UNITED NATIONS

GENERAL ASSEMBLY

Distr.
GENERAL

A/AC.105/C.2/SR.314
5 April 1979

ORIGINAL: ENGLISH

COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

LEGAL SUB-COMMITTEE

Eighteenth session

SUMMARY RECORD OF THE 314th MEETING

Held at Headquarters, New York,
on Monday, 2 April 1979, at 10.30 a.m.

Chairman: Mr. WYZNER (Poland)

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The meeting was called to order at 10.55 a.m.

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 (A/AC.105/218 and 238; A/AC.105/C.2/7 and Add.1; A/AC.105/C.2/L.121)

1. The CHAIRMAN, introducing the item, drew attention to chapter IV of the Sub-Committee's report on its preceding session (A/AC.105/218) and also pointed out that chapter VI of the Scientific and Technical Sub-Committee's report on its recent session (A/AC.105/238) dealt with the geostationary orbit. The Legal Sub-Committee also had before it a Soviet working paper (A/AC.105/C.2/L.121) entitled "Approach to the solution of the problems of the delimitation of air space and outer space".

2. Mr. KOLOSSOV (Union of Soviet Socialist Republics), introducing his delegation's working paper (A/AC.105/C.2/L.121), said that at the twenty-first session of the Committee on the Peaceful Uses of Outer Space (A/33/20, para. 64), his delegation had advocated the establishment of a boundary between outer space and air space at an altitude of 100 or 110 kilometres above sea level, which was the altitude proposed in paragraph 1 of the working paper. A definition of outer space as being the region above that altitude would be in accordance with established practice. It would also take account of the fact that it was rare for space objects to orbit below that level and that thus far there had been no doubt that the orbits of space objects above that level lay in outer space.

3. Paragraph 2 of the working paper, under which the boundary between air space and outer space would be subject to agreement among States and would subsequently be established by a treaty at an altitude not exceeding 100 or 110 kilometres above sea level, took account of the views of those States that felt that there should be further discussion of the question and also took account of the interests of various international organizations.

4. Under paragraph 3, the space objects of States would retain the right to fly over the territory of other States at lower altitudes for the purpose of reaching orbit or returning to earth.

5. The working paper took account of the differing international status of air space and outer space: a State had sovereignty and exclusive jurisdiction over its air space, whereas outer space was, in accordance with space law, open for use by all States and no special regulations for space flight had yet been established or needed.

6. In his delegation's view, agreement on the Soviet working paper would make it possible to clarify a number of issues of concern to many States. His delegation considered international outer-space law and international air-space law to be two independent branches of international law, each with its own particular features. Delimitation of the two kinds of space would further enhance co-operation among States in both air space and outer space and would help to avoid disputes. His delegation felt that its proposal could be reflected in a General Assembly resolution.

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7. Mr. ALBORNOZ (Ecuador) reaffirmed his delegation's position, expressed during the general debate, concerning the need to arrive at a general definition of outer space, the lack of which was a serious short-coming 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. Any such definition should take account of the special nature of the geostationary orbit. The equatorial countries had made specific statements concerning their sovereignty over the geostationary orbit and the need for rules establishing an orderly system to replace the current practice of using the geostationary orbit on a firt-come-first-served basis. The question of the geostationary orbit should be settled first, or at least simultaneously with the definition of outer space, and the latter should be based on technical knowledge. In his delegation's view, therefore, any proposal for the immediate establishment of a boundary between air space and outer space was premature.

8. Mr. ZHUKOV (Observer for the International Civil Aviation Organization (ICAO) said that his organization, which was represented in the Sub-Committee for the first time in more than 10 years, had thus far not considered or taken any decision on the question of the delimitation of outer space. At the same time, the Assembly of ICAO, at its twenty-second session, had adopted a resolution on the use of space technology in air navigation, in which it had stressed ICAO's responsibility for formulating the position of international civil aviation on all questions relating to outer space.

9. During consideration of the item at the Sub-Committee's preceding session, many delegations had indicated that the views of ICAO on the question could assist in adopting a decision that would take into account the interests of international civil aviation. Moreover, he felt that it would be desirable for ICAO to study the question of the possible consequences for civil aviation of the delimitation of outer space. It was ready to proceed with such a study if requested to do so.

