Notification of the presence of a nuclear power source on board a space object". They noted that the latter title would be clearly distinguishable from the title of draft Principle 4, "Notification

of re-entry". Other delegations disagreed with that opinion and felt that it was necessary to retain the two paragraphs in a single Principle.

Principle 3 (Guidelines and criteria for safe use)

- 18. Some delegations were of the view that, since the Legal Sub-Committee should fully take into account the conclusions reached by the Scientific and Technical Sub-Committee on the subject under consideration, the Legal Sub-Committee should finalize the text of the relevant provisions of draft Principle 3 only after the Scientific and Technical Sub-Committee had concluded its work on the issues dealt with in those provisions. In that connection it was suggested that the Legal Sub-Committee concentrate at the current session on paragraphs 1, 6 and 7 of draft Principle 3.
- 19. The view was expressed that draft Principle 3 should be restructured to indicate more clearly the alternative nature of the various safety measures provided (e.g. nuclear safe orbits, dispersal, containment). The view was also expressed that several of the safety measures provided in the draft Principle are cumulative.
- 20. The view was expressed that the unhindered dissemination of the results of research relating to nuclear power sources in outer space would greatly contribute to their safe use, and it was proposed that draft Principle 3 should be amended to reflect this view.

Paragraph 1

- 21. Some delegations expressed the view that the reference made in the paragraph to the recommendations of the International Commission on Radiological Protection (ICRP) might be undesirable and inappropriate, as those recommendations did not specify guidelines for radiological protection applicable to situations involving accidents or emergencies. Other delegations expressed the view that the paragraph itself dealt only with a stage where no accident or emergency involving a nuclear power source had occurred, and therefore the reference to the recommendations of the ICRP was appropriate. After an exchange of views among delegations on that question, in the course of which various oral amendments were proposed, an informal text of paragraph 1 was submitted for the consideration of the Working Group, which read as follows:
 - "1. States launching space objects with nuclear power sources on board shall ensure that the design, construction and use of such space objects respect generally accepted international guidelines for radiological protection in all phases of their mission, in particular recommendations of the International Commission on Radiological Protection (ICRP) in ICRP publications 26 and 40 concerning radiological risks. It is understood that the quantitative individual dose limits stated in ICRP publication 26 are applicable only for normal operation and those stated in ICRP publication 40 are applicable for counter measures."

The view was expressed that the contents of this proposal should be studied within the Scientific and Technical Sub-Committee.

22. Some delegations, referring to the next text, expressed the view that the terms "normal operation" and "counter measures" were unclear. However, the view was expressed that it was advisable to use those terms as they were used in the ICRP recommendations. In that connection, the view was expressed that it would be preferable to keep the original drafting of paragraph 1. The view was also expressed that in paragraph 1 of draft Principle 3 a reference could be made to "the appropriate" recommendations of ICRP rather than mentioning the numbers of various publications.

Paragraph 2

23. The view was expressed that, during the long orbital period referred to in the paragraph (i.e. 300 years or 10 times the half life of the isotopes used), it was possible for a space object to collide with space debris. As that possibility was not dealt with in paragraph 2, it should be addressed at a later stage. The view was expressed that the numerical criteria to describe a nuclear-safe orbit at the end of paragraph 2 were scientifically incomplete or inaccurate and were not necessary for the purpose of establishing a definition of such an orbit.

Paragraphs 3 and 4

24. Some delegations expressed the view that the concluding words of the two paragraphs ("so as to render the overall use of the nuclear power source, with a high probability of success, as safe as if it had been used in such an orbit") were superfluous. Other delegations, however, expressed the view that those words were useful in clarifying the safety objectives which should be met in designing the orbit transfer capability to be possessed by the space object. Some delegations pointed out that they had difficulties with the reference to an additional technique for transfer to such an orbit in paragraph 4 and therefore considered that such a reference was superfluous.

Paragraph 5

25. It was suggested to add the words "additional" before "safety measures" and "in case" before "of uncontrolled re-entry".

Paragraph 5 (a)

26. Some delegations expressed the view that the discussions in the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee had revealed that it might not be possible to divide and disperse the radioactive materials of certain reactor fuels into fine particles over a wide area as contemplated in the paragraph (A/AC.105/409 and Corr.1, annex III, para. 7). Some delegations believed that in respect of nuclear reactors, an alternative acceptable safety measure might be to provide for intact re-entry. This possible alternative measure should be reflected in paragraph 5 (a). The view was expressed, however, that that Working Group had also indicated that the concept of complete containment required further investigation. The view was further expressed that the words "or of the in-space recovery system" should be deleted, and that the words "may be" should be replaced by the word "is".

Paragraph 5 (c)

27. The view was expressed that, in view of the reference made in draft Principle 3, paragraph 1, to the ICRP recommendations, the reference to those recommendations in paragraph 5 (c) was superfluous. Another view was expressed, however, that in that draft Principle, paragraph 1 dealt with conformity with those recommendations in the design, construction and use of space objects, while paragraph 5 (c) dealt with the re-entry into the Earth's atmosphere of radioactive materials. Accordingly, this paragraph should be retained, but a clarification similar to that made in respect of paragraph 1 with regard to the scope of application of the ICRP recommendations should be included in this paragraph as well.

Paragraph 6

28. No comments were made in connection with paragraph 6.

Paragraph 7

29. The view was expressed that the paragraph should be deleted, since it would prevent the use of new fuels which might be developed and which could be used consistently with a full observance of the guidelines and criteria for safe use contained in draft Principle 3. Other delegations expressed the view that the main objective of the paragraph was to prevent the use of highly toxic fuels, such as Plutonium 239. Some of those delegations were of the view that, if a new fuel which could safely be used was developed, paragraph 8 of draft Principle 3 enabled the draft Principles to be revised to permit the use of such a fuel.

New paragraph 7 bis

30. Some delegations pointed out that, at its sixth session, the Working Group on Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee had agreed on an additional safety criterion (see A/AC.105/409 and Corr.1, annex III, para. 12). That criterion should be reflected in a new paragraph 7 bis to draft Principle 3. After an extensive exchange of views, an informal text of a new paragraph 7 bis was submitted for the consideration of the Working Group, which read as follows:

"Reactors on board space objects shall be designed in such a way that, if they return to the Earth for any reason and become flooded, they should satisfy the safety criterion of remaining sub-critical in all credible scenarios."

31. The view was expressed that, before finally adopting such a new provision, it would be advisable to compare its suggested wording with the wording in provisions applicable to similar situations contained in international conventions dealing with marine pollution, and in the United Nations Convention on the Law of the Sea. The view was expressed, however, that such a comparison would serve no useful purpose and would delay unnecessarily the finalization of that provision. Some delegations expressed the view that it would be desirable to include a similar provision dealing with the consequences of the impact of the intact re-entry of a space object with a nuclear power source on board on solid earth.

32. As a result of the discussion, the Working Group felt that the proposed new paragraph 7 bis could be a good basis for future consensus.

Principle 6 (Responsibility of States)

Paragraph 1

33. Some delegations expressed the view that the words "launching space objects with nuclear power sources on board" should be deleted, since that deletion would eliminate the need to provide a definition of "States launching space objects with nuclear power sources on board" (see footnote 1 to draft Principle 2, para. 1), and would also bring the language into harmony with that of article VI of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Paragraph 2

- 34. Some delegations expressed the view that the words "launching space objects with nuclear power sources on board" should be deleted in paragraph 2 for the same reasons advanced in support of the deletion from paragraph 1 of draft Principle 6.
- 35. The view was expressed that the phrase "bear international responsibility" should be changed to read "bear responsibility". In support of that proposal, it was stated the international responsibility of States, which was a concept with a well-understood meaning in international law, should not be used to describe a duty to perform activities in a certain manner. Some delegations noted that the draft Principles dealt only with the responsibility of States and of intergovernmental organizations, i.e., with international public legal responsibility.
- 36. Some delegations expressed the view that paragraph 2 should be divided into two paragraphs, as the first sentence referred to the activities of States, and the second sentence referred to the activities of international organizations.
- 37. Some delegations suggested the deletion of the reference to the "norms" of international law in the second sentence of the paragraph. Other delegations saw no reason to treat international organizations differently from States with respect to responsibility for ensuring that activities involving the use of nuclear power sources in outer space are carried out in accordance with the norms of international law, and consequently wished to retain without change the second sentence of the paragraph.
- 38. In the light of the discussion in the Working Group, two successive revisions of draft Principle 6 were informally submitted for the consideration of the Working Group, the second of which read as follows:

Principle 6: Responsibility of States

1. In accordance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the

Moon and Other Celestial Bodies, States shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, involving the use of nuclear power sources, whether such activities are carried out by government agencies or by non-governmental entities.

