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OF OUTER SPACE

REPORT OF THE LEGAL SUB-COMMITTEE ON THE WORK OF ITS TWENTY-FIRST SESSION (1-19 February 1982)

CONTENTS

INTRODUCTION

Opening of the session

1. The Legal Sub-Committee opened its twenty-first session at the United Nations Office in Geneva on 1 February 1982 under the chairmanship of Mr. Eugeniusz Wyzner (Poland).

2. The Chairman, in his opening statement, expressed warmest congratulations to all States which had since the previous session of the Sub-Committee either individually or collectively begun, or made new progress in, their space programmes.

3. The Chairman, continuing his opening statement, drew attention to the role of the Legal Sub-Committee in the development and formulation of the law of outer space. Technical developments and the growing number of participants in outer space activities made it urgent, he stated, that the process of development and formulation of the law of outer space should steadily and progressively continue. The Legal Sub-Committee had in this connexion important and central responsibilities.

4. The Chairman expressed the hope that the time that had elapsed since the Sub-Committee's previous session had enabled Governments and delegations to give further thought to issues that remained unresolved. He was confident, he said, that the Sub-Committee would as it has always done in the past make every effort to move its work forward in a substantial manner in a spirit of co-operation, accommodation and accord.

5. The General Assembly, in its resolution 36/35 of 18 November 1981, had recommended that the Sub-Committee at its present session should: (a) continue on a priority basis its detailed consideration of the legal implications of remote sensing of the earth from space, with the aim of formulating draft principles relating to remote sensing; and (b) continue its consideration of (i) the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space through its working group; and (ii) matters relating to the definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit, and devote adequate time for a deeper consideration of this question.

Adoption of the agenda

6. At its opening meeting the Sub-Committee provisionally adopted the following agenda, set out in document A/AC.105/C.2/L.132, on the understanding that discussion or inclusion in the agenda of other matters might be decided on at a later stage after informal consultations:

1. Statement by the Chairman

2. Legal implications of remote sensing of the earth from space, with the aim of formulating draft principles

3. Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space

4. Matters relating to the definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit

Organization of work

7. The Sub-Committee, in accordance with decisions taken at its 360th, 362nd, 367th and 369th meetings on 1, 2, 9 and 11 February 1982 organized its work as follows:

(a) The Sub-Committee considered the three substantive items on its agenda in the order in which they appeared in document A/AC.105/C.2/132:

(i) Item 2 (Legal implications of remote sensing of the earth from space, with the aim of formulating draft principles) the only priority item on the Sub-Committee's agenda was allocated five and a half days;

(ii) Item 3 (Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space) was allocated three and a half days; and

(iii) Item 4 (Matters relating to the definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit) was allocated three and a half days.

(b) The Sub-Committee reserved the last day of its session for consideration and adoption of its report.

(c) The Sub-Committee, re-established its Working Group, open to all members of the Sub-Committee, on remote sensing (agenda item 2) which was the only priority item on its agenda at the present session. The Sub-Committee agreed that Mr. Cede, representative of Austria, would be Chairman of the Working Group.

(d) The Sub-Committee also re-established its Working Group, open to all members of the Sub-Committee, for consideration of item 3 of its agenda (Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space). The Sub-Committee agreed that Mr. Bueno, representative of Brazil, would continue as Chairman of the Working Group.

(e) The Sub-Committee considered item 4 of its agenda (Matters relating to the definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit) in formal plenary meetings of the Sub-Committee and for portions of those meetings dispensed with summary records in order to enable deeper consideration of the matter.

(f) The Sub-Committee provided time for a general exchange of views to enable delegations who wished to make statements in a general exchange of views to do so.

(g) However, some delegations continued to consider that such a general debate was superfluous, in so far as delegations might express their views in an orderly and comprehensive manner during the consideration of each agenda item. Other delegations felt that a general debate was useful and could help the Sub-Committee in its work. Some delegations stated that the general debate could be an appropriate occasion for the expression of those considerations which some delegations wished to express under the heading of "Other matters". Other delegations were of the opinion that it would be useful for the Sub-Committee to include on its agenda an item "Other matters" as is the tradition of the Committee on the Peaceful Uses of Outer Space, its Scientific and Technical Sub-Committee, and other Committees in the United Nations. The view was expressed that it would be desirable that the Legal Sub-Committee and the Scientific and Technical Sub-Committee, with a view to co-ordinating their work better, should in the future hold simultaneous sessions. Other delegations considered that the long-standing practice of consecutive sessions of the Legal and the Scientific and Technical Sub-Committees was fully justified and should be continued as it affords delegations the possibility to study, in their capitals, the results of the work of one Sub-Committee before the opening of the session of the other Sub-Committee.

(h) The Sub-Committee began each day with a plenary meeting to hear those who wished to address the Sub-Committee and thereafter adjourned and reconvened, when appropriate, as a working group.

(i) The Sub-Committee at its 369th meeting on 11 February 1982 decided that it would conclude its present session in three weeks, namely, on 19 February 1982.

8. The Chairman informed the Sub-Committee at its 360th meeting on 1 February 1982 that he had received from Cuba a request to participate in the meetings of the Sub-Committee. The Sub-Committee agreed that, since the granting of observer status is the prerogative of the Committee on the Peaceful Uses of Outer Space, the Sub-Committee could take no decision on the matter, but that the representative of Cuba might attend the formal meetings of the Sub-Committee and could direct to the Chair a request for the floor should the representative wish to make a statement.

9. The Sub-Committee at its 365th meeting on 5 February 1982 considered the question of the attendance at meetings of its Working Groups of representatives of States not members of the Sub-Committee and of representatives of international organizations invited to attend sessions of the Sub-Committee. The Sub-Committee, referring to its decision on a similar question at its twentieth session, agreed that at its present session the attendance of such representatives would be permissible on the understanding that this would not create a precedent, would concern the formal meetings of the Working Groups and not informal consultations or meetings of smaller groups, and would not entitle such representatives to take the floor except at the discretion of the Working Groups.

10. The Working Group on agenda item 2 (Legal implications of remote sensing of the earth from space, with the aim of formulating draft principles) held 13 meetings. The Working Group on agenda item 3 (Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space) held six meetings.

11. The Chairman of the Working Groups reported to the Sub-Committee at its 379th and 380th meetings on 19 February 1982. The Sub-Committee took note with appreciation of the reports and work done in the Working Groups.

12. The Sub-Committee considered item 4 of its agenda at its 372nd to 378th meetings from 15 to 18 February 1982.

13. The Sub-Committee held a total of 28 meetings. The views expressed in the Sub-Committee are summarized in documents A/AC.105/SR.360 to 380.

14. It was pointed out that, out of 30 possible day-meetings, 28 meetings were held and the time available for a 29th was allocated for consultations among delegations.

15. A list of the representatives of the States members of the Sub-Committee attending the session, of representatives of States not members of the Sub-Committee attending the session, of the observers for specialized agencies and other organizations, and of the secretariat of the Sub-Committee, is to be found in document A/AC.105/C.2/INF.14 and Corrigendum I.

16. The Chairman at the 360th meeting of the Sub-Committee on 1 February 1982 invited the co-operation of all delegations in ensuring that wherever possible working group and plenary meetings commenced on time and that wherever possible meetings did not conclude before their scheduled time of conclusion.

17. The Sub-Committee noted with appreciation that it would at its present session continue to be provided with summary records for its plenary meetings, and that the review of the question of the continued provision of summary records for the plenary meetings of the Sub-Committee, which was to have been made at the thirty-sixth session of the General Assembly in 1981, had been postponed to the thirty-seventh session of the General Assembly in 1982. The Sub-Committee also expressed the view that it would be desirable if the summary records could be made available promptly and during its sessions in all languages. The Sub-Committee noted at its 373rd meeting on 16 February 1982 that by its resolution 35/10 of 3 November 1980, the General Assembly had requested subsidiary bodies, including the Legal Sub-Committee, which were provided with summary records to keep their requirements for summary records, whenever possible, to a reasonable minimum and to dispense, whenever possible, with meeting records.

18. During the course of the session, some delegations expressed their concern regarding the growing dangers of the military use of outer space, stressing the need for the early consideration by the international community of measures to prevent an arms race in outer space. In this connexion, some delegations noted that the General Assembly requested the Committee on Disarmament to consider, as

from the beginning of its session of 1982, the question of negotiating effective and verifiable agreements aimed at preventing an arms race in outer space and to consider as a matter of priority the question of negotiating an effective and verifiable agreement to prohibit anti-satellite systems. Some delegations noted that following the proposal of the USSR to conclude a treaty on the prohibition of the stationing of weapons of any kind in outer space, the General Assembly considered it necessary to conclude an appropriate international treaty to prevent the spread of the arms race in outer space and requested the Committee on Disarmament to embark on negotiations with the view to achieving agreement on the text of such a treaty. In this regard, some delegations stated that the matter should be a matter of basic concern to the Committee on the Peaceful Uses of Outer Space and its sub-committees. Some delegations expressed the view that as the agenda and priorities in the Committee on Disarmament are already committed to other urgent questions, appropriate international measures could be more promptly and effectively dealt with within the Committee on the Peaceful Uses of Outer Space and its Legal Sub-Committee. Other delegations were of the view that the matter was now for the Committee on Disarmament.