10. Mr. KOLOSSOV (Union of Soviet Socialist Republics) asked whether the Secretariat could reproduce the text of the ICAO resolution to which the observer for ICAO had just referred.

11. The CHAIRMAN said that if there was no objection, he would take it that the Sub-Committee wished the Secretariat to prepare such a document.

12. It was so decided.

13. Mr. MATSUOZAWA (Japan) observed that the existing international legal instruments on outer space had not expressly defined outer space itself but had only defined the scope of application adapted to the various uses of outer space. Therefore his delegation did not consider it necessary to seek a uniform definition of outer space applicable to all types of space activities. It believed that the so-called functional approach to the definition was the most appropriate one.

14. His delegation did not share the views expressed by some equatorial countries that they exercised national sovereignty over the geostationary orbit. It was

(Mr. Matsuozawa, Japan)

true that, under article 33 of the International Telecommunication Convention of the International Telecommunication Union (ITU), radio frequencies and the geostationary satellite orbit were limited natural resources. In his delegation's view, however, that could not and should not be interpreted to mean that the geostationary orbit was subject to the sovereignty of equatorial countries.

15. Under article II of the 1967 Treaty on Outer Space, to which 75 countries had already become parties, outer space, including the moon and other celestial bodies, was not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means. That principle was also embodied in the Declaration contained in General Assembly resolution 1962 (XVIII), which had been adopted unanimously and which was referred to in the preamble to the Treaty. Therefore, in his delegation's view, the principle was established in general international law.

16. Although international legal instruments on outer space had not yet established a definition of outer space, nevertheless, in the light of various theories on the definition of outer space, as well as discussions held in the Scientific and Technical Sub-Committee, his delegation had no doubt that the geostationary orbit, at an altitude of approximately 36,000 kilometres above the equator, was part of outer space and that the claim by some equatorial countries to sovereignty over that orbit had no international legal basis. Thus, the geostationary orbit, being an integral part of outer space, should be free for use by all States without any discrimination, in accordance with article I of the 1967 Treaty.

17. In his delegation's view, the geostationary orbit should be effectively utilized in the context of the use of radio frequencies, and discussions on the use of that orbit should therefore take into account the activities of ITU.

18. Mr. DEBERGH (Belgium) said that he was grateful for the Soviet working paper on the approach to the solution of the problems of the delimitation of air space and outer space (A/AC.105/C.2/L.121). Paragraph 1 of that document coincided with Belgium's proposal that agreement should be reached on the physical boundaries of the terrestrial atmosphere as revealed by space science and defined in aeronomy and that an arbitrary altitude of 100 kilometres could be considered as the practical boundary between air space and outer space (A/AC.105/C.2/7/Add.1, para. 51). For practical reasons, the boundary should be set at an easily identifiable altitude. His delegation was still hesitant to link that proposal to the question of the definition of the upper limit of air space. It should not be forgotten that to apply the principle of the sovereignty of States to air space at an arbitrary altitude could have implications for the operational responsibilities of States whose sovereignty was involved and States whose spacecraft crossed the air space of other States.

19. He requested more information from the Soviet representative on what was meant by "agreement" and "treaty" in paragraph 2 of the working paper, and he inquired whether the agreements in question would be bilateral, multilateral or universal.

(Mr. Debergh, Belgium)

20. Due attention should be paid to the ICAO statement, which showed clearly that the item was interdisciplinary and of relevance to ICAO as well as to the Legal Sub-Committee and to the Committee on the Peaceful Uses of Outer Space. They should give every support to ICAO's efforts in that area.

21. Mr. KOLOSSOV (Union of Soviet Socialist Republics), in reply to the question put by the representative of Belgium, said that paragraph 2 of the English version of document A/AC.105/C.2/L.121 had originally read "... agreement between States ...", which might have implied a bilateral agreement. The document had been reissued for technical reasons, and the paragraph now read "... agreement among States ...". The treaty should be a single general one for all States, and the boundary should be drawn at one level above all parts of the earth. The word "agreement" did not refer to a specific legal instrument, but meant that there should be a mutaul understanding among States concerning the boundary between air space and outer space. It was an expression of his delegation's hope that States would hold negotiations on the boundary in the Legal Sub-Committee and the Committee on the Peaceful Uses of Outer Space and in the General Assembly. The purpose of such negotiations, in the light of further study, including studies to be undertaken by ICAO, would be to prepare the text of a legal instrument concerning the boundary between air space and outer space.