- 2. States launching space objects with nuclear power sources on board shall also bear international* responsibility for ensuring that national activities involving the use of nuclear power sources in outer space are carried out in conformity with these principles and the norms of international law.
- 3. When activities involving the use of nuclear power sources in outer space are carried on by an international organization, responsibility for ensuring that such activities are carried on in accordance with these principles and norms of international law shall be borne both by the international organization and by the States participating in such organization.
- 39. The Working Group felt that, subject to a decision on the question raised in the above footnote, certain editorial adjustments and consideration of the relationship of that draft Principle to the draft Principle on Compensation, the proposed revision of draft Principle 6 could be a good basis for future consensus.

Principle 7 (Compensation)

Paragraph 1

- 40. The question was raised whether the words "launching space objects with nuclear power sources on board" should be deleted, for the same reaons advanced to support their deletion from the text of draft Principle 6. However, it was pointed out that the paragraph referred to two treaties in which the words "launching State" were used, and defined in the same manner. It was therefore felt that the use of the expression "States launching space objects with nuclear power sources on board" did not run the risk of contradicting the definition of "launching State" in those two instruments.
- 41. The view was expressed that consideration would need to be given to the appropriateness of either using the expression "States launching space objects with nuclear power sources on board" or giving it a uniform definition throughout the text. While in draft Principles 2 and 3 one might speak of the State "launching, manufacturing or designing" such space objects, such a concept might be too restrictive in the context of establishing liability. In that connection it was pointed out that it would be advisable to distinguish the particular situation of a State from whose territory or facility such space objects were launched.

^{*} It was left open whether the word "international" should be deleted in this paragraph.

Paragraph 2

- 42. The view was expressed that the extent of compensation payable under the paragraph, as defined by the expression "as will restore the person, natural or juridical, State or international organization having suffered the damage to the condition which existed if the damage had not occurred", was too restrictive, in that lost earnings (<u>lucrum cessans</u>) might not be compensable. The view was expressed that it should be made clear in Principle 7 that lost earnings are covered. Another view was expressed, however, that lost earnings are compensable under the expression quoted, which was taken from article XII of the 1972 Convention on International Liability for Damage Caused by Space Objects as well as under general international law. Yet another view was expressed that in the course of the negotiation of the 1972 Liability Convention no agreement had been reached on that point. The view was expressed that the inclusion in paragraph 2 of the words "compensation shall be determined in accordance with international law and the principles of justice and equity" was desirable.
- 43. It was felt that the words "having suffered the damage" appearing in the paragraph should be replaced by the words "on whose behalf a claim is presented".

Paragraph 3

- 44. The Working Group discussed the relationship of paragraphs 2 and 3 of draft Principle 7 to articles I and XII of the 1972 Convention on International Liability for Damage Caused by Space Objects. It was agreed that those paragraphs could not amend, and did not seek to interpret, the provisions of those articles. The object of those paragraphs was to define the extent of compensation payable in the special case of damage being caused by a space object with a nuclear power source on board. It was also agreed that the draft Principles as a whole did not provide any interpretation of the provisions of the 1972 Liability Convention.
- 45. Some delegations raised the question whether a State which had assisted in search, recovery or clean-up operations, but which had itself not suffered damage, would be entitled to receive compensation under paragraph 3. In reply, some delegations expressed the view that the language of the paragraph was sufficiently broad to entitle such a State to compensation. Some delegations were of the view that the paragraph should be amended to make this very clear, with the inclusion at the end of the words "including expenses incurred by third States". Other delegations were of the view that the reference in the paragraph to the question of compensation to third States was unnecessary, as that question was to be the subject of special bilateral agreements.
- 46. The Working Group also discussed the relationship between paragraphs 2 and 3 of draft Principle 7. The view was expressed that paragraph 3 only clarified, but did not extend, the compensation payable under paragraph 2. To make this clear the word "compensation" in paragraph 3 should be preceded by the word "Such" or "This". The view was also expressed that paragraph 3 provided for the payment of compensation beyond that provided for in paragraph 2. Some delegations were of the view that paragraph 3 should be formulated as follows: "These States shall also be liable for compensation of expenses for search, recovery and clean-up operations".

47. Some delegations expressed the view that qualifying the extent of the compensation payable (by words such as "reasonable expenses", "necessary measures", "appropriate measures") would be inappropriate, as this would lead to uncertainty. Other delegations expressed the view that qualifying the extent of the compensation payable was necessary.

Paragraph 4

48. It was agreed that the words "articles VIII to XX" should be replaced by "the provisions of".

Paragraph 5

49. The Working Group considered the paragraph in the light of the working paper submitted by the delegation of China (A/AC.105/C.2/L.164). Some delegations felt that the text submitted by the delegation of China would obviate the need for paragraph 5. In the light of the discussions in the Working Group, the following text of a new draft Principle was submitted:

"Principle 9: Relation with International Treaties

The implementation of these principles does not prejudice the existing rights and obligations of States and international organizations under international law."

50. Some delegations felt that the word "existing" should be deleted and that, with that amendment, that could be a good basis for future consensus.

Settlement of disputes

- 51. The Working Group considered, on the basis of the working paper submitted by the delegation of China (A/AC.105/C.2/L.165), a proposal to add a new draft Principle on the settlement of disputes. Some delegations expressed the view that, in addition to negotiation, reference should be made to the other methods for the peaceful settlement of disputes referred to in Article 33 of the Charter of the United Nations. Other delegations expressed the view that it would be preferable to include an express reference to Article 33 of the Charter, and to provide for the settlement of disputes in accordance therewith. Yet other delegations proposed to base the drafting of this Principle on that of Principle XV, dealing with the settlement of disputes, of the Principles relating to Remote Sensing of the Earth from Space, adopted by the General Assembly on 3 December 1986.
- 52. In the light of discussions in the Working Group, the following text of a new draft Principle was submitted:

"Principle 8: Settlement of Disputes

Any dispute resulting from the application of these principles shall be resolved through negotiations or other established procedures for the peaceful settlement of disputes, in accordance with the Charter of the United Nations."

- 53. Some delegations felt that that text could be a good basis for future consensus.
- 54. The Working Group held its final meeting on 28 March 1988, when it considered and approved the present report.