19. The Sub-Committee, at its 380th meeting on 19 February 1982, adopted the present report unanimously and concluded the work of its session.

I. LEGAL IMPLICATIONS OF REMOTE SENSING OF THE EARTH FROM SPACE, WITH THE AIM OF FORMULATING DRAFT PRINCIPLES

20. The Chairman made an introductory statement on the agenda item 2 (Legal implications of remote sensing of the earth from space, with the aim of formulating draft principles) at the 361st meeting of the Sub-Committee on 2 February 1982. He referred to the work of the Sub-Committee on this item at its twentieth session.

21. The Chairman drew attention to the fact that the General Assembly at its thirty-sixth session, in resolution 36/35, had decided that the Sub-Committee should at its present session continue on a priority basis its detailed consideration of the legal implications of remote sensing of the earth from space with the aim of formulating draft principles relating to remote sensing.

22. The Sub-Committee noted that all texts of draft principles formulated by the Sub-Committee's Working Group on remote sensing, as of 1981, were set out in an appendix to the report of the Chairman of the Working Group on remote sensing at the twentieth session of the Sub-Committee (A/AC.105/288, annex I, appendix).

23. The Sub-Committee noted further that questions relating to remote sensing of the earth by satellites were also under consideration in the Scientific and Technical Sub-Committee and that the report of the Scientific and Technical Sub-Committee on its recently concluded nineteenth session was contained in document A/AC.105/304.

24. As noted in paragraph 7 above, the Sub-Committee, at its opening meeting on 1 February 1982, re-established its Working Group on remote sensing.

25. At the 379th meeting of the Sub-Committee on 19 February 1982, the Chairman of the Working Group reported to the Sub-Committee. The Sub-Committee took note with appreciation of the report and work of the Working Group. In accordance with the decision taken by the Sub-Committee at the same meeting, the report of the Chairman of the Working Group is reproduced in annex I to the present report.

II. CONSIDERATION OF THE POSSIBILITY OF SUPPLEMENTING THE NORMS OF INTERNATIONAL LAW RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE

26. The Chairman made an introductory statement on agenda item 3 (Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space) at the 368th meeting of the Sub-Committee on 10 February 1982. He referred to the work of the Sub-Committee on this item at its twentieth session.

27. The Chairman drew attention to the fact that the General Assembly at its thirty-sixth session, in resolution 36/35, had recommended that the Sub-Committee at its present session should continue its consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space through its Working Group.

28. The Sub-Committee noted that the subject of the use of nuclear power sources in outer space was an item on the agenda of the Scientific and Technical Sub-Committee at its nineteenth session in 1982 and that the report of that Sub-Committee of which chapter IV was the relevant section was contained in document A/AC.105/304.

29. As noted in paragraph 7 above, the Sub-Committee at its opening meeting on 1 February 1982, re-established its Working Group on this item of its agenda. At the 380th meeting of the Sub-Committee on 19 February 1982, the Chairman of the Working Group reported to the Sub-Committee. The Sub-Committee took note with appreciation of the report and work of the Working Group. In accordance with the decision taken by the Sub-Committee at the same meeting, the report of the Chairman of the Working Group is reproduced in annex II to the present report.

III. MATTERS RELATING TO THE DEFINITION AND/OR DELIMITATION OF OUTER SPACE AND OUTER SPACE ACTIVITIES, BEARING IN MIND, INTER ALIA, QUESTIONS RELATING TO THE GEOSTATIONARY ORBIT

30. The Chairman made an introductory statement on agenda item 4 (Matters relating to the definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit) at the 372nd meeting of the Sub-Committee on 15 February 1982. He referred to the work of the Sub-Committee on this item at its twentieth session.

31. The Chairman drew attention to the fact that the General Assembly at its thirty-sixth session, in resolution 36/35, had recommended that the Sub-Committee

should, at its present session, continue its consideration of matters relating to the definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit, and devote adequate time for a deeper consideration of this question.

32. The Sub-Committee noted that the subject of the "physical nature and technical attributes of the geostationary orbit" was an item on the agenda of the Scientific and Technical Sub-Committee at its nineteenth session in 1982 and was considered in chapter VI of its report (A/AC.105/304).

33. The Sub-Committee also had before it a working paper entitled "Approach to the solution of the problems of the delimitation of air space and outer space" submitted to the Sub-Committee at its eighteenth session by the delegation of the USSR (A/AC.105/C.2/L.121), and working paper entitled "Draft basic provisions of the General Assembly resolution on the delimitation of air space 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).

34. The Sub-Committee considered agenda item 4 at its 372nd to 378th meetings from 15 to 18 February 1982.

35. At the Sub-Committee's 372nd meeting, some delegations recalled that item 4 had been on its agenda for many years and stated that the importance of the item warranted priority treatment through a working group. Some delegations expressed the view that, in line with General Assembly resolution 36/35 calling for adequate time to be allowed for a deeper consideration of the matter, the Sub-Committee should, at its present session, progress from repetition of previously stated positions to more concentrated work on specific proposals and to an examination of possible areas of agreement; these delegations thought that this could be done more effectively informally and that an informal working group should be established for that purpose at the present session. Other delegations disagreed, stating that setting priorities and establishing working groups were matters for decision by the Committee on the Peaceful Uses of Outer Space and the General Assembly; that no working group for item 4 had been provided for in the General Assembly resolution; and that no changed circumstances justified establishing any new procedure with respect to the item. These delegations observed that informal consultations were customary in the Sub-Committee and that summary records might be dispensed with but considered that the establishment of any working group on the item would be inappropriate. On the basis of a proposal by the Chairman, the Sub-Committee decided at its 373rd meeting that it would begin each plenary meeting on the item with a discussion recorded in the summary records, and then continue without summary records.

36. Some delegations expressed the view that the definition and/or delimitation of outer space should be considered together with the question of the geostationary orbit since both are interrelated. Other delegations were of the view that the question of the geostationary orbit ought to be distinguished from the question of the definition and/or delimitation of outer space, and that the two questions should be considered separately.

37. Some delegations were of the view that it was necessary for a definition and/or delimitation of outer space to be established without further delay and that such a definition and/or delimitation ought to be "spatial", namely, that agreement should be reached on a certain altitude as the boundary between air space and outer space. The following were among their reasons: the existence of different legal régimes for air space and outer space; the need to provide a clear area of application for existing outer space law and to facilitate the further development of that law; to define the upper limit of State sovereignty; to safeguard the security of national air space; and to prevent disputes arising between States. These delegations were not in favour of the "functional" approach (namely, a definition of outer space activities and space objects). They were of the view that such an approach would result in the applicability of two different legal régimes to the same geographical area, and also, they stated, a gradual weakening of the basic principle of national sovereignty over air space.

38. Some delegations stated that a spatial definition and/or delimitation of outer space had in fact developed already in customary international law, in that States had now accepted the area above the lowest possible perigee of satellites as constituting outer space. In this connexion, they expressed support for the proposal of the USSR that the boundary between air space and outer space should be established at an altitude not exceeding 100/110 kms above sea level (A/AC.105/L.112 and A/AC.105/C.2/L.121). It was their view that the limit should not be much higher because then it would reach the altitude of the orbit of many satellites, and also not much lower because of the high altitude that could be reached by certain aircraft. Some delegations also stated that in addition to defining the boundary between air space and outer space, the use of air space by space objects should be regulated and for that purpose the concepts of space object and space flight should be better defined.

39. Other delegations stated that they did not believe that the time was ripe to proceed to a definition and/or delimitation of outer space. They expressed their doubts about the spatial approach to a definition and/or delimitation which would only lead to the establishment of an arbitrary boundary which had no scientific basis and which might later prove to be disadvantageous. In their view outer space law had thus far been successfully developed and applied without a definition and/or delimitation of outer space, and a definition and/or delimitation at this time could cause more problems than it would solve. The view was expressed that the existing outer space treaties were in fact based on a functional approach to the definition and/or delimitation of outer space. Some delegations felt that a spatial definition and/or delimitation of outer space would establish a vast, clearly defined area of air space over which States would not generally have the means to enforce their sovereignty. Some delegations were of the view that altitudes much lower than 100 to 110 kilometres above sea-level did not represent operationally reliable altitudes for aircraft or balloons. The view was also expressed that air space and outer space were not distinguished by boundaries but by different activities and that therefore the future study of the definition and/or delimitation of outer space should include the definition of outer space activities.

40. Some delegations stated that they had not yet developed definite views on the need for a definition and/or delimitation of outer space. Some of these delegations had no clear preference for either the spatial or functional approach. Some of these delegations expressed the view that the arguments thus far advanced against having any delimitation were not convincing. Some delegations felt that while a definition and/or delimitation of outer space might be needed, the question needed careful consideration and in-depth study of all relevant elements, and it should not be approached with unnecessary haste.

41. Some delegations raised the question as to how a State could fulfil the obligation to exercise effective control over all of its air space if a boundary between air space and outer space was set at a certain high altitude. Some delegations expressed the view that the concept of effective control was not recognized by contemporary international law and that therefore it cannot be in any way relevant to sovereignty over air space, while others did not share this view.

42. Some delegations expressed the view that, as 15 years of work on the delimitation of outer space had led to no result, the Sub-Committee should seek to fulfil in part the mandate which the General Assembly had expressly given the Sub-Committee by concentrating its efforts on the consideration of certain key concepts such as space activities and space objects, without this study prejudicing the subsequent consideration of both the definition and/or delimitation of outer space and the question of the geostationary orbit. Other delegations were of the view that it was inadvisable to separate the two questions and that they should rather be studied together.