OTHER MATTERS

22. Mr. KIRSCH (Canada) said that Canada's purpose in originally raising the question of the use of nuclear power sources in outer space had been to draw the attention of other members of the Committee on the Peaceful Uses of Outer Space to its special implications for the safety and integrity of the human environment and to the need to develop an appropriate legal régime to reduce the risks inherent in such use of nuclear power. In the two Sub-Committees, Canada had made proposals which it hoped would assist the international community in achieving those aims. The response of the members of the Committee on the Peaceful Uses of Outer Space had been very encouraging and augured well for the type of broad international co-operation which would be required.

23. The General Assembly, at its thirty-third session, had approved the decision of the Committee on the Peaceful Uses of Outer Space to include in the agenda of its Scientific and Technical Sub-Committee consideration of technical aspects and safety measures relating to the use of nuclear power sources in outer space. The Assembly had also approved the Sub-Committee's recommendation to create a Working Group on that question. During the sixteenth session of the Scientific and Technical Sub-Committee, the Working Group had met and submitted a report which contained a wide-ranging discussion and several important conclusions and recommendations (A/AC.105/238, annex II). It had agreed that studies should be conducted on various subjects, including the elaboration of an inventory of the safety problems involved in the use of nuclear power sources in outer space. It had recommended that it should meet again at the seventeenth session of the Scientific and Technical Sub-Committee and that informal consultations of its members should be held not later than December 1979 to assist with the collating and summarizing of the studies submitted.

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(Mr. Kirsch, Canada)

24. As to the legal aspects of nuclear power sources, 14 delegations, including his own, had submitted to the Legal Sub-Committee at its seventeenth session a working paper outlining matters requiring examination and appropriate follow-up action, in the areas of safety measures, notification and emergency assistance (A/AC.105/218, annex IV). Although circumstances had not permitted discussion of that question at the time, the various reactions had indicated that the areas identified in the paper were indeed among those for which legal rules or guidelines could and should be developed. The question now was not whether the Legal Sub-Committee should examine the legal aspects of the use of nuclear power sources in outer space but rather when and how it should take up the subject.

25. With regard to the relationship between the work accomplished in the Scientific and Technical Sub-Committee and that which the Legal Sub-Committee would be undertaking, his delegation was convinced of the need for a solid scientific and technical information base for the elaboration of the necessary legal régime for the use of nuclear power sources in outer space. That, however, did not mean that the Legal Sub-Committee had to await the final results of the work being carried out under the auspices of the Scientific and Technical Sub-Committee before undertaking its own examination of related legal questions. Indeed, in some areas, no special scientific and technical studies were required. In other areas, where technical elements were being considered, it would be useful to examine how rules or guidelines could be formulated as international legal measures, even in the absence of definite conclusions on the technical side. It was quite clear from the Legal Sub-Committee's deliberations on other subjects that it was not imperative to settle every technical aspect of a question before its legal aspects could be dealt with. There was no reason why a different criterion should be applied to the question of nuclear power sources.

26. Canada would therefore like to propose for consideration by the Legal Sub-Committee four issues on which substantive legal dicussions could begin. First, the existing outer-space legal régime should be further developed to require the launching State to provide notification prior to the launch of a satellite carrying a nuclear power source. Article IV of the Convention on Reigstration of Objects Launched into Outer Space did not require the launching State or State of registry to inform the Secretary-General either before or after launch about a nuclear power source carried on board a space object, although paragraph 2 of the article did provide for the voluntary submission of that type of information. Those provisions were inadequate to protect the interests of the international community. In view of the risks inherent in the use of satellites carrying nuclear power sources, particularly in low earth orbit, launching States surely should have the responsibility to keep the international community informed about their use.