Annex II

REPORT OF THE CHAIRMAN OF THE WORKING GROUP ON AGENDA ITEM 4

(MATTERS RELATING TO THE DEFINITION AND DELIMITATION OF OUTER SPACE AND TO THE CHARACTER AND UTILIZATION OF THE GEOSTATIONARY ORBIT, INCLUDING CONSIDERATION OF WAYS AND MEANS TO ENSURE THE RATIONAL AND EQUITABLE USE OF THE GEOSTATIONARY ORBIT WITHOUT PREJUDICE TO THE ROLE OF THE INTERNATIONAL TELECOMMUNICATION UNION)

- 1. On 18 March 1988, the Legal Sub-Committee re-established its Working Group on agenda item 4.
- 2. The Working Group had before it the report of the Legal Sub-Committee on the work of its twenty-sixth session in 1987 (A/AC.105/385) which contained, in annexes II and III, the report of the Chairman of the Working Group and the working papers that were before the Working Group at the twenty-sixth session; it also had before it the report of the Scientific and Technical Sub-Committee on the work of its twenty-fifth session in 1988 (A/AC.105/409 and Corr.1) which considered, in chapter VI, the subject of the "physical nature and technical attributes of the geostationary orbit".
- The following documents submitted at previous sessions of the Legal Sub-Committee and of the Committee on the Peaceful Uses of Outer Space, were referred to in the course of the discussions: "Approach to the delimitation of airspace and outer space", submitted to the Sub-Committee at its twenty-second session by the delegation of the Union of Soviet Socialist Republics (A/AC.105/C.2/L.139); "Draft general principles governing the geostationary orbit", submitted at the twenty-third session by the delegations of Colombia, Ecuador, Indonesia and Kenya (A/AC.105/C.2/L.147); "Principles governing the activities of States in the utilization of the geostationary orbit", submitted at its twenty-fifth session by the delegation of the German Democratic Republic (A/AC.105/C.2/L.153); "Draft basic provisions of the General Assembly on the delimitation and definition of outer space and on the legal status of the geostationary satellite orbit", submitted at its twenty-fifth session by the delegation of Kenya (A/AC.105/C.2/L.155); "Draft basic provisions of the General Assembly resolution on the delimitation of airspace and outer space and on the legal status of the geostationary satellites' orbital space", submitted to the Committee on the Peaceful Uses of Outer Space at its twenty-second session by the delegation of the USSR (A/AC.105/L.112); a comparative table of the provisions of working papers A/AC.105/C.2/L.147 and L.153, submitted by the delegation of Indonesia to the Working Group at the twenty-fifth session of the Sub-Committee (WG/DEF-GSO(1986)/WP.1); "Compromise proposal on the question related to the definition and delimitation of outer space", submitted to the Committee at its thirtieth session by the delegation of the Union of Soviet Socialist Republics (A/AC.105/L.168); and letter dated 16 October 1985 from the Secretary-General of the International Telecommunication Union to the Secretary-General of the United Nations (A/AC.105/360), concerning a decision reached at the first session of the World Administrative Radio Conference in 1985, on the use of the geostationary

satellite orbit and the planning of the space services utilizing the orbit. Those documents are set out in part B of annex III to the present report of the Sub-Committee.

- 4. On the question of the organization of its work, pursuant to a recommendation by the Chairman, the Working Group agreed that, if informal consultations became necessary for the progress of the work, a part of the time allocated to the Working Group should be devoted to such consultations. The Chairman also suggested that each aspect of the agenda item (namely, the definition and delimitation of outer space, on the one hand, and the geostationary orbit, on the other) should be discussed by the Working Group separately.
- 5. The views expressed in the discussion of the Working Group are summarized below.

Question of the definition and delimitation of outer space

- Some delegations, reiterating views expressed at previous sessions of the Sub-Committee, stated that the definition and delimitation of outer space was a practical and legal necessity in order to achieve a clear distinction between the legal régime of airspace, with its inherent features of State sovereignty, territorial integrity and security, and the legal régime of outer space, which provided for the free exploration and use of outer space for the benefit of all nations. In the view of those delegations, a demarcation between airspace and outer space was necessary in particular to determine the scope of application of the treaties relating to outer space. Those delegations indicated that, while there might not be agreed scientific criteria available for determining precisely the altitude at which airspace ended and outer space commenced, it was known that changes occurred in the composition of the atmosphere at a certain altitude. Furthermore, it was generally recognized that the lowest perigee of orbiting spacecraft lay in outer space. Some delegations expressed the view that the necessary delimitation of outer space should be accomplished by a legally binding international instrument.
- 7. Some delegations considered the working paper submitted by the delegation of the Union of Soviet Socialist Republics to the Sub-Committee at its twenty-second session in 1983 (A/AC.105/C.2/L.139) to be a good basis for a solution to the question under discussion. That working paper proposed that the boundary between outer space and airspace should be established by agreement among States at an altitude not exceeding 110 kilometres above sea level, that such boundary should be confirmed by a legally binding international instrument, and that such instrument should entitle the space object of any State to a right of innocent passage through the airspace of other States at altitudes lower than the agreed boundary for the purpose of reaching orbit or returning to Earth. Those delegations noted that reaching a compromise decision on the question of delimitation could be furthered by the USSR proposal set out in working paper A/AC.105/L.168. In their view the Sub-Committee could adopt an agreed recommendation that any object launched into outer space be considered as being in outer space at all stages of its flight after launch at which its altitude above sea level was 110 kilometres or more. They also considered that this approach did not prejudge the question of the need to

establish a boundary between airspace and outer space, and did not predetermine the final position on the upper limit of State sovereignty.

- 8. Other delegations, reiterating their position expressed at earlier sessions of the Sub-Committee, stated that there was no present need for the definition and delimitation of outer space. They expressed the view that the lack of such definition or delimitation had not led to any practical problems in the peaceful exploration of outer space, and that the utmost freedom of action was required for such peaceful exploration for the benefit of all countries. Those delegations expressed the view that, if substantial practical problems were to arise in the future from the lack of definition and delimitation of outer space, they would not at that time be opposed to a consideration of that subject in the Sub-Committee.
- 9. Some delegations expressed the view that the establishment of an arbitrary boundary between airspace and outer space would subject flying objects to different legal régimes when they crossed the arbitrary boundary between one régime and the other and thereby create confusion. Other delegations expressed the view, however, that the establishment of a right of "innocent passage", a concept well understood in international law, would resolve that problem. Other delegations noted that the proposed boundary between airspace and outer space could not be regarded as arbitrary, as it was based on more than 30 years of practice of space flights and was widely recognized in the doctrine of international space law.
- 10. The view was expressed that the absence of an agreed boundary between airspace and outer space led to uncertainty as to whether the geostationary orbit was located in outer space; this in turn impeded the Sub-Committee in its work on the character and utilization of the geostationary orbit. Other delegations were of the view that the determination of the characteristics and principles for the use of the geostationary orbit did not necessarily depend upon the delimitation of outer space.
- 11. Some delegations expressed the view that, since there was no likelihood of consensus on the definition and delimitation of outer space, the retention of that item on the agenda of the Sub-Committee was unproductive, and that the Sub-Committee should recommend to the Committee on the Peaceful uses of Outer Space the postponement of the consideration of the item until practical problems arose which required attention. Other delegations expressed the view that the item should remain on the agenda of the Sub-Committee.

Question of the geostationary orbit

12. In regard to the organization of work on that subject, the Chairman recalled that at the last session of the Sub-Committee an attempt had been made to identify points of convergence between the working papers submitted by the delegations of Colombia, Ecuador, Indonesia and Kenya (A/AC.105/C.2/L.147) and by the delegation of the German Democratic Republic (A/AC.105/C.2/L.153). He suggested that useful progress might now be made by discussing significant elements which were found to be common to the two papers. In that connection, some delegations expressed the view that the question of equitable access to and utilization of the geostationary orbit was one significant issue which the Working Group might discuss.