43. As to the question of the geostationary orbit, some delegations pointed to the sui generis character of the geostationary orbit, which was a limited natural resource whose use is soon becoming saturated. These delegations expressed the view that the equatorial States had special physical relationship with the geostationary orbit. These delegations expressed the view that, if the definition and/or delimitation of outer space was formulated, a special juridical régime should at the same time be established for the geostationary orbit, taking into account the rights and interests of the equatorial States and the needs of the developing countries. They stated that the Outer Space Treaty of 1967 had not dealt with this matter. Moreover, not all States are parties to this treaty. Although these delegations recognized the useful work done by ITU, they felt that further regulation was needed within the framework of the United Nations. The view was expressed that the geostationary orbit should be used on a rational and equitable basis. Other delegations, while affirming the need to ensure access to the geostationary orbit for all States on an equitable, but also efficient and economical basis, were of the view that the geostationary orbit derived its special attributes from the planet earth as a whole and that any regulation of its use could not refer to a special position of equatorial States and should respect the principles of existing international space law, in particular the Outer Space Treaty of 1967. They pointed out that the problem of use of the geostationary orbit was not so much one of limited space but rather of saturation of the frequency spectrum. These delegations also expressed their confidence in the role of ITU which had been very successful in managing the use of the geostationary orbit and was planning to consider the question further in the future. Some

delegations expressed the view that although the geostationary orbit can be viewed as a limited natural resource, it is considerably different in nature from expendable resources and, as such, the geostationary orbit is not depleted, but rather its capacity is expanding as technological developments make more efficient use possible. Some delegations pointed out that geostationary satellites' orbital space would be a more correct expression than the term geostationary orbit.

44. Some delegations referred to resolution 3 of the 1979 World Administrative Radio Conference of ITU which, inter alia, stated that "attention should be given to relevant technical aspects concerning the special geographical situation of particular countries".

Annex I

REPORT OF THE CHAIRMAN OF THE WORKING GROUP ON REMOTE SENSING

1. The Sub-Committee, at the first meeting of its present session on 1 February 1982, re-established its Working Group on remote sensing.

2. The Working Group noted that the Legal Sub-Committee was required, under paragraph 5 of General Assembly resolution 36/35 of 18 November 1981, to continue on a priority basis its detailed consideration of the legal implications of remote sensing of the earth from space, with the aim of formulating draft principles relating to remote sensing.

3. The Working Group held its first meeting on 2 February 1982 and concluded its work on 9 February 1982, having held a total of 11 meetings. There were also informal consultations.

4. The Working Group had before it the report of the Legal Sub-Committee on its twentieth session in 1981 which contained the report of the Chairman of the Working Group and, in the appendix to the report of the Chairman, the texts of the draft principles as they appeared at the conclusion of the twentieth session (A/AC.105/288, annex I, appendix).

5. The Working Group noted that the subject of remote sensing was an item on the agenda of the Scientific and Technical Sub-Committee at its nineteenth session in January 1982, and that chapter III was the relevant section of the Scientific and Technical Sub-Committee's report on that session (A/AC.105/304).

6. As to the organization of its work, the Working Group agreed that it would, beginning with principle I, review the texts of the draft principles set out in the appendix to the report of the Chairman of the Working Group at the twentieth session of the Sub-Committee (A/AC.105/288, annex I, appendix). Principles II to X, however, in which the words "[shall] [should]" alone appeared in square brackets, would not be reviewed unless a delegation wished a particular principle considered. The Working Group noted that a working paper entitled "Principles relating to remote sensing of the earth, its natural resources and its environment (WG/RS/(1981)/WP.2) had been submitted by the delegation of Mexico to the Working Group in 1981 but had not yet been considered by the Working Group. The Working Group agreed that it would when discussing particular principles consider the relevant provisions of the Mexican working paper and the working paper submitted by the delegation of Colombia to the Working Group in 1981 (WG/RS(1981)/WP.1) as well as other proposals that may be made.

7. The Working Group conducted a first review of the draft principles in accordance with the procedure mentioned in paragraph 6 above. Thereafter, the Working Group focused in particular on principles XII and XV and considered more closely in an informal group the provisions of principle XII and related working papers.

8. The following working papers were submitted in the course of the discussions of the Working Group at its present session: a working paper submitted by the delegation of Greece (WG/RS(1982)/WP.1) with respect to principle XI; a working paper submitted by the delegation of the USSR (WG/RS(1982)/WP.2) with respect to principle XI of the Mexican working paper; a working paper submitted by the delegation of the United States (WG/RS(1982)/WP.3) with respect to principle XIII; a working paper submitted by the delegation of the USSR with respect to principle XV (WG/RS(1982)/WP.4); a working paper submitted by the delegation of the USSR with respect to principle IV, paragraph 1 (WG/RS(1982)/WP.5); a working paper submitted by the delegation of the USSR with respect to principle V (WG/RS(1982)/WP.6); a working paper submitted by the delegation of the USSR with respect to principle VIII (WG/RS(1982)/WP.7); three working papers submitted by the delegation of the USSR with respect to principle XII (WG/RS(1982)/WP.8; WG/RS(1982)/WP.9 and WG/RS(1982)/WP.10); a working paper submitted by the delegation of Brazil with respect to principle XII (WG/RS/(1982)/WP.11); a working paper submitted by the delegation of China with respect to principle XII (WG/RS(1982)/WP.12); and a working paper submitted by the delegation of Greece with respect to principle XII (WG/RS/(1982)/WP.13).

9. The working papers submitted at the twentieth session of the Legal Sub-Committee by the delegation of Colombia (WG/RS(1981)/WP.1) and by the delegation of Mexico (WG/RS(1981)/WP.2) as well as the working papers submitted in the course of the discussions of the Working Group at its present session and listed in paragraph 8 above are set out in the appendix to this report.

10. The views expressed in and the results of the discussions of the Working Group are summarized below.

11. Principle I. The Working Group referred briefly to foot-note 1 to the present text. The Working Group agreed that the foot-note, which concerned the question of the application of the principles to international intergovernmental organizations, should be considered at a later stage when questions relating to the other principles had been resolved. The Working Group discussed foot-note 2 to the present text and considered the formulation "with respect to remote sensing of the natural resources of the earth and its environment" which was set out in the foot-note. Certain suggestions were made for a change in this formulation. The view was expressed that though foot-note 2 could be retained the formulation could be changed to "the remote sensing of the natural resources of the earth and its environment from outer space". There was also a reference to the corresponding formulation in principle I of the Mexican working paper, namely "remote sensing of the earth, its natural resources and its environment from outer space". The Working Group reached no conclusion on the matter. The Working Group discussed at some length foot-note 3 to the present text relating to the definition of the term "remote sensing of the earth". Reference was made to the USSR working paper (WG.III(1979)/WP.9) which contained a detailed definition of the expression "remote sensing of the earth from outer space". There was also reference made to the definition contained in principle I of the Mexican working paper and the proposal contained in the Colombian working paper (WG/RS(1981)/WP.1). There was an exchange

of views on the question whether there should be a fuller definition of the space object conducting the sensing, the manner in which sensing is conducted, and what was covered by the sensing. A number of suggestions were made but the Working Group reached no conclusion on the matter. The view was expressed that the scope of the remote sensing principles included only civil remote sensing. As to the definition of the term "remote sensing of the earth", it was suggested that the Scientific and Technical Sub-Committee could take up this question; the view was then expressed that if the two Sub-Committee had held their annual sessions at the same time, the Scientific and Technical Sub-Committee would have been able at the request of the Legal Sub-Committee to consider a definition of this expression during the same session and perhaps would have succeeded in completing the definition before the end of the session. Still another view was expressed that since the whole set of principles has not been finalized the Scientific and Technical Sub-Committee can undertake this task at its next session and hence no changes in the schedule of meetings of the two Sub-Committees are required. In this connexion, the view was also expressed that the problem of definition of "remote sensing" for the purpose of these principles was not a scientific or technical problem but, rather a political and legal one of defining the appropriate scope of the principles.

12. Principles II to X. Those principles were not specifically discussed, although references were made by some delegations to some of these principles in the course of the discussion of other principles. No time was allocated by the Working Group to examine either Principles II to X of the Mexican Working Paper (WG/RS(1981)/WP.2) or Principles IV, V and VIII of the USSR working papers (WG/RS(1982)/WP.5, 6 and 7). The view was expressed that the Working Group could have done otherwise in the light of paragraph 6 of General Assembly resolution 36/35.

13. Principle XI. The views expressed at previous essions of the Working Group were reaffirmed in the course of discussions at the present session. Some delegations compared the present text to the corresponding text in the Mexican working paper and expressed the view that the proposal by Mexico concerning State responsibility was more complete and should therefore, though with some modification, be given preference. Consideration was also given to the working paper of Greece (WG/RS(1982)/WP.1) which in the view of some delegations represented a positive step. Some delegations spoke in favour of a principle which would provide for the responsibility of the sensing State for remote sensing related activities, and expressed the view that responsibility for such activities includes responsibility for the dissemination of results. Other delegations were of the view that principle XI was unnecessary in view of the provisions of principle III which provided for the application of international law including the Outer Space Treaty. They referred in particular to article VI of the Treaty. Other delegations could not accept this principle going beyond the legal régime of article VI of the Outer Space Treaty and the existing principles of international law regarding State responsibility and thus they were of the view that it would be unrealistic to expect consensus on this point. It was also stated that if the

principles being elaborated were to be given, after their final elaboration, the status of rules of international law, their violation by a State could then involve its international responsibility.