27. A second item on which the Legal Sub-Committee might usefully commence work was the elaboration of an obligation to provide early warning of a possible re-entry or malfunctioning of a satellite containing a nuclear power source. General Assembly resolution 33/16 and the report of the Working Group on the Use of Nuclear Power Sources in Outer Space called for such notification. The Legal Sub-Committee should consider how to translate that concept, which had general acceptance, into a binding legal obligation. With respect to notification to specific States just

(Mr. Kirsch, Canada)

prior to impact, the Working Group was studying the extent to which spacecraft re-entry could be accurately predicted. An eventual obligation of notification would be related to the state of the art of technology for impact prediction.

28. Emergency assistance was a third question on which the Legal Sub-Committee could begin work. In its report, the Working Group had noted that it was within the sovereign rights of the State affected to decide whether it would carry out search and recovery operations utilizing its own resources and/or request the assistance of other States, including the launching State (A/AC.105/238, annex II, para. 26). That right might usefully be reaffirmed, together with a principle that States receiving requests for assistance or information from affected States should respond promptly. That and other similar provisions could build on the important obligation contained in article 5 of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, which required the launching authority, at the request of the affected State, immediately to take effective steps to eliminate possible danger of harm resulting from the return to earth of a space object or its component parts which the State had reason to believe were of a hazardous or deleterious nature. They could also elaborate on article XXI of the Convention on International Liability for Damage Caused by Space Objects, which dealt with assistance by the launching State in cases of damage caused by a space object presenting a large-scale danger to human life or seriously interfering with living conditions.

29. In the context of emergency assistance, Canada supported the Working Group's suggestion that further study should be devoted to technical assistance programmes such as those of the International Atomic Energy Agency. Relief plans and guiding principles should enable affected States to turn also to those organizations and should focus on aid in operations to find and recover nuclear power sources, with due account being taken of the special requirements of developing countries. The Working Group had stated that assessment, planning and possible execution of a search and recovery operation would be greatly assisted by information on the nature of the nuclear power source (A/AC.105/238, annex II, para. 28). The Legal Sub-Committee could usefully develop a principle to the effect that launching States should provide such information.

30. A fourth question the Sub-Committee might wish to consider was that of radiation exposure levels. While the Working Group was studying, as one of its four areas of primary interest, the implementation of the recommendations for population and environment of the International Commission on Radiological Protection, Canada suggested that the Sub-Committee should begin consideration of ways in which acceptable radiation-exposure levels could be incorporated in a legal régime.

31. Canada had an open mind concerning the form which appropriate legal measures might take. In the first instance, the various measures could be incorporated in General Assembly resolutions or as guiding principles endorsed by the Assembly. In due course, it might be desirable to elaborate a new treaty on nuclear power sources or even on ultra-hazardous vehicles in general.

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(Mr. Kirsch, Canada)

32. In order to provide an adequate opportunity for the discussion of those and other legal issues, an item on the legal aspects of the use of nuclear power sources in outer space should be included in the agenda of the Legal Sub-Committee for its nineteenth session. In that connexion, it should be borne in mind that in a year's time the Sub-Committee would be in possession of considerably more information than at present. In the meantime, the Committee on the Peaceful Uses of Outer Space, the General Assembly and the Scientific and Technical Sub-Committee (which had recommended that the use of nuclear power sources in outer space should be dealt with at its seventeenth session as a priority item) would all have considered the question of nuclear power sources once again. As to the Working Group, it too would have met once more and carried out informal consultations on the studies being prepared. There was therefore no reason to delay including the item in the agenda.

33. His delegation had already expressed concern about the credibility of the Legal Sub-Committee as an effective and responsive negotiating forum, inasmuch as it was often overtaken by technology. The question of nuclear power sources in outer space was one which clearly might have very real and important repercussions on human life and the human environment. It could not be ignored by the Sub-Committee. His delegation would be grateful to other delegations for comments on its concrete suggestions concerning possible areas for consideration by the Sub-Committee and hoped that the Sub-Committee as a whole would respond positively to the recommendation for the inclusion of an item on the legal aspects of nuclear power sources in outer space.