- 13. The view was expressed that the mandate of the Sub-Committee as formulated in paragraph 4 (b) of General Assembly resolution 42/68 of 2 December 1987 did not permit the Sub-Committee to formulate principles governing the geostationary orbit. Other delegations expressed the view, however, that the resolution did permit the Sub-Committee to formulate such principles.
- 14. Some delegations, reiterating views expressed by them at earlier sessions of the Sub-Committee, stated that the geostationary orbit was a limited natural resource and in danger of saturation, as recognized in the report of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) and in article 33 of the International Telecommunication Union (ITU) Convention (Nairobi, 1982). Furthermore, the limited natural resource was to be shared efficiently, equitably and economically by all mankind, having regard to the interests of the developing countries. Therefore, there was a need to establish a sui generis legal régime, developing the existing space law, to regulate equitable access to the geostationary orbit. Furthermore, while ITU had a useful role to play in regulating technical issues within its competence relating to the geostationary orbit, the Committee on the Peaceful Uses of Outer Space was the competent body to deal with political and legal questions relating to the geostationary orbit, and to establish a sui generis legal régime for that orbit.
- Some delegations considered that the geostationary orbit formed an integral part of outer space, and was subject to the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. Accordingly, the geostationary orbit was not subject to national appropriation by claim of sovereignty, by means of use or occupation or by any other means, and all States enjoyed equal rights in its utilization. Furthermore, no special legal régime needed to be formulated to regulate the geostationary orbit. Questions relating to the use of the geostationary orbit had been clarified through the work of ITU, enabling rational and equitable use of the orbit by all States. Those delegations also expressed the view that use of the geostationary orbit had resulted in very valuable services being rendered for the benefit of all mankind, in particular through international and regional Organizations such as INTERSPUTNIK, INTELSAT, INMARSAT and ARABSAT. The view was expressed, however, that it was premature to decide that the geostationary orbit formed part of outer space before a boundary between airspace and outer space had been established. The same delegation added that none of the provisions of the 1967 Treaty dealt specifically with the geostationary orbit and its special characteristics.
- 16. Some delegations expressed the view that provisions regarding a legal régime should be formulated in order to acknowledge the need for a rational and equitable utilization of the geostationary orbit, not as a <u>sui generis</u> régime, but rather in conformity with existing space law and the relevant ITU decisions. Those delegations pointed out that the geostationary orbit was an integral part of outer space and therefore not subject to appropriation by claims of sovereignty, by means of use or occupation or by any other means. It was stressed that the utilization of the geostationary orbit should be regulated within already applicable international instruments regarding outer space and through international co-operation. Thus, while no rights of ownership or any preferential rights over

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respective orbital positions would exist for any State, it would be recognized that the geostationary orbit is a limited natural resource and that equitable access should be assured for all States in accordance with article 33 of the ITU Convention. Those delegations considered that the ITU Convention and the Radio Regulations recognized the need to utilize the geostationary orbit and the frequency bands rationally, economically and equitably. Those delegations also considered that, while ITU was the appropriate body to regulate technical questions within its competence, the Legal Sub-Committee was the appropriate body to deal with legal issues. Some delegations expressed the view that the working paper submitted by the delegation of the German Democratic Republic was a sound basis for the formulation of a legal régime. Other delegations expressed the view that the working paper submitted by the delegations of Colombia, Ecuador, Indonesia and Kenya was a sound basis for the formulation of a legal régime.

- 17. Some delegations expressed the view that the notion of giving equitable access to the geostationary orbit, as mentioned in articles 10 and 33 of the ITU Convention, in Principle VI of the working paper submitted to the Sub-Committee at its twenty-fifth session by the delegation of the German Democratic Republic (A/AC.105/C.2/L.153) and in the preamble of the draft general principles governing the geostationary orbit submitted to the Sub-Committee at its twenty-third session by the delegations of Colombia, Ecuador, Indonesia and Kenya, was not identical with the notion of giving equal access to the orbit. Those delegations expressed the view that giving equitable access would require some preferential treatment to be given to the developing countries, which did not currently possess the scientific, technological and economic means to utilize the geostationary orbit. Other delegations stressed the importance in that context of international co-operation, and pointed out that co-operation within the framework of ITU and compliance with the relevant instruments of that organization were essential prerequisites for guaranteeing to all States equitable access to the geostationary Orbit, and for ensuring its rational and economic utilization. Those delegations expressed the view that any claim by a group of States to sovereignty or preferential rights over the geostationary orbit would be incompatible with the giving of equitable access to the orbit to all States.
- 18. Some delegations expressed the view that there were converging opinions among many delegations on the following points: that the geostationary orbit was a part of outer space and was a limited natural resource which should accordingly be used in a rational and economic way; that the geostationary orbit was not subject to national appropriation by claim of sovereignty, by means of use or occupation or by any other means; and that all States should have equitable access to the utilization of the geostationary orbit. The same delegations expressed the view that those converging opinions could therefore form a basis of agreement in the Sub-Committee on which further work could proceed.
- 19. Some delegations welcomed the efforts made by the equatorial countries towards facilitating negotiations by demonstrating a new degree of flexibility in their position regarding the geostationary orbit. Those delegations felt that such flexibility could certainly entail a similar effort from all delegations so that progress could be made in the discussions of the future establishment of a specific legal régime to regulate the geostationary orbit.

20. In order to discuss further and clarify the issues on which converging opinions had been expressed during the discussions, the Chairman convened an open-ended working party of States representatives ("Friends of the Chairman") for the purpose of holding informal consultations. The working party held two meetings. After the conclusion of these meetings, the Chairman presented to the Working Group the following text covering important aspects of the relevant concept of "equitable access" to the geostationary orbit. The text was generally accepted by the "Friends of the Chairman" to be a valid basis for furter negotiations within the context of a legal régime to be developed for the geostationary orbit.

"Equitable Access

All States should be guaranteed in practice equitable access to the geostationary orbit in accordance with articles 10 and 33 of the Nairobi ITU Convention.

The geostationary orbit should be used most efficiently and economically. Special needs of the developing countries and the geographical situation of particular countries should be taken into account when guaranteeing in practice the equitable access to the geostationary orbit."

- 21. Some delegations reiterated that their understanding of the consultations which had taken place in an informal manner among the "Friends of the Chairman" was that the above text was intended only as a basis for further consultations, and did not in any way prejudge their positions. The Chairman also informed the Working Group that delegations that did not participate in the process of consultations had not endorsed any of the results of those consultations.
- 22. The Working Group held its final meeting on 28 March 1988, when it considered and approved the present report.

Annex III

DOCUMENTS SUBMITTED TO OR REINTRODUCED IN THE LEGAL SUB-COMMITTEE

- A. The elaboration of draft principles relevant to the use of nuclear power sources in outer space
 - 1. Canada: working paper (A/AC.105/C.2/L.154/Rev.3 of 4 March 1988)

The following is the third revision of the draft principles contained in working paper A/AC.105/C.2/L.154 of 25 March 1986, which was tabled at the twenty-fifth session of the Legal Sub-Committee. Principle 1, on applicability of international law, was first proposed at the twenty-sixth session of the Legal Sub-Committee. Principles 2, on safety assessment and notification, 3, on guidelines and criteria for safe use, 6, on responsibility of States, and 7, on compensation, have been reformulated in light of consultations held in the intervening period. The text of principles 4, on notification of re-entry, and 5, on assistance to States, was the object of consensus at the twenty-fifth session of the Legal Sub-Committee and is found in document A/AC.105/370 and Corr.1 of 30 May 1986, annex II.

DRAFT PRINCIPLES RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE

. . .

Recognizing the need for specific procedures and criteria to ensure the safe use of nuclear power sources in outer space, ...

To this end,

PRINCIPLE 1: Applicability of international law

Activities involving the use of nuclear power sources in outer space shall be carried out in accordance with international law, including in particular the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

PRINCIPLE 2: Safety assessment and notification

- 1. States launching space objects with nuclear power sources on board* shall proceed with a thorough safety assessment prior to launching. This assessment shall respect the guidelines and criteria for safe use contained in principle 3 below.**
- 2. When furnishing information to the Secretary-General of the United Nations in accordance with paragraph 1 of General Assembly resolution 1721 B (XVI) or article IV of the Convention on the Registration of Objects Launched into Outer Space, States launching space objects with nuclear power sources on board shall furnish, as soon as possible after launching, specific information as to the presence on board a space object of a nuclear power source and its generic classification.