14. Principle XII. Considerable efforts were undertaken in the Working Group and in an informal group to identify whether there were certain areas for compromise on the issues covered by this principle. In the course of discussions, reference was made to the proposals contained in: the Mexican working paper (WG/RS(1981)/WP.2, principle XIV); the working paper of the USSR (WG/RS(1982)/WP.10), which was later amended by the USSR in light of discussions; the working paper of Brazil (WG/RS(1982)/WP.11); and the working paper of China (WG/RS(1982)/WP.12). There was agreement that in principle sensing States should provide a sensed State with timely and non-discriminatory access to primary data concerning its territory obtained by remote sensing. Although the discussions on principle XII focused mainly on the same questions that had arisen at previous sessions of the Working Group, some delegations felt that some elements of the discussions at the present session could be viewed as a somewhat new approach. These delegations therefore welcomed a drafting effort made by the delegation of Greece, which submitted a new compromise proposal on principle XII (WG/RS(1982)/WP.13). In the view of some delegations, this proposal might present a wording susceptible to a compromise solution. Other delegations, however, expressed reservations with respect to the proposal of Greece and drew attention to the approach to principle XII reflected in the Working Group's text, and a reference was also made in this connexion to the Mexican proposal.

15. Principle XIII. The Working Group considered the provisions of principle XIII and also, in this connexion, the following proposals: the proposal in the Mexican working paper (WG/RS(1981)/WP.2, princple XIV); the proposal of the USSR (WG.III(1979)/WP.3); and the proposal of the USA (WG/RS(1982)/WP.3). The suggestion was made by some delegations that principle XIII should logically precede principle XII. The Working Group, however, agreed that possible rearrangement of the order of the principles could be considered at a later stage when substantive discussions on all the principles were concluded. Some delegations expressed the view that prior information on remote sensing programmes was important to offer States an opportunity to have access to data regarding their territories and to consider if and how they could participate in such programmes. Other delegations, while sharing the view that prior information on remote sensing programmes may in fact increase the opportunity for States to participate in such programmes, stated that such information might not be useful from the point of view of providing access to data and that such access might be provided on the basis of publicizing the list of States in relation to whose territories such information is at the disposal of the sensing State or States with receiving ground stations. It was also stated that such prior information would be necessary in order to enable access to primary data and analysed information which might exist. The view was expressed that the provisions of principle VII, which provide for notifications to the Secretary-General in compliance with article XI of the Outer Space Treaty would adequately cover the question of notification of remote sensing activities. The view was also expressed in this connexion that, in light of the global nature and

the technicalities of remote sensing activities, individual notification of sensed States was in fact not practicable, and therefore notifications to the Secretary-General would be a reasonable solution.

16. Principle XIV. This principle was not discussed.

17. Principle XV. A broad spectrum of views, still divergent in essence, characterized the discussions on this principle. Some delegations found this principle necessary and spoke in favour of its retention, while other delegations favoured the deletion of this principle. Some delegations, reaffirming views expressed at previous sessions of the Working Group, stated that the dissemination of data obtained by remote sensing and analysed information derived therefrom should not be subject to any restriction. They were of the view that unrestricted dissemination of data and information is fully consistent with international law, and that the application of restrictions on dissemination was not practical and would impair further development of remote sensing programmes. Some delegations which favoured the unrestricted dissemination of data and information also pointed out that no complaints had so far been raised about such dissemination and they pointed out that such dissemination was beneficial to all States. Some delegations were of the view that a restrictive system for dissemination would be an obstacle to international co-operation regarding, and participation in, remote sensing activities. These delegations also expressed concern that a restrictive system for dissemination would lead to a more dominant position of sensing States which had, or could acquire, data relating to all States with their satellites. Some delegations expressed the view that such wide dissemination of data and analysed information was acceptable only if the correlative obligation was established for sensing States to provide, on an equal footing, data and analysed information to all those so requiring.

18. Other delegations, however, also reaffirming views expressed at previous sessions of the Working Group, stated that certain restrictions on the dissemintion of primary data and analysed information were necessary to protect the national interests of sensed States. Some of these delegations however stated that it was necessary that the dissemination of data and information about natural resources be made subject to the prior approval of the sensed State as dissemination without such prior approval was contrary to the sovereignty of sensed States. Some delegations were of the view that unrestricted dissemination may in certain cases be detrimental to the interests of some States and that international legal regulations should not be confused with the establishment of restrictive systems of dissemination. Still other delegations felt that while wide dissemintion was desirable, a State conducting remote sensing activities should be held responsible for the dissemination of any primary data or analysed information that might adversely affect the national interests of a sensed State. Some of these delegations believed that the proposal made in the working paper of the USSR (WG/RS(1982)/WP.4), which would provide for unrestricted dissemination of primary data and analysed information subject to a sensed State's being entitled to declare that data and information with a resolution finer than 50 metres shall not be disseminated except on the conditions stated in the declaration, was a proposal that they could support.

19. Other delegations expressed the view that, while only the wide dissemination to third parties of primary data and analysed information obtained by remote sensing could contribute to the development of States, it was essential that the dissemination of certain data to such third parties should be subject to the prior consent of the sensed State. In the view of these delegations, an objective criterion, such as resolution, should make it possible to draw the line between data which could be freely communicated and data whose dissemination should be subject to the prior consent of the sensed State. In any event, any solution in this field must necessarily, according to these delegations, take account of existing technical realities, of the importance and current expansion of international co-operation in this field, and of the legitimate aspiration of sensed States to control the dissemination of certain data to third parties.

20. Some delegations which favoured the unrestricted dissemination of data and information stated that the application of a criterion of spatial resolution would not be feasible in remote sensing activities in view of technical and practical difficulties.

21. Principle XVI. Some delegations, reaffirming the views expressed at previous sessions of the Working Group, stated that principle XVI was necessary and the concept of permanent sovereignty over wealth and natural resources applied to data and information, obtained by remote sensing of the territory of a sensed State, and formed part of international law. The view was also expressed that in this particular field it was necessary to link the principle of freedom of use of outer space with the concept of State sovereignty over natural resources. Other delegations, however, reaffirming views expressed at previous sessions of the Working Group, stated that while the concept of permanent sovereignty over wealth and natural resources was accepted, provided it necessarily entailed due regard for the rights and interests of other States and their natural and juridical persons in accordance with international law, the concept did not extend to sovereignty over information about wealth and natural resources of States; that consensus on principle XVI was not possible; and that the principle should be deleted. The view was also expressed that, as consensus on principle XVI was not likely, the contents of the principle might be placed in the framework of a preamble to the principles.

22. Principle XVII. There was a brief discussion of this principle. Some delegations expressed doubts as to the usefulness of a principle concerning settlement of disputes if it were not to include institutionalized settlement procedures. These delegations felt that a discussion of the principle should be deferred until a decision had been taken on the legal nature of the entire set of principles. The view was expressed that a provision on prompt and obligatory consultations was a useful and important element of this principle.

23. While no modification or further elaboration of the provisions of the draft principles was made at the present session of the Working Group, the discussions of the Working Group were extensive, detailed and constructive. The texts of the draft principles are set out in the appendix to this report.

24. The Working Group held its final meeting on 18 February 1982 when it considered and approved the present report.

APPENDIX

Section A

TEXTS OF DRAFT PRINCIPLES AS CONTAINED IN THE REPORT OF THE LEGAL SUB-COMMITTEE ON THE WORK OF ITS TWENTIETH SESSION (A/AC.105/288, ANNEX I, APPENDIX)

Principle I 1/

For the purpose of these principles with respect to remote sensing of the natural resources of the earth and its environment: 2/

(a) The term "remote sensing of the earth" means "remote sensing of the natural resources of the earth and its environment". 3/

(b) The term "primary data" means those primary data which are acquired by satellite-borne remote sensors and transmitted from a satellite either by telemetry in the form of electromagnetic signals or physically in any form such as photographic film or magnetic tape, as well as preprocessed products derived from those data which may be used for later analysis.

(c) The term "analysed information"* means the end-product resulting from the analytical process performed on the primary data as defined in paragraph (b) above combined with data and/or knowledge obtained from sources other than satellite-borne remote sensors.

Principle II

Remote sensing of the earth from outer space and international co-operation in that field [shall] [should] be carried out for the benefit and in the interests of

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* The content, definition and necessity of the term "analysed information" is still to be clarified.

1/ The question of the application of these principles to international intergovernmental organizations will be considered later.

2/ The formulation "with respect to remote sensing of the natural resources of the earth and its environment" will be reviewed in light of the title to be given to the principles.

3/ This term is still subject to further discussion. In the view of some delegations, it would be necessary in the future work to further define the meaning of the words "remote sensing of the earth and its environment".

all countries, irrespective of their degree of economic or scientific development, and taking into consideration, in international co-operation, the particular needs of the developing countries.