34. Mr. HESHARRAFA (Egypt) said that his delegation welcomed Canada's comprehensive statement on the various aspects of the use of nuclear power sources, a question which had serious implications for mankind and the human environment.

35. His delegation was among the 14 delegations which had submitted a working paper on nuclear power sources at the seventeenth session of the Legal Sub-Committee (A/AC.105/218, annex IV). It had stressed on various occasions the need to draft legal principles, particularly with regard to safety measures pertaining to the use of nuclear power sources and procedures for prior notification by the launching State, which should take all precautions to avoid accidents and provide urgent assistance to the injured party. On the question of safety measures, appropriate design and operational measures should be considered in order to protect the population and the environment. Delaying the re-entry of a space vehicle containing a nuclear power source until radio-active material had decayed to a safe level was essential. The system must be capable of dispersing the radio-active material so that when that material reached the earth, the radiological hazard conformed to the standards recommended by the International Commission on Radiological Protection. The launching of a nuclear power source should be preceded by a systematic safety assessment, and such a source should be used only when alternative power sources did not meet the mission's goals.

36. The launching State should provide the Secretary-General of the United Nations in advance with information relating to the type of nuclear power source employed,

the date of launching of the spacecraft and the nature of the mission. In the event of malfunctioning, prompt notification with sufficient information was required to allow the State or States likely to be affected by the re-entry of the spacecraft to take the necessary precautionary measures. Such information should include the type of device, the quantity and form of the radio-active materials and the expected time of re-entry. In that regard, adequate consideration should be given to the establishment of a global tracking system for use in emergencies in order to ensure better information and earlier prediction of the time and location of re-entry and subsequent debris impact.

37. The launching State, which should take all precautions to avoid accidents, should bear total responsibility for the use of nuclear power sources and render urgent assistance to the injured party. It was essential to organize training courses for technical staff from various countries to deal with such accidents until the space Powers could offer their assistance. Particular attention should be paid to the developing countries, which were not well equipped to cope with such accidents. IAEA should provide technical services to any member State following an accident involving radio-active material.

38. The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, the Convention on International Liability for Damage Caused by Space Objects and the Convention on Registration of Objects Launched into Outer Space were all of direct relevance to search and recovery questions relating to nuclear power sources but did not provide comprehensive guidelines. In the light of the report of the Working Group on the Use of Nuclear Power Sources (A/AC.105/238, annex II), the Legal Sub-Committee should begin to elaborate the necessary legal measures and binding obligations in two areas: notification prior to launch of possible re-entry of spacecraft, and emergency assistance. It was now appropriate to deal with those questions, since the Scientific and Technical Sub-Committee had achieved some progress in both areas.

39. Mr. MAAS GEESTERANUS (Netherlands) said that his delegation had already expressed its views on the urgent need for revision of the existing body of space law, especially the rules governing the use of nuclear power sources in outer space. In that connexion he welcomed the Canadian suggestions for discussion of the subject in the Sub-Committee. In view of the fact that satellites containing nuclear power sources had been and continued to be launched, there was a need for a registration and warning system. The registration system should be able to provide States with full information on the type of power used in a given satellite, the site of its launching and its orbit; the warning system would notify States of any loss by the launching State of control over its satellite. Although some aspects of the problem would also benefit from scientific and technical studies, there was no need to wait for the Scientific and Technical Sub-Committee to complete work on the problem; the Legal Sub-Committee could begin its consideration of the problem immediately, at least with regard to registration and early warning. The parallel work of the two Sub-Committees would be beneficial. He also welcomed the suggestions made by the Egyptian delegation. Lastly, he

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(Mr. Maas Geesteranus, Netherlands)

supported the proposal recommending the inclusion of an item on the legal aspects of the use of nuclear power sources in outer space in the agenda of the coming session of the Sub-Committee.