PRINCIPLE 3: Guidelines and criteria for safe use***

- 1. States launching space objects with nuclear power sources on board shall ensure that the design, construction and use of such space objects respect generally accepted international guidelines for radiological protection in all phases of their mission, in particular the recommendations of the International Commission on Radiological Protection (ICRP) concerning radiological risks.
- 2. States launching space objects with nuclear power sources on board into orbits around the Earth shall make every endeavour to use an orbit that gives sufficient time for radioactive materials to decay to an acceptable level in space after the end of the mission, i.e., in all circumstances at least 300 years in the case of a reactor, and at least 10 times the half life of the isotopes used in the case of a radio-isotope generator.
- 3. When an orbit that does not meet the criteria set out in principle 3, paragraph 2 is used, States launching space objects with nuclear power sources on board shall ensure that they are designed to provide for their transfer at the end of the mission to an orbit that meets these criteria, so as to render the overall use of the nuclear power source, with a high probability of success, as safe as if it had been used in such an orbit.

^{*} The question of the definition of "States launching space objects with nuclear power sources on board" is to be considered later.

^{**} The question of the availability of this assessment is to be discussed at a later stage in the light of the discussion of other proposed texts.

^{***} In addition to those contained in principle 3, other quidelines and criteria for safe use are to be established by the Scientific and Technological Sub-Committee of the Committee on the Peaceful Uses of Outer Space.

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- 4. In the event of failure of the transfer at the end of the mission to an orbit that meets the criteria set out in principle 3, paragraph 2, States launching space objects with nuclear power sources on board shall employ, as soon as technology permits, an in-space recovery system or an additional technique for transfer to such an orbit, so as to render the overall use of the nuclear power source, with a high probability of success, as safe as if it had been used in such an orbit.
- 5. The following safety measures, <u>inter alia</u>, shall be taken in order to mitigate the negative consequences of uncontrolled re-entry into the Earth's atmosphere of nuclear power sources on board space objects:
- (a) For nuclear reactors, in case of failure of the transfer to an orbit that meets the relevant criterion set out in principle 3, paragraph 2, or of the in-space recovery system, an acceptable emergency procedure may be to divide and disperse the radioactive materials into fine particles over a wide area;
- (b) Radio-isotope generators shall always be designed to re-enter the Earth's atmosphere and land while maintaining the functional integrity of the containment of radioactive materials with a high probability of success. This design shall ensure minimal leakage of the radioactive contents in all credible circumstances, including launch accidents, re-entry into the atmosphere, impact and prolonged water immersion;
- (c) In all cases, States launching space objects with nuclear power sources on board shall ensure with a high probability of success that the recommendations of the ICRP concerning radiological risks are respected when radioactive materials re-enter the Earth's atmosphere.
- 6. Reactors on board space objects intended for use in orbits around the Earth shall not be activated until they have reached their planned operating orbit.
- 7. Reactors shall only use highly enriched uranium.
- 8. All guidelines and criteria for safe use of nuclear power sources in outer space are to be reviewed by the Scientific and Technical Sub-Committee and the Legal Sub-Committee 10 years after their adoption.*

PRINCIPLE 4: Notification of re-entry

(The text of principle 4, which was the object of consensus at the twenty-fifth session of the Legal Sub-Committee, is found in document A/AC.105/370 and Corr.1 of 30 May 1986, annex II, pp. 16 and 17, where it appears as principle 3.)

^{*} The question of whether this sentence should be part of principle 3 or of the General Assembly resolution adopting the principles is to be considered later.

PRINCIPLE 5: Assistance to States

(The text of principle 5, which was the object of consensus at the twenty-fifth session of the Legal Sub-Committee, is found in document A/AC.105/370 and Corr.1 of 30 May 1986, annex II, pp. 17 and 18, where it appears as principle 4.)

PRINCIPLE 6: Responsibility of States

- 1. In compliance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, States launching space objects with nuclear power sources on board shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, involving the use of nuclear power sources, whether such activities are carried out by government agencies or by non-governmental entities.
- 2. States launching space objects with nuclear power sources on board shall also bear international responsibility for assuring that national activities involving the use of nuclear power sources in outer space, including the moon and other celestial bodies, are carried out in conformity with these principles and the norms of international law. When activities in outer space, including the moon and other celestial bodies, involving the use of nuclear power sources are carried on by an international organization, responsibility for compliance with these principles and norms shall be borne both by the international organization and by the States participating in such organization.

PRINCIPLE 7: Compensation

- 1. States launching space objects with nuclear power sources on board shall be internationally liable for damage caused by these space objects in accordance with article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the provisions of the Convention on International Liability for Damage Caused by Space Objects.
- 2. The compensation which such States shall be liable to pay for damage shall provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization having suffered the damage to the condition which would have existed if the damage had not occurred.
- 3. Compensation shall include reimbursement of the expenses for search, recovery and clean-up operations.
- 4. Claims for compensation for damage shall be presented and settled in accordance with articles VIII to XX of the Convention on International Liability for Damage Caused by Space Objects.

5. Nothing in these principles shall have the effect of reducing the responsibility of States and international intergovernmental organizations under international law, including the Convention on International Liability for Damage Caused by Space Objects.

2. China: working paper (A/AC.105/C.2/L.164 of 15 March 1988)

The following draft text is proposed to be added as an independent principle in the set of draft principles on the use of nuclear power sources in outer space.

PRINCIPLE ...: Relation with other international treaties

The implementation of these Principles does not prejudice the rights and obligations of the States concerned provided by other international treaties to which they are parties.

3. China: working paper (A/AC.105/C.2/L.165 of 15 March 1988)

The following draft text is proposed to be added as an independent principle at the end of the set of draft principles on the use of nuclear power sources in outer space.

PRINCIPLE ...: Settlement of disputes

Any disputes arising in the implementation of these Principles should be settled by the parties to the disputes through negotiation or any other peaceful means acceptable to all of them.

4. Canada: working paper (A/AC.105/C.2/L.154/Rev.4 of 28 March 1988)

The following is the fourth revision of the draft principles contained in working paper A/AC.105/C.2/L.154 of 25 March 1986, which was tabled at the twenty-fifth session of the Legal Sub-Committee.

Principle 1, on applicability of international law, was the object of consensus at the twenty-seventh session and is found in document A/AC.105/411 of 8 April 1988, annex I, paragraph 8. Principle 5, on notification of re-entry, and 7, on assistance to States, were the object of consensus at the twenty-fifth session and are found in document A/AC.105/370 and Corr.1 of 30 May 1986, annex II, paragraphs 5.1 to 5.5.

Principles 2, on notification of the presence on board a space object of a nuclear power source, 3, on quidelines and criteria for safe use, 4, on safety assessment, 8, on responsibility of States, and 9, on compensation, have been

reformulated in light of discussions held at the twenty-seventh session. Principles 6, on consultations, 10, on settlement of disputes, and 11, on relation with international treaties, were first proposed at the twenty-seventh session.

DRAFT PRINCIPLES RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE

Recognizing the need for specific procedures and criteria to ensure the safe use of nuclear power sources in outer space, ...

To this end,

PRINCIPLE 1: Applicability of international law

(The text of principle 1, which was the object of consensus at the twenty-seventh session of the Legal Sub-Committee, is found in document A/AC.105/411 of 8 April 1988, annex I, para. 8.)

PRINCIPLE 2: Notification of the presence on board a space object of a nuclear power source

When furnishing information to the Secretary-General of the United Nations in accordance with article IV of the Convention on the Registration of Objects Launched into Outer Space or paragraph 1 of General Assembly resolution 1721 B (XVI), the State on whose register a space object with a nuclear power source on board is carried shall furnish, as soon as possible after launching, specific information as to the presence on board that space object of a nuclear power source and its generic classification.

PRINCIPLE 3: Guidelines and criteria for safe use*

1. States launching space objects with nuclear power sources on board** shall endure that the design, construction and use of such space objects respect

^{*} In addition to those contained in principle 3, other quidelines and criteria for safe use are to be established by the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee.