Principle III

Remote sensing of the earth from outer space [shall] [should] be conducted in accordance with international law, including 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, and the relevant instruments of ITU.

Principle IV

1. States carrying out programmes for remote sensing of the earth frm outer space [should] [shall] promote international co-operation in these programmes. To this end, sensing States [should] [shall] make available to other States opportunities for participation in these programmes. Such participation should be based in each case on equitable and mutually acceptable terms due regard being paid to principles ...

2. In order to maximize the availability of benefits from such remote sensing data, States are encouraged to consider agreements for the establishment of shared regional facilities.

Principle V

Remote sensing of the earth from outer space [should] [shall] promote the protection of the natural environment of the earth. To this end States participating in remote sensing [should] [shall] identify and make available information useful for the prevention of phenomena detrimental to the natural environment of the earth.

Principle VI

States participating in remote sensing of the earth from outer space [should] [shall] make available technical assistance to other interested States on mutually agreed terms.

Principle VII

1. The United Nations and the relevant agencies within the United Nations system should promote international co-operation, including technical assistance, and play a role of co-ordination in the area of remote sensing of the earth.

2. States conducting activities in the field of remote sensing of the earth [shall] [should] notify the Secretary-General thereof, in compliance with article XI 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.

Principle VIII

Remote sensing of the earth from outer space should promote the protection of mankind from natural disaster.*** To this end, States which have identified primary data from remote sensing of the earth and/or analysed information in their possession which would be useful in helping to alert States to impending natural disasters, or in assisting States to deal with natural disasters should, as promptly as possible, notify those States affected or likely to be affected of the existence and availability of such data and/or information. Such data and/or information should, upon request, be disseminated as promptly as possible.

Principle IX 1/

Taking into account the principles II and III above, remote sensing data or information derived therefrom [shall] [should] be used by States in a manner compatible with the legitimate rights and interests of other States.* **

Principle X

States participating in remote sensing of the earth either directly or through relevant international organization [shall] [should] be prepared to make available to the United Nations and other interested States, particularly the developing countries, upon their request, any relevant technical information involving possible operational systems which they are free to disclose.

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* Some delegations were of the view that, for the sake of consistency it was necessary to consider this principle in the light of draft principle II and III.

** A delegation reserved its position on removing the square brackets around the words "in a manner compatible with" and on the deletion of the words "not" and "to the detriment of".

*** The meaning of this term is subject to further discussion.

1/ Should be considered in connexion with the formulation of a principle on dissemination of data or information and subject to later discussion of the terms "information" and "data".

Principle XI

[States [shall] [should] bear international responsibility for [national] activities of remote sensing of the earth [irrespective of whether] [where] such activities are carried out by governmental [or non-governmental] entities, and [shall] [should] [guarantee that such activities will] comply with the provisions of these principles.]

Principle XII

A sensed State [shall] [should] have timely and non-discriminating access to primary data obtained by remote sensing of the earth from outer space, concerning its territory, on [agreed] reasonable terms and [no later than] [before] access is granted to any third State. 1/ 2/ [[To the greatest extent feasible and practicable,] this principle shall also apply to analysed information.]

Principle XIII

[A State [intending to conduct] [conducting] remote sensing activities of the earth from outer space shall notify the Secretary-General of the United Nations and [upon request] the States whose territory is intended to be covered by such activities [to the fullest extent feasible and as soon as practicable] of the intended launch, [nature of the] mission, duration and coverage of such activities. The Secretary-General shall publish information thus received.]

Principle XIV

[A State carrying out remote sensing of the earth [shall] [should] without delay consult with a State whose territory is sensed upon request of the latter in regard to such activity, [in particular dissemination of data and information,] in order to promote international co-operation, friendly relations among States and to enhance the mutual benefits to be derived from this activity.]

1/ The question of from which States access to and provision of data should be obtained, needs further consideration.

2/ Subject to review in the light of the discussion on access by third States.

Principle XV

[States carrying out remote sensing of the earth shall not, without the approval of the States whose territories are affected by these activities, disseminate or dispose of any data or information on the natural resources of these States to third States, international organizations, public or private entities.]

Principle XVI

[Without prejudice to the principle of the freedom of exploration and use of outer space, as set forth in article I 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, remote sensing of the earth [should] [shall] be conducted with respect for the principle of full and permanent sovereignty of all States and peoples over their own wealth and natural resources [with due regard to the rights and interests of other States and their natural and juridical persons in accordance with international law] [as well as their inalienable right to dispose of their natural resources] [and of information concerning those resources].]

Principle XVII

[Any dispute that may arise with respect to the application of [Activities covered by] these principles [shall] [should] be resolved by prompt consultations among the parties to the dispute. Where a mutually acceptable solution cannot be found by such consultations it [shall] [should] be sought through other [established] [existing] procedures for the peaceful means of settlement of disputes mutually agreed upon by the parties concerned.]*

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* Subject to review in the light of the full set of agreed principles and a decision on the legal nature of the principles.

Section B

Working papers submitted to the Legal Sub-Committee at its twentieth session

COLOMBIA: WORKING PAPER

(WG/RS(1981)/WP.1 of 18 March 1981)

Principle I

For the purpose of the following principles, remote sensing of the earth means an exploratory function which is performed from satellites, or by means of airborne platforms and other aeronautical or ballistic devices, whereby:

1. Information on the characteristics of the earth and its natural phenomena is obtained from outer space by passive and active sensors located on board satellites which encircle the earth in gravitational orbit, this being termed "macroscopic remote sensing". Prompt and general dissemination of the information so obtained may not be restricted inasmuch as the international community benefits from it.

2. Information of a similar nature, but with a much greater resolution or definition of details, is collected by airborne platforms or any other aeronautical or ballistic devices operating from any altitude above the earth up to the limit at which outer space commences, this being termed "microscopic remote sensing". Such data and information may be used and/or communicated to third parties only with the express consent of the State within whose jurisdiction the area which has been the subject of remote sensing or analysis is situated.

3. The term "primary data" means those primary data which are acquired by satellite-borne remote sensors and transmitted from a satellite either by telemetry in the form of electromagnetic signals or physically in any form such as photographic film or magnetic tape, as well as preprocessed products derived from those data which may be used for later analysis.

4. "Analysed information" means any intellectual or material product resulting from the evaluation performed on the primary data referred to in paragraph 3 above, combined where appropriate with other data and/or knowledge obtained from sources other than satellite-borne remote sensors and devices.

Principle XV

No State, or entity responsible to or belonging to one or more States, which carries out remote sensing of the earth from outer space or which analyses primary data or information derived from such remote sensing may on any account communicate to third parties information on specific natural resources or agricultural crops in any other State or country which has been the subject of remote sensing, without obtaining its prior consent.

MEXICO: WORKING PAPER

(WG/RS(1981)/WP.2 of 19 March 1981)

Principles relating to remote sensing of the earth, its natural resources and its environment

Principle I

For the purposes of these principles, the term "remote sensing of the earth" means remote sensing of the earth, its natural resources and its environment from outer space.

Principle II

Remote sensing of the earth and international co-operation in that field shall be carried out for the benefit and in the interests of all States, irrespective of their degree of economic or scientific development and taking into consideration the needs of the developing countries.

Principle III

International law, including the Charter of the United Nations, 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 present principles shall be applicable to remote sensing of the earth.

Principle IV

1. States carrying out programmes for remote sensing of the earth shall promote international co-operation in these programmes.

2. States carrying out programmes for remote sensing of the earth shall make available to sensed States opportunities for participation in these programmes.

3. In order to maximize the availability of benefits from remote sensing of the earth, States are urged to consider agreements for the establishment of shared regional facilities.

Principle V

Remote sensing of the earth shall promote the protection of the environment. To this end States participating in remote sensing of the earth shall identify and

make available to the competent United Nations authorities any information useful for the prevention and control of phenomena detrimental to the environment of the earth.

Principle VI

States participating in remote sensing of the earth shall make available technical assistance to other interested States on mutually agreed terms. This principle is without prejudice to the rights of sensed States, as set forth in the present principles.

Principle VII

1. The United Nations and the relevant agencies within the United Nations system should promote international co-operation, including technical assistance, and play a role of co-ordination in the area of remote sensing of the earth.

2. States carrying out programmes for remote sensing of the earth shall, prior to the execution of these programmes, give notification thereof to the Secretary-General of the United Nations, who shall publish such notification.

Principle VIII

1. States carrying out programmes for remote sensing which have knowledge of the threat of a natural disaster shall immediately inform all States which might be affected and the United Nations authorities competent for natural disasters.

2. Likewise, States carrying out programmes for remote sensing shall communicate to States which have been affected by a natural disaster and to the competent United Nations authorities all information which would be useful in assisting the States affected to take measures to remedy the situation.

Principle IX

The results of remote sensing of the earth shall be used by States with strict respect for sovereign rights and in a manner compatible with the legitimate interests of other States.

Principle X

States participating in remote sensing of the earth either directly or through the relevant international organizations shall make available to the Secretary-General of the United Nations and other interested States, particularly the developing countries, upon their request, any technical information involving possible operational systems.

Principle XI

States conducting remote sensing of the earth shall bear international responsibility for national activities carried on by governmental agencies or by non-governmental entities, and for ensuring that national activities are carried out in conformity with the present principles. The activities of non-governmental entities shall require authorization and continuing supervision by the State which has jurisdiction or control over those non-governmental entities. In the case of activities carried on by an international organization, resposibility shall be borne both by the international organization and by the States members of such organization (text taken from 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).