40. Ms. OLIVEROS (Argentina) said her delegation considered it important that the responsibility of launching States using nuclear power sources in their satellites should be established, in view of the danger posed by such satellites, especially during re-entry and in the event of accidents or defects. All States should have access to basic information assisting them in evaluating the risks involved and facilitating search and recovery operations. The sovereign right of States must be protected so that they might be able to deal with such emergencies, and her delegation therefore supported proposals requiring the regulation of the energy sources used in satellites and the prior notification of launchings. The Sub-Committee should encourage the study of standards regulating the responsibility of States and international organizations for all activities relating to the use of nuclear energy in outer space. Such responsibility should include liability extending from the time of launching to the time of re-entry. The 1972 Convention on International Liability for Damage Caused by Space Objects could serve as a basis for the Sub-Committee's consideration of the item, although there might be other important aspects of the problem not covered by the Convention which the Sub-Committee should consider.

41. Mr. CHAMBERLAIN (United Kingdom) said that his delegation supported the Canadian proposal, which might lead to the establishment of a multilateral legal régime on the use of nuclear power sources in outer space. His delegation favoured a free and open discussion of the use of nuclear power sources in outer space, an issue which was of concern to all States, and had no wish to cause any State embarrassment or to focus on any particular incident. His delegation sought to identify possible areas of inadequacy in existing international legal instruments on the subject. It favoured the inclusion of a separate item on the use of nuclear power sources in outer space in the agenda of the Sub-Committee at its next session. There were two aspects of the matter which required urgent attention: prior notification of the launch of a spacecraft containing a nuclear power source and early warning about the malfunction of such a spacecraft. There were, of course, technical problems, such as that of orbital prediction, but the dangers caused by the uncontrolled re-entry of space objects, especially those including nuclear power sources, necessitated urgent action. On the question of emergency assistance, the Sub-Committee could usefully build on article 5 of the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched in Outer Space, as well as article 21 of the 1972 Convention on International Liability for Damage Caused by Space Objects. On the matter of standards for radiation exposure, the recommendations of the International Commission on Radiological Protection would be a useful basis for the Sub-Committee's work.

42. Mr. MATSUOZAWA (Japan) said that his delegation was extremely concerned over the implications of the use of nuclear power sources in outer space and felt that every possible effort should be made to ensure that the exploration and use

(Mr. Matsuozawa, Japan)

of outer space did not jeopardize the safety of mankind. With regard to the legal aspects of the problem, his delegation wished to draw attention to the working paper (annex IV, A/AC.105/218) submitted at the preceding session of the Sub-Committee by 15 countries, including his own, which contained useful proposals and suggestions for the future work of the Sub-Committee. His delegation shared the views expressed by the Canadian delegation and supported its proposal outlining four main issues for consideration by the Sub-Committee. It felt that at least some legal aspects of the problem should be given preliminary consideration by the Legal Sub-Committee in parallel with the ongoing discussions of the subject in the Scientific and Technical Sub-Committee. His delegation therefore fully supported the proposal made by the Canadian delegation that the Legal Sub-Committee should recommend to its parent Committee the establishment of a separate agenda item on the legal aspects of the use of nuclear power sources in outer space as at the next session of the Sub-Committee.

43. Mr. LAY (Italy) said that his delegation supported the general thrust of the Canadian statement and believed that there was an urgent need for an international legal régime governing the use of nuclear power sources in outer space.

44. Mr. NOLAN (Australia) said that his delegation endorsed the Canadian delegation's general outline for the consideration of the question of the use of nuclear power sources in outer space. He agreed that there were a number of relevant areas which did not require conclusive discussions on technical aspects and could therefore be discussed by the Sub-Committee at its next session. The information generated by the work of the Scientific and Technical Sub-Committee on the subject would also be useful as it became available. He supported the Canadian proposal that the Sub-Committee should recommend to its parent Committee that a separate item on the legal aspects of the use of nuclear power sources in outer space should be included on the agenda of the next session of the Sub-Committee.

45. Mr. VOLLERS (Federal Republic of Germany) said that his delegation had supported the working paper (annex IV, A/AC.105/218) on the use of nuclear power sources submitted at the preceding session of the Sub-Committee and agreed that the matter should be on the agenda of the coming session of the Sub-Committee as a separate item. Certain technical aspects of the problem would be discussed in the Scientific and Technical Sub-Committee and the results of that study should be available soon; other aspects were exclusively legal and should be discussed in the Legal Sub-Committee as soon as possible.

The meeting rose at 12.45 p.m.