^{**} The guestion of the use of the expression "States launching space objects with nuclear power sources on board" and the need for a definition thereof is to be considered later.

generally accepted international guidelines for radiological protection in all phases of their mission, in particular the recommendations of the International Commission on Radiological Protection (ICRP) concerning radiological risks.*

- 2. Reactors on board space objects shall only use highly enriched uranium.
- 3. Reactors on board space objects shall be designed in such a way that if they return to the Earth for any reason and the reactor core becomes flooded, it should remain sub-critical in all credible circumstances.
- 4. Reactors on board space objects intended for use in orbits around the Earth shall not be activated until they have reached their planned operating orbit.
- 5. States launching space objects with nuclear power sources on board into orbits around the Earth shall make every endeavour to use an orbit that gives sufficient time for radioactive materials to decay to an acceptable level in space after the end of the mission, i.e., in all circumstances at least 300 years in the case of a reactor, and at least 10 times the half life of the isotopes used in the case of a radio-isotope generator.
- 6. When an orbit that does not meet the criteria set out in principle 3, paragraph 2 is used, States launching space objects with nuclear power sources on board shall ensure that they are designed to provide for their transfer at the end of the mission to an orbit that meets these criteria, so as to render the overall use of the nuclear power source, with a high probability of success, as safe as if it had been used in such an orbit.
- 7. In the event of failure of the transfer at the end of the mission to an orbit that meets the criteria set out in principle 3, paragraph 2, States launching space objects with nuclear power sources on board shall employ, as soon as technology permits, an in-space recovery system or an additional technique for transfer to such an orbit, so as to render the overall use of the nuclear power source, with a high probability of success, as safe as if it had been used in such an orbit.
- 8. The following additional safety measures, inter alia, shall be taken in order to mitigate the negative consequences in case of uncontrolled re-entry into the Earth's atmosphere of nuclear power sources on board space objects:

^{*} The Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee will examine the question of how best to make clear that the quantitative individual dose limits stated in ICRP publication 26 are applicable for normal operational conditions and that ICRP publication 40 applies to accident situations.

- (a) Nuclear reactors shall be designed either to re-enter the Earth's atmosphere and land while maintaining the functional integrity of the containment of radioactive materials, or to divide and disperse the radioactive materials into fine particles over a wide area;*
- (b) Radio-isotope generators shall always be designed to re-enter the Earth's atmosphere and land while maintaining the functional integrity of the containment of radioactive materials with a high probability of success. This design shall ensure minimal leakage of the radioactive contents in all credible circumstances, including launch accidents, re-entry into the atmosphere, impact and prolonged water immersion;
- (c) In all cases, States launching space objects with nuclear power sources on board shall ensure with a high probability of success that the recommendations of ICRP concerning radiological risks are respected when radioactive materials re-enter the Earth's atmosphere.**
- 9. All guidelines and criteria for safe use of nuclear power sources in outer space are to be reviewed by the Scientific and Technical Sub-Committee and the Legal Sub-Committee 10 years after their adoption.***

^{*} In its report on the work of its sixth session (A/AC.105/409 of 1 March 1988, annex III, para. 7), the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee stated that the feasibility and safety aspects of the two concepts of complete dispersal (burn-up) and intact re-entry require further information and investigation.

^{**} The Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee will examine the question of how best to make clear that the quantitative individual dose limits stated in ICRP publication 26 are applicable for normal operational conditions and that ICRP publication 40 applies to accident situations.

^{***} The question of whether this sentence should be part of principle 3 or of the General Assembly resolution adopting the Principles is to be considered later.

PRINCIPLE 4: Safety assessment

States launching space objects with nuclear power sources on board* shall proceed with a thorough safety assessment prior to launching. This assessment shall respect the guidelines and criteria for safe use contained in principle 3.**

PRINCIPLE 5: Notification of re-entry

(The text of principle 5, which was the object of consensus at the twenty-fifth session of the Legal Sub-Committee, is found in document A/AC.105/370 and Corr.1 of 30 May 1986, annex II, paras. 5.1-5.3.)***

PRINCIPLE 6: Consultations

States providing information in accordance with principle 5 shall, as far as reasonably practicable, respond promptly to requests for further information or consultations sought by other States.

^{*} The Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee should examine the questions of the use of the expression "States launching space objects with nuclear power sources on board" as to the participation in the safety assessment of the various States which may be involved in the use of nuclear power sources in outer space, and of whether the safety assessment should relate to a particular type of nuclear power source which may be used in one or more space missions or to each individual mission.

^{**} The question of availability of this assessment is to be discussed at a later stage in the light of the discussion of other proposed texts.

^{***} The following is proposed as a new paragraph 4 to principle 5, to be discussed when consensus has been achieved on all outstanding principles on the use of nuclear power sources in outer space:

[&]quot;4. Nothing in this principle shall affect the reciprocal rights and obligations of States parties to the Convention on Early Notification of a Nuclear Accident, done at Vienna on 26 September 1986, or of States parties to bilateral or multilateral agreements concluded in accordance with the object and purpose of the Convention. In the event a space object with nuclear power sources on board is malfunctioning with a risk of re-entry of radioactive materials to the Earth, States parties to the Convention or to such bilateral or multilateral agreements shall apply this principle in addition to the Convention or agreements."

PRINCIPLE 7: Assistance to States

(The text of principle 7, which was the object of consensus at the twenty-fifth session of the Legal Sub-Committee, is found in document A/AC.105/370 and Corr.1 of 30 May 1986, annex II, paras. 5.4 and 5.5.)*

PRINCIPLE 8: Responsibility of States

- 1. In accordance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, States launching space objects with nuclear power sources on board shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, involving the use of nuclear power sources, whether such activities are carried on by government agencies or by non-governmental entities.
- 2. States launching space objects with nuclear power sources on board shall also bear responsibility for ensuring that national activities involving the use of nuclear power sources in outer space are conducted in accordance with these principles and the norms of international law.
- 3. When activities involving the use of nuclear power sources in outer space are carried on by an international organization, responsibility for ensuring that such activities are conducted in accordance with these principles and the norms of international law shall be borne both by the international organization and by the States participating in such organization.

PRINCIPLE 9: Compensation

1. States launching space objects with nuclear power sources on board shall be internationally liable for damage caused by these space objects in accordance with

^{*} The following is proposed as a new paragraph 3 to principle 7, to be discussed when consensus has been achieved on all outstanding principles on the use of nuclear power sources in outer space:

[&]quot;3. Nothing in this principle shall affect the reciprocal rights and obligations of States parties to the Convention on Assistance in the case of a Nuclear Accident or Radiological Emergency, done at Vienna on 26 September 1986, or of States parties to bilateral or multilateral agreements concluded in accordance with the object and purpose of the Convention. Upon the notification of an expected re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components, States parties to the Convention or to such bilateral or multilateral agreements shall apply this principle in addition to the Convention or agreements."

article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the provisions of the Convention on International Liability for Damage Caused by Space Objects.

- 2. The compensation which such States shall be liable to pay for damage shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf a claim is presented to the condition which would have existed if the damage had not occurred.
- 3. Compensation shall include reimbursement of the expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties.
- 4. Claims for compensation for damage shall be presented and settled in accordance with the provisions of the Convention on International Liability for Damage Caused by Space Objects.

PRINCIPLE 10: Settlement of disputes

Any dispute resulting from the application of these principles shall be resolved through negotiations or other established procedures for the peaceful settlement of disputes, in accordance with the Charter of the United Nations.

PRINCIPLE 11: Relation with international treaties

The implementation of these principles does not prejudice the rights and obligations of States and international organizations under international treaties.