Principle XII

A State which intends to carry out or authorize programmes for remote sensing of the earth shall give advance notification to the States whose territory, territorial sea or maritime areas under their jurisdiction will be sensed.

Principle XIII

Upon request of the sensed State, the State carrying out remote sensing shall consult with the said State in regard to such activity in order to comply with principle XIV and thus to promote international co-operation and friendly relations among States and to enhance the mutual benefits to be derived from this activity.

Principle XIV

States carrying out programmes for remote sensing of the earth shall provide States which are subject to remote sensing with the preliminary information and final results and conclusions relating to the natural resources of the territory, territorial sea and maritime areas under the jurisdiction of the sensed State.

Priciple XV

States carrying out remote sensing of the earth shall not, without the approval of the sensed State, disseminate information or results and conclusions regarding the natural resources of that State.

Principle XVI

1. Without projudice to the principle of the freedom of exploration and use of outer space, as recognized in article I 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, remote sensing of the earth, which also constitutes exploration and use of the earth, including the territories and resources of sovereign States, shall be conducted with strict respect for the full and permanent sovereignty which every State has and freely exercises over its wealth, natural resources and economic activity.

Principle XVII

1. The Charter of the United Nations and the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations shall be applicable to any dispute that may arise with respect to remote sensing of the earth.

2. In the event that a dispute related to remote sensing of the earth arises, the States which are parties to that dispute shall hold consultations with a view to arriving at a peaceful solution.

3. In the event that such consultations are not successful, the States shall have recourse to other means until a peaceful solution to the dispute is found.

Section C

Working papers submitted to the Legal Sub-Committee at its twenty-first session

GREECE: WORKING PAPER

(WG/RS(1982)/WP.1 of 3 February 1982)

State responsibility clause to replace draft principle XI on remote sensing

To the extent required by international law, in particular the relevant provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, States should bear international responsibility for activities of remote sensing carried out by them or under their jurisdiction and for the conformity of any such activities with the principles set forth in this document.

When remote sensing is carried out by an international intergovernmental organization, the responsibility referred to in the above paragraph should be borne both by that organization and by the States participating in it.

PROPOSAL OF THE UNION OF THE SOVIET SOCIALIST REPUBLICS

(WG/RS(1982)/WP.2 of 3 February 1982)

In the first sentence of principle XI of the Mexican working paper (WG/RS(1981)/WP.2 of 19 March 1981) after the words "international responsibility" add the following words:

"in this field including the use of the results of remote sensing".

PROPOSAL OF THE UNITED STATES OF AMERICA

(WG/RS(1982)/WP.3 of 4 February 1982)

Principle XIII

A State conducting remote sensing programmes should furnish the Secretary-General of the United Nations with information describing to the extent feasible the nature of the programme and the geographic area covered. The Secretary-General should publish information thus received. A State conducting remote sensing programmes should also furnish such information as soon as practicable directly to any State which so requests. To the extent feasible and practicable, a State which intends to conduct remote sensing programmes should give advance notification of such a programme to the Secretary-General.

UNION OF THE SOVIET SOCIALIST REPUBLICS: WORKING PAPER

(WG/RS(1982)/WP.4 of 5 February 1982)

Principle XVI

1. The freedom to disseminate primary data and analysed information obtained by remote sensing of the earth shall be limited to the extent of the provisions of paragraph 2 of this article.

2. Every State is recognized to have the right to declare that certain types of primary data and analysed information obtained by remote sensing of the earth with respect to its territory may be published or given to third States or natural or juridical persons of third States only with the express consent of the State making such a declaration. The declaration may relate to primary remote-sensing data with a spatial resolution of 50 metres or finer and to analysed remote-sensing information obtained on the basis of such data. The dissemination of primary data and analysed information obtained by remote sensing of the earth with respect to the territory of a State making such a declaration may be carried out only if the conditions stated in the declaration are observed.

3. The declaration referred to in paragraph 2 shall be transmitted to the Secretary-General of the United Nations, who shall publish it for general information.

UNION OF THE SOVIET SOCIALIST REPUBLICS: WORKING PAPER

(WG/RS(1982)/WP.5 of 8 February 1982)

New wording proposed for principle IV, paragraph 1

States carrying out programmes for remote sensing of the earth shall co-operate with States interested in participating in such programmes, by sensing the territories of such States and making the data obtained available to them on the basis of appropriate agreements.

UNION OF THE SOVIET SOCIALIST REPUBLICS: WORKING PAPER

(WG/RS(1982)/WP.6 of 8 February 1982)

New wording proposed for principle V

States which, by remote sensing of the earth, obtain information on natural phenomena detrimental or potentially detrimental to the earth's environment shall bring such information to the notice of the Secretary-General of the United Nations with a view to its general dissemination.

UNION OF SOVIET SOCIALIST REPUBLICS: WORKING PAPER

(WG/RS(1982)/WP.7 of 8 February 1982)

New wording proposed for principle VIII

1. States which, by carrying out programmes for remote sensing of the earth, obtain information on an impending natural disaster shall immediately notify those States likely to be affected by the disaster, as well as the Secretary-General of the United Nations.

2. States which, by carrying out programmes for remote sensing of the earth, obtain information that may be useful in helping States affected by a natural disaster and remedying the situation shall make such information available to the States affected and, with their agreement, to the Secretary-General of the United Nations.

UNION OF SOVIET SOCIALIST REPUBLICS: WORKING PAPER

(WG/RS(1982)/WP.8 of 8 February 1982)

Wording proposed for a paragraph 2 of principle XII

States carrying out programmes for remote sensing of the earth shall make available to sensed States, on mutually agreed terms, data concerning the natural resources of the territories under the jurisdiction of the latter States.

UNION OF SOVIET SOCIALIST REPUBLICS: WORKING PAPER

(WG/RS(1982)/WP.9 of 8 February 1982)

Wording proposed for principle XII

1. A State carrying out sensing or collecting primary data by remote sensing of the earth shall make known the fact that it possesses such data and at the request of the sensed State shall grant the latter, on a mutually acceptable basis, timely and non-discriminatory access to such data relating to its territory.

2. States carrying out programmes for remote sensing of the earth shall make available to sensed States, on mutually agreed terms, data concerning the natural resources of the territories under the jurisdiction of the latter States.

PROPOSAL OF THE UNION OF SOVIET SOCIALIST REPUBLICS

(WG/RS(1982)/WP.10 of 8 February 1982)

Principle XII

1. A sensing State or a State receiving primary data from remote sensing of the earth will communicate the availability of such data and at the request of a sensed State will familiarize the latter on a timely and non-discriminatory basis with such data relating to the territories under its jurisdiction on a mutually acceptable basis.

2. A sensing State or a State receiving primary data from remote sensing of the earth shall furnish to a sensed State, on mutually agreed terms, primary data and information concerning the territories under the jurisdiction of the latter State.

BRAZIL: WORKING PAPER

(WG/RS(1982)/WP.11 of 8 February 1982)

Wording proposed for principle XII

A sensed State shall have timely and non-discriminatory access to primary data obtained by remote sensing of the earth from outer space concerning territory under its jurisdiction before access is granted to any third party. This principle shall also apply to analysed information.

A State conducting remote sensing activities of the earth shall be held internationally responsible for the dissemination of any primary data or analysed information that adversely affects the interests of a sensed State.

(Delete principle XV)

CHINA: WORKING PAPER

(WG/RS(1982)/WP.12 of 9 February 1982)

New wording proposed for principle XII

1. A sensed State shall have timely and non-discriminatory access to primary data obtained by remote sensing of the earth from outer space concerning its territory, including in particular its natural resources on reasonable terms, and before access is granted to any third party.

2. This principle shall also apply to analysed information on agreed moderate terms.

GREECE: WORKING PAPER WITH RESPECT TO PRINCIPLE XII

(WG/RS(1982)/WP.13 of 9 February 1982)

States engaged in remote sensing programmes, including States receiving primary data through their ground stations, [shall] [should]:

(a) Provide sensed States with timely and non-discriminatory access to primary data obtained by such programmes, concerning territories under their jurisdiction, on reasonable terms;

(b) Furnish to sensed States analysed information derived from primary data related to territories under their jurisdiction, on mutually agreed reasonable terms, [to the extent feasible] and without prejudice to [intellectual] property rights.

Annex II

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

(Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space)

1. The Sub-Committee, at the 1st meeting of its present session on 1 February 1982, re-established its Working Group on agenda item 3 (Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space).

2. The Working Group had before it the report of the Legal Sub-Committee on its twentieth session in 1981 (A/AC.105/288 and Add.1); the report of the Scientific and Technical Sub-Committee on its eighteenth session in 1981, which contained in annex II the report of its Working Group on the use of nuclear power sources in outer space (A/AC.105/287); and the report of the Scientific and Technical Sub-Committee on its nineteenth session in 1982 (A/AC.105/304).

3. The Working Group noted that the report of the Legal Sub-Committee on its twentieth session contained in annex IV a working paper entitled "Use of Nuclear Power Sources in Outer Space" submitted to the Legal Sub-Committee at its twentieth session by the delegation of Canada (A/AC.105/C.2/L.129) and in addendum 1 a working paper submitted by the delegation of Venezuela (WG/NPS(1981)/WP.1) and a working paper submitted by the delegation of Italy (WG/NPS(1981)/WP.2).

4. The Working Group noted that the Scientific and Technical Sub-Committee's Working Group on the use of nuclear power sources in outer space had in paragraph 38 of its 1981 report (A/AC.105/287, annex II) reaffirmed its previous conclusion that "nuclear power sources can be used safely in outer space provided that all necessary safety requirements are met".

5. The following working papers were submitted in the course of the discussions of the Working Group: a working paper submitted by the delegations of Argentina and Chile (WG/NPS(1982)/WP.1); a working paper submitted by the delegation of Sweden (WG/NPS(1982)WP.2); a working paper submitted by the delegation of Brazil (WG/NPS(1982)/WP.3) and revised by the delegation of Brazil in the light of the discussions in the Working Group (WG/NPS(1982)/WP.3/Rev.1); a working paper submitted by the delegation of Nigeria (WG/NPS(1982)/WP.4). The delegation of Canada informed the Working Group that a new working paper, supplementing but not replacing the Canadian working paper (A/AC.105/C.2/L.129), would be submitted to the Sub-Committee. (This working paper is contained in document A/AC.105/C.2/L.134.) The working papers are attached to the report.

6. The Working Group, following a proposal by the Chairman, agreed that in considering this agenda item, it should begin with the discussion of assistance to

States affected by accidental re-entry of a space object with a nuclear power source on board, as it seemed most likely that the Working Group would make progress under that heading.

7. The Working Group considered this question taking into account Section C of the working paper of Canada (A/AC.105/C.2/L.129), and the relevant provisions in the working paper of Italy (WG/NPS(1981)/WP.2) and the working papers on the question of assistance to States submitted to the Working Group at its present session, namely, the working paper submitted jointly by the delegations of Argentina and Chile (WG/NPS(1982)/WP.1); the working paper submitted by the delegation of Brazil (WG/NPS(1982)WP.3 and Rev. 1); and the working paper submitted by the delegation of Nigeria (WG/NPS/(1982)/WP.4); as well as various views expressed by other delegations. The delegation of Canada informed the Working Group that a Canadian working paper on assistance to States would be submitted to the Sub-Committee. This working paper is contained in document A/AC.105/C.2/L.135 attached hereto.

8. The views expressed in and the results of the discussions of the Working Group are summarized below.

9. Some delegations were of the view that Section C of the Canadian working paper provided a useful basis for discussion of the necessary supplement to the norms of international law. Other delegations stressed the need to build on the existing international law and considered that Section C of the Canadian paper raised, without providing adequte answers, questions not susceptible to simple treatment; some such questions were already covered by existing treaties, and others required fuller definition and elaboration. The view was expressed that prior to the decision on the necessity of supplementing the existing international law relating to assistance, several questions should be further discussed with a view to the possible working out of mutually acceptable concepts. These questions concerned, inter alia, the definition of "necessary assistance", methods of determining extent and duration of search and clean-up operations, the right of the launching State to participate in those operations, the steps immediately to be taken by the affected State, the payment of costs of seach and clean-up operations not conducted by the launching State, the access to the affected State's territory by search groups of assisting States, the extent of local experts' participation, the affected State's right to request assistance from a third State, determining the methods of removing debris from the territory of the affected State. The delegations which were generally in favour of the approach taken in the Canadian paper, however, considered that the sovereignty of States with respect to their own territory and the obligation of the launching State for consequences of its use of nuclear power sources, together with the relevant provisions of The Outer Space Treaty and the Liability Convention, provided adequate bases for resolving virtually all of those questions.

10. Some delegations considered tha it was necessary that there be a régime for State responsibility and liability as in the Brazilian working paper and also in the jointly submitted Argentinian-Chilean working paper. Others doubted that

liability was a subject to be considered incidently to the question of assistance, and that if the existing Liability Convention needed to be supplemented in order adequately to cover NPS, then this was a major legal task to be undertaken separately. While some tended to the view that the Liability Convention's provisions were clear and adequate, others considered that the special characteristics of NPS warranted the development of additional specific liability rules. Some expressed reservation about the Working Group's going beyond examining what additions to the Liability Convention might be warranted by the special characteristics of NPS. Some delegations expressed the view that the affected State had the right to determine whether the launching State or other States should render assistance to it. These delegations were of the view that it should be made clear that the launching State had, nevertheless, the fundamental obligation to offer assistance as provided in the Nigerian working paper. Some of these delegations stressed that assistance from the launching State or a third State could only be rendered upon request from the affected State. In support of the launching State's interest in participating in assistance opertations, references were made to the Outer Space Treaty and to the Rescue and Return Agreement as well as to analogies drawn from the law applicable to aircraft accidents. However, some delegations drew attention to the distinction between, on the one hand, the right of the launching State to investigate the causes of the malfunction of its NPS space object or to retrieve it and, on the other hand, the obligation of the launching State to give assistance to the affected State; in the view of these delegations it would complicate the considertaion of the assistance question to consider these questions concurrently. A view was also expressed that the launching State has a priority right to conduct search and clean-up operations if the affected State resorts to foreign assistance.

11. In this connexion, the view was expressed that need existed for a definition of "necessary assistance". This was, it was felt, particularly so in case the launching State had to bear the expenses for assistance operations even when the affected State, in the exercise of its sovereignty, had either sough the assistance of another State or conducted the search and clean-up operations itself. It was pointed out that the ability to render effective assistance might depend on specific knowledge about the space object which only experts of the launching State have that unnecessary costs might be incurred and that, moreover, additional damage might result from operations conducted without the launching State's participation. Some delegations stressed, however, that since it was for the affected State to determine what assistance was to be given as well as by whom it should be given, the expenses of assistance should be borne by the launching State in any event. A number of delegations in this connexion indicated that the obligation of the launching State to reimburse the affected State for the expenses for search and clean-up operations could be derived from article XII of the Convention on Liability. It was also considered that tne launching State's obligation to meet all expenses for assistance, in particulr assistance requested of a third State, would be subject to standards of reasonableness. On this last point it was said that only justified expenses proportional to the goal of protecting persons and goods should be borne by the launching State. Some delegations noted that the term "necessary assistance" was already well understood in international law and used in legal instruments including the Rescue and Return

Agreement. These delegations further pointed out that though assistance and compensation were two different problems they were interrelated.

12. The reference to "indirect" and "direct" damage contained in both the Brazilian working paper and the Argentinian-Chilean paper was discussed. Some delegates thought it inadvisable to enter so complex and diversely treated an area of law while others, although admiting the difficulty, wished nonetheless to take account of the possibility of wide-ranging, long-term environmental and delayed effects of NPS accidents. The view was expressed that liability for damage arising as a result of search and clean-up opertaions not conducted by the launching State cannot be imposed upon the launching State. Several references were made to the Convention on Liability in particulr to articles I, II and XII thereof which defined very carefully the liability to pay compensation for damage which could be applicable for determining liability in respect of NPS as well as more generally any other damage caused by the accident. Reference was also made - in connexion with consequential and environmental damages and expenses - to article 5, paragraph 4 of the Rescue and Return Agreement which requires the launching State to take effective steps to eliminate possible danger of harm. Some delegations recalled that the concepts of "direct damage" and "indirect damage" were not accpeted in the drafting of the Convention on Liability and that it would, therefore, be prudent not to use them in the present context. The view was expressed that it was necessary to clearly distinguish between liability for damage resulting from an NPS acccident and the obligation to reimburse expenses resulting from an accident.

13. Among other aspects of the question of assistance that were considered by the Working Group, it was generally agreed that apart from the special responsibilities of the launching State and in the context of international humanitarism, all States should be prepared to offer assistance to the affected State to the extent of their capabilities. Furthermore, it was agreed by some delegations that assistance to developing countries should take into account the special needs of these countries. Some delegations felt that such special needs should be defined. Some delegations expressed the view that a useful role in providing assistance might be played by entities other than States, e.g. international organizations such as the IAEA. In this connexion, the Working Group invited a statement from the observer of the IAEA. The view was expressed that it would be useful to ascertain what functions were to be performed, in connexion with the question of assistance to States, by the Secretary-General of the United Nations with particular reference to the first paragraphs of the Canadian and the Argentinian-Chilean papers respectively.

14. The observation was made that it was left open at the present stage whether the provisions now being considered in the Working Group were intended to be eventually in the nature of guidelines, principles or treaty provisions and that this should be borne in mind during the discussions of this subject.

15. The Working Group held its final meeting on 18 February 1982 when it considered and approved the present report.

APPENDIX

Working papers submitted to the Legal Sub-Committee at its twenty-first session

WORKING PAPER SUBMITTED BY ARGENTINA AND CHILE

(WG/NPS(1982)/WP.1 of 11 February 1982)

1. When a State has informed the Secretary-General that a space object containing a nuclear power source will re-enter the earth's atmosphere in an uncontrolled manner, all Staes, in particular the launching State, must extend co-operation to minimize the dangers and prevent subsequent damage.

2. All States possessing space monitoring and tracking facilities must, with all the means available to them, co-operate with States along the orbital path of the object in monitoring its re-entry. Similarly, all States must provide sufficient and timely information so that States likely to be affected by the re-entry of that space object are in a position to take the necessary precautionary measures, given their particular development.