- B. Matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union
- 1. Union of Soviet Socialist Republics: working paper (A/AC.105/L.112 of 20 June 1979)

DRAFT BASIC PROVISIONS OF THE GENERAL ASSEMBLY RESOLUTION ON THE DELIMITATION OF AIRSPACE AND OUTER SPACE AND ON THE LEGAL STATUS OF THE GEOSTATIONARY SATELLITES' ORBITAL SPACE

1. The region above 100/110 kilometres altitude from the sea level of the Earth is outer space.

- 2. The boundary between airspace and outer space shall be subject to agreement among States and shall subsequently be established by a treaty at an altitude not exceeding 100/110 kilometres above sea level.
- 3. Space objects of States shall retain the right to fly over the territory of other States at altitudes lower than 100/110 kilometres above sea level for the purpose of reaching orbit or returning to Earth in the territory of the launching State.
- 4. The geostationary satellites' orbital space is inseparable from outer space as a whole and all relevant provisions of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, are applicable to it, including, inter alia, the provision that outer space is not subject to national appropriation by any means whatsoever.
- 5. The placing by States of geostationary satellites in outer space creates no right of ownership over the respective orbital positions of the satellites or any area of outer space.
- 6. All States enjoy an equal right to the utilization of outer space for placing geostationary satellites. This right must not be detrimental to the interests of other States.
- 7. States shall co-operate on questions of the placing of geostationary satellites in outer space with due regard to the recommendations and decisions of the International Telecommunication Union concerning the utilization of the radio-frequency spectrum allocated for the various types of space communications.
 - 2. Union of Soviet Socialist Republics: working paper (A/AC.105/C.2/L.139 of 4 April 1983)

APPROACH TO THE DELIMITATION OF AIRSPACE AND OUTER SPACE

- 1. The boundary between outer space and airspace shall be established by agreement among States at an altitude not exceeding 110 kilometres above sea level, and shall be legally confirmed by the conclusion of an international legal instrument of a binding character.
- 2. This instrument shall also specify that a space object of any State shall retain the right of innocent (peaceful) passage over the territory of other States at altitudes lower than the agreed boundary for the purpose of reaching orbit or returning to Earth.

3. Colombia, Ecuador, Indonesia and Kenya: working paper (A/AC.105/C.2/L.147 of 29 March 1984)

DRAFT GENERAL PRINCIPLES GOVERNING THE GEOSTATIONARY ORBIT

Preamble

Affirming that the geostationary orbit which lies on the equatorial plane and the existence of which mainly depends on its relation to gravitational phenomena generated by the Earth is a limited natural resource, and therefore its utilization should be rational and equitable and exclusively for the benefit of all mankind,

Bearing in mind that the applications of space science and technology relating to the geostationary orbit are of fundamental importance for the economic, social and cultural development of the peoples of all States, in particular those of the developing countries, including the equatorial countries,

Recognizing that the geostationary orbit shall be used exclusively for peaceful purposes and for the benefit of all mankind,

Noting the urgency of narrowing the gap in the field of space science and technology between the developed and the developing countries,

Recognizing the need to establish a specific legal régime applicable to the geostationary orbit which derives from its special physical nature and technical attributes, taking into account the existing legal régimes governing airspace and outer space.

Principle I

The geostationary orbit shall be used exclusively for peaceful purposes and for the benefit of all mankind.

Principle II

The geostationary orbit is a limited natural resource which shall be preserved in the interests of all States, taking into account the needs of the developing countries and the rights of the equatorial States. For that purpose it shall be governed by a specific legal régime.

Principle III

The equatorial States shall preserve the corresponding segments of the geostationary orbit superjacent to their territories for the opportune and appropriate utilization of the orbit by all States, particularly the developing countries.

Principle IV

The equatorial States shall have preferential right to the segment of the geostationary orbit superjacent to the territory under their jurisdiction.

Principle V

The placement of a space object in the segment of the geostationary orbit superjacent to an equatorial State shall require prior authorization by that State. Transit for peaceful purposes of any space object through this segment shall be allowed.

Principle VI

All States shall endeavour to co-operate in the efficient and economic utilization of the geostationary orbit on regional and on global basis, directly or through the United Nations and its specialized agencies and other competent international organizations.

Principle VII

The developed countries, international organizations as well as the developing countries which have already acquired capabilities in space technology should take necessary steps to facilitate and accelerate space science and technology transfers to other developing countries to achieve capabilities in the use of the geostationary orbit to serve their national development objectives.

Principle VIII

States and/or international organizations operating their space objects in the geostationary orbit shall take necessary actions to remove non-operational or unutilized space objects from the orbit.

4. German Democratic Republic: working paper (A/AC.105/C.2/L.153 of 24 March 1986)

PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE UTILIZATION OF THE GEOSTATIONARY ORBIT

The General Assembly,

Believing that the geostationary orbit is a limited natural resource and therefore its utilization should be rational and equitable and for the benefit of all mankind,

Bearing in mind that the development of space science and technology applied in the utilization of the geostationary orbit is of great importance for the economic, social and cultural development of the peoples of all States, in particular those of the developing countries,

Recognizing the need to establish a legal régime applicable to the geostationary orbit which derives from its special physical nature and other attributes, taking into account the existing legal régime governing outer space,

Adopts the following principles governing the activities of States in the utilization of the geostationary orbit:

Principle I

For the purpose of these principles "geostationary orbit" means that part of outer space where orbits of geostationary satellites lie.

Principle II

The geostationary orbit is an integral part of outer space as a whole and shall be subject to all relevant provisions of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Principle III

The geostationary orbit shall be used in the interests of maintaining international peace and security and promoting international co-operation and understanding.

Principle IV

The geostationary orbit, as well as outer space as a whole, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

Principle V

All States shall have an equal right to utilize the geostationary orbit. This right shall not be used by any State to the detriment of the rights and interests of other States.

Principle VI

The geostationary orbit is a limited natural resource which shall be used most efficiently and economically so that all interested States or groups of States, according to their needs and technical facilities, may have equitable access to the geostationary orbit and the frequency bands allocated to space radio services, also taking into account the special needs of the developing countries and the geographical situation of particular countries.

Principle VII

The placing by States of space objects in the geostationary orbit shall create no right of ownership or any preferential right over the respective orbital positions of these objects, over any segment of the geostationary orbit or any other area of outer space.

Principle VIII

- 1. All States shall endeavour to co-operate in the efficiency and economical utilization of the quostationary orbit directly or through the United Nations and its specialized agencies and other competent international organizations. Thereby due regard shall be paid to the International Telecommunication Convention, the Radio Regulations and other decisions and recommendations of the International Telecommunication Union concerning the utilization of the geostationary orbit and the frequency bands allocated to the various types of space radio services.
- 2. All States shall bear in mind the continuing necessity to develop and improve the mechanism within the framework of the International Telecommunication Union concerning the regulatory procedures and the planning of space radio services utilizing the geostationary orbit.
- 3. All States utilizing or planning to utilize the geostationary orbit and the frequency bands allocated to space radio services shall adopt, whenever practicable and feasible and taking into account relevant decisions and recommendations of the International Telecommunication Union, technologies which could in practice facilitate a more efficient and economic utilization of the geostationary orbit and the frequency bands allocated to space radio services.

5. Kenya: working paper (A/AC.105/C.2/L.155 of 2 April 1986)

DRAFT BASIC PROVISION OF THE GENERAL ASSEMBLY ON THE DELIMITATION
AND DEFINITION OF OUTER SPACE AND ON THE LEGAL STATUS OF THE
GEOSTATIONARY SATELLITE ORBIT

1.0 The special geographical position of equatorial countries relative to the geostationary satellite orbit should be taken into account when evolving principles that govern the delimitation and definition of outer space. Consequently the

following physical facts should be considered as they apply to the applicability of special geographical position in the development of basic principles governing outer space.