3. When the re-entry has occurred, the launching State and other States must provide appropriate assistance at the request of the State affected. All States must bear in mind the special needs of developing countries affected by such an occurrence.

4. Without prejudice to the obligations described above, States launching space objects containing nuclear power sources will be internationally liable for the direct, indirect and delayed damage to States in whose territory the accident occurs, or to its natural and juridical persons. Such liability shall be objective. The concept of damage includes reasonable costs for the necessary assistance.

SWEDEN: WORKING PAPER

(WG/NPS(1982)/WP/2 of 11 February 1982)

The use of Nuclear Power Sources (NPS) in outer space

1. The safety provisions for the use of NPS in outer space should take into account the result of the Working Group of the Scientific and Technical Sub-Committee (annex II of document A/AC.105/287). The basis for such provisions presented in the working paper of Canada (A/AC.105/C.2/L.129) should thus be supplemented in the following way.

2. Section A:

Information concerning the use of NPS

In accordance with paragraph 14 of the report of the technical Working Group an assessment of the collective and individual dose equivalent commitments must be carried out prior to launch. This assessment should be included in the safety evaluation statement mentioned under A.2 in the Canadian working paper.

3. Section D:

Radiological exposure levels

As was agreed in the technical Working Group of the Scientific and Technical Sub-Committee the general recommendations of the International Commission on Radiological Protection (ICRP) as given in ICRP Publication 26 should be used as a basis for the more specific guidelines applicable in this connexion for non-accidental conditions. This implies that

(a) No practice shall be adopted unless its introduction produces a positive net benefit,

(b) All exposures shall be kept as low as reasonably achievable, economic and social factors being taken into account, and

(c) The dose equivalent to individuals shall not exceed the limits recommended for the appropriate circumstances by the Commission.

Positive net benefit under (a) should, according to ICRP, be based on an estimate of the collective dose equivalent commitment.

These provisions should be the basis for radiation protection norms for the use of NPS in outer space and be included under D.1 of the Canadian working paper.

BRAZIL: WORKING PAPER

(WG/NPS(1982)/WP.3 of 11 February 1982)

To be inserted in paragraph 3, section C of the Canadian working paper, (A/AC.105/C.2/L.129) after the first sentence:

The launching State will be responsible for all the financial expenses involved in the recovery of the space object as well as in the cleaning-up operations that may be necessary. The launching State shall also be responsible for all the damage directly or indirectly caused by the crash of a space object in its territory.

BRAZIL: WORKING PAPER

(WG/NPS(1982)/WP.3/Rev.1 of 12 February 1982)

To be inserted in paragraph 3, section C of the Canadian working paper, (A/AC.105/C.2/L.129) after the first sentence:

In accordance with the principles set out in the Convention on International Liability for Damage Caused by Space Objects, in particular article XII thereof, a launching State shall be liable to pay compensation for damage caused by its pace objects, including all the financial expenses involved in the recovery of the space object, as well as in the cleaning-up operations that may be necessary. The launching State shall also be liable for all the damage directly or indirectly caused by the crash of a space object in its territory.

NIGERIA: WORKING PAPER

(WG/NPS(1982)WP.4 of 11 February 1982)

To replace paragraph 3 of section C of the Canadian working paper (A/AC.105/C.2/L.129:

When a space object with nuclear power source disintegrates on re-entry and lands in a territory other than that of the launching State, the launching State shall/should unconditionally accept (assume) full responsibility for the cleaning-up of the resulting debris. Such responsibility shall be without prejudice to the capability or otherwise of the victim State to clear the debris and/or its sovereign decision to accept or refuse any enabling foreign assistance, especially that of the launching State.

CANADA: WORKING PAPER

(A/AC.105/C.2/L.134 of 15 February 1982)

Use of nuclear power sources in outer space

The following ideas are put forward for discussion for the purpose of identifying those that might usefully be elaborated into principles. The ideas mainly concern ways to reduce the risks associated with NPS use, in order to help prevent accidents. In the view of the Canadian delegation, the major aim of any set of principles governing use of nuclear power sources in outer space should be to help prevent accidents.

This working paper does not replace the Canadian working paper (A/AC.105/C.2/L.129) submitted at the twentieth session of the Legal Sub-Committee in 1981, but is meant to supplement it.

SAFETY MEASURES

1. States should ensure that their use of space objects containing nuclear power sources meets generally accepted international guidelines for radiological protetion; inter alia, the radiological risks involved should conform to the recommendations of the International Commission on Radiological Protection. In particular, the intended benefits to those people incurring radiological risks must adequately compensate for such risks.

2. In any case, States using NPS in outer space should ensure that the radiological risks involved do not exceed (...).

3. States should endeavour to ensure that radiation exposure in all phases of a space mission involving use of NPS, including accident situtions, does not exceed 0.5 rem per year for members of the general public.

4. Nuclear reactors should not be used in low-earth orbit since the radiological risks involved cannot be sufficiently reduced so as to meet generally accepted international guidelines.

5. Only reasons of national security may justify exceptions to the principles contained in paragraphs 1 to 4 above, and in those cases, the following conditions should be met by the State involved:

All nuclear power sources

(a) If a launching State considers it necessary to use NPS in outer space in a way consistent with generally accepted international guidelines for radiological protection, it should announce that it is doing so for reasons of national security.

(b) If damage is caused to other States by the return to earth of a space object containing NPS, punitive (treble) damages should be paid.

Nuclear reactors in low-earth orbit

(c) The launching State should announce that, for reasons of national security, it considers it necessary to use nuclear reactors in low-earth orbit.

(d) The launching State should not use more than (X) nuclear reactor(s) in low-earth orbit at the same time and should not launch more than (X) nuclear reactor(s) a year intended for low-earth orbit.

(e) Space objects in low earth orbit containing nuclear reactors should be equipped with at least two backup systems to boost the object into higher orbit in cases where the object is not to be returned to eath in a controlled re-entry. Where the space object is to return to eath at the completion of its mission, the level of control should at least meet the standards for manned spacecraft.

(f) The amount of radioactive fuel contained in space objects should not exceed (...).

CANADA: PROPOSAL ON NUCLEAR POWER SOURCES

(A/AC.105/C.2/L.135 of 17 February 1982)

The following draft on assistance to States has been prepared taking into account discussions in the Working Group on agenda item 3 (Consideration of the possibility of supplementing the norms of international law relevant to the use of nuclear power sources in outer space) at the twenty-first session of the Legal Sub-Committee. While this text may not necessarily correspond to the views of all delegations which participated in the discussions, it is submitted so as to facilitate further deliberations on promoting the development of international law relevant to the use of nuclear power sources in outer space.

ASSISTANCE TO STATES

1. The State launching a space object containing a nuclear power source that is about to re-enter the earth's atmosphere in an uncontrolled manner, should co-operate to the greatest extent feasible with States along the orbital path of the object in monitoring the object. In doing so, the launching State should bear in mind the need for prompt notification with sufficient information so as to allow those States likely to be affected to assess the situation, in particular in order to take necessary precautionary measures. States other than the launching State possessing space monitoring and tracking facilities should co-operate for the same purpose with States along the orbital path of the object.

2. The State launching a space object containing a nuclear power source that is about to re-enter the earth's atmosphere in an uncontrolled manner, should offer to provide all necessary assistance to States likely to be affected by the re-entry or impact of the space object or its component parts. When an uncontrolled re-entry has occurred, the launching State, in accordance with the provisions contained in article 5, paragraph 4, of the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects launched into Outer Space, should promptly provide necessary assistance to eliminate possible danger of harm if requested to do so by States over whose territory or areas of jurisdiction the space object disintegrated or on whose territory or areas of jurisdiction debris had landed.

3. Other States or international organizations with relevant technical capabilities, should, to the extent feasible, be prepared to provide necessary assistance if requested to do so by the affected States. In this connexion, States and international organizations should consider co-operating to establish an international registry that would list those countries and international organizations with expertise available in this field, the type of expertise

available, and those agencies or branches in which it was available. States, particularly launching States of space objects containing nuclear power sources, should also co-operate to establish appropriate training programmes to assist States to prepare for and deal with re-entering space objects containing nuclear power sources. The special needs of developing countries for assistance in developing their capacity to take precautionary measures and to remedy the effects of an uncontrolled re-entry or impact of a space object containing a nuclear power source should be borne in mind.

4. The State launching a space object containing a nuclear power source should bear international responsibility in accordance with international law, including the relevant outer space conventions.

Such responsibility should include the obligation of the launching State to offer to provide all necessary assistance to States likely to be affected by the re-entry or impact of its space object containing a nuclear power source; promptly to provide the necessary assistance to eliminate possible danger of harm if requested to do so by the affected States; and, in accordance with the 1972 Convention on International Liability for Damage caused by Space Objects, to pay compensation for all damage caused by the nuclear power source, including all reasonable expenses for search and clean-up, and damages related to measures taken to prevent and limit radiation exposure and related to the number of people exposed and the degree of exposure.

5. Nothing in these principles shall have the effect of reducing the responsibility of States under international law, including the relevant outer space conventions.

6. States launching nuclear power sources into outer space should consider establishing an independent internationally administered fund for the purpose of satisfying claims for compensation.

[Paragraphs 4, 5 and 6 could perhaps be set out under a separate heading of State responsibility]