- The geostationary satellite orbit is a physical fact linked to the reality of our planet because its existence depends exclusively on its relation to gravitational phenomenon generated by the Earth and therefore should not be considered in the concept of outer space;
- By implication of the foregoing, the geostationary satellite orbit is part of the territory over which equatorial countries should exercise their national sovereignty.
- 1.1 In presenting views in 1.0, the affected equatorial countries have in the past upheld certain principles which advocate against fixed positioning of objects on the segments of the geostationary satellite orbit superjacent to their territories. Hence to assist in the elaboration of this view, the following references should be noted:
- 1.1.1 Provision 154, article 33 of the ITU Convention, Nairobi, 1982, which states that "in using frequency bands for radio services members shall bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources and they must be used efficiently and economically, in conformity with the provisions of the radio regulations so that countries or groups of countries may have equitable access to both, taking into account the special needs of developing countries and the geographical situation of particular countries".
- 1.1.2 Statement No. 90 of the ITU Convention, Nairobi, 1982, by the equatorial countries (Colombia, Congo, Ecuador, Gabon, Indonesia, Uganda, Zaire, Kenya and Somalia) reaffirming in their essence in light of the new provisions introduced in the ITU Convention Reservation Nos. 40, 42 and 79 made at the General World Administrative Radio Conference of 1979 in connection with all matters related to resolutions, recommendations, protocols and the Final Acts of the ITU Plenipotentiary Conference, Nairobi, 1982.
- 1.1.3 Reservation No. 40 of the General World Administrative Radio Conference, 1979, in which equatorial countries affirmed once more the view of the equatorial countries that the segments of the geostationary orbit that were located above their respective territories were intended to bring genuine benefits to their people, to the international community and particularly to the developing countries, and at the same time stated their opposition to the continued application of "first come, first served" principle which served the interests of few advantaged countries, which were the sole beneficiaries of this limited natural resource, to the detriment of other members of the international community and especially the developing countries.

- 1.1.4 Reservation No. 79, in which the equatorial countries stated that reference to special geographical situation of particular countries referred also to equatorial countries in relation to the geostationary orbit. On that understanding, the delegations of equatorial countries accepted the terms of the resolution, which dealt with the use of geostationary satellite orbit, bearing in mind, as was inevitable, the implications of the special geographical situation of the countries located on the Earth's equator.
- 1.1.5 You may wish to recall the principles enunciated by Colombia, Ecuador, Indonesia and Kenya in working paper A/AC.105/C.2/L.147 of 29 March 1984 during the twenty-third session of the Legal Sub-Committee, which are relevant to this work of the current situation.
- 1.1.6 During the first session of the Special Conference (WARC-ORBIT '85), the members requested the ITU Secretary-General to draw the attention of the United Nations Secretary-General to the need to finalize issues of a political and legal nature (p. 9 of the ITU report).

2. Conclusion

The geostationary satellite orbit cannot be considered as part of outer space and therefore cannot be governed by the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, of 1967.

Finally, the geostationary satellite orbit requires a separate legal régime from the current 1967 Treaty on Outer Space to govern its use.

6. Indonesia: working paper (WG/DEF-GSO(1986)/WP.1 of 10 April 1986)

COMPARATIVE TABLE

Colombia, Ecuador, Indonesia and Kenya: working paper

(A/AC.105/C.2/L.147 of 29 March 1984)

DRAFT GENERAL PRINCIPLES GOVERNING THE GEOSTATIONARY ORBIT

Preamble

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Bearing in mind that the applications of space science and technology relating to the geostationary orbit are of fundamental importance for the economic, social and cultural development of the peoples of all States, in particular those of the developing countries, including the equatorial countries,

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German Democratic Republic: working paper

(A/AC.105/C.2/L.153 of 24 March 1986)

PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE UTILIZATION OF THE GEOSTATIONARY ORBIT

The General Assembly,

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The geostationary orbit shall be used in the interests of maintaining international peace and security and promoting international co-operation and understanding.

Principle II

The geostationary orbit is a limited natural resource which shall be preserved in the interests of all States, taking into account the needs of the developing countries and the rights of the equatorial States. For that purpose it shall be governed by a specific legal régime.

Principle VI

The geostationary orbit is a limited natural resource which shall be used most efficiently and economically so that all interested States or groups of States, according to their needs and technical facilities, may have equitable access to the geostationary orbit and the frequency bands allocated to space radio services, also taking into account the special needs of the developing countries and the geographical situation of particular countries.

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Principle VI

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Principle VIII

1. All States shall endeavour to co-operate in the efficient and economical utilization of the geostationary orbit directly or through the United Nations and its specialized agencies and other competent international organizations. Thereby due regard shall be paid to the International Telecommunication Convention, the Radio Regulations and other decisions and recommendations of the International Telecommunication Union concerning the utilization of the geostationary orbit and the frequency bands allocated to the various types of space radio services.

- All States shall bear in mind the continuing necessity to develop and improve the mechanism within the framework of the International Telecommunication Union concerning the regulatory procedures and the planning of space radio services utilizing the geostationary orbit.
- 3. All States utilizing or planning to utilize the geostationary orbit and the frequency bands allocated to space radio services shall adopt, whenever practicable and feasible and taking into account relevant decisions and recommendations of the International Telecommunication Union, technologies which could in practice facilitate a more efficient and economic utilization of the geostationary orbit and the frequency bands allocated to space radio services.

Principle VII

The developed countries, international organizations as well as the developing countries which have already acquired capabilities in space technology should take necessary steps to facilitate and accelerate space science and technology transfers to other developing countries to achieve capabilities in the use of the geostationary orbit to serve their national development objectives.

Principle VIII

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Principle II

The geostationary orbit is an integral part of outer space as a whole and shall be subject to all relevant provisions of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

7. Union of Soviet Socialist Republics: working paper A/AC.105/L.168 of 5 June 1987

COMPROMISE PROPOSAL ON THE QUESTION RELATED TO THE DEFINITION AND DELIMITATION OF OUTER SPACE

The delegation of the Union of Soviet Socialist Republics proposes the inclusion in the report of the Committee on the Peaceful Uses of Outer Space of the following text as an agreed recommendation:

"While not resolving in advance the question of the need to establish a boundary between airspace and outer space and without prejudice to the final position concerning the upper limit of State sovereignty, general agreement might be reached to the effect that:

- "(1) Any object launched into outer space shall be considered as being in outer space at all stages of its flight after launch at which its altitude above Sea level is 110 kilometres or more.
- "(2) Space objects of States shall retain the right to fly over the territory of other States at altitudes lower than 110 kilometres above sea level for the purposes of reaching orbit around the Earth or proceeding on a flight trajectory beyond the confines of that orbit, and for the purpose of returning to Earth."
 - 8. Letter dated 16 October 1985 from the Secretary-General of the International Telecommunication Union to the Secretary-General of the United Nations (A/AC.105/360 of 6 November 1985)

FIRST SESSION OF THE WORLD ADMINISTRATIVE RADIO CONFERENCE ON THE USE OF THE GEOSTATIONARY SATELLITE ORBIT AND THE PLANNING OF THE SPACE SERVICES UTILIZING IT

The first session of the orbit Conference met at Geneva from 8 August to 15 September 1985. The agenda of this Conference is contained in the annex to my letter dated 8 August 1984 inviting participation of the United Nations in the Conference.

Your representatives at the Conference will no doubt be informing you of the outcome of this first session. Nevertheless, I have the honour to inform you of a particular decision taken by the Conference at its 15th plenary meeting, on 13 September 1985.

The decision in guestion relates to the competence of the first session of the Conference to deal with some specific principles which were proposed for adoption (along with others) in regard to the planning of space services.

The proposed principles concerned, in particular, the demands made by equatorial countries to have sovereignty/jurisdiction over the corresponding

segments of the geostationary orbit superjacent to their territories as well as the preservation of such segments by those countries for the opportune and appropriate utilization of the orbit by all States, particularly the developing countries.

In interpreting its agenda, formally established for it by the Administrative Council, the Conference declared itself not competent to deal with the subject of those principles.

The Conference further instructed me to inform the United Nations, including the Committee on the Peaceful Uses of Outer Space, of the above decision.

(Signed) R. E. BUTLER
Secretary-General of the
International Telecommunication Union