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Committee on the Peaceful Uses of Outer Space

Questions on suborbital flights for scientific missions and/or for human transportation

Note by the Secretariat

Addendum

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I. Introduction

1. At the fifty-second session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, in 2013, the Working Group on the Definition and Delimitation of Outer Space agreed to continue to invite Member States of the United Nations and permanent observers of the Committee to provide their replies to the following questions (A/AC.105/1045, annex II, para. 8 (c)):

(a) Is there a relationship between suborbital flights for scientific missions and/or for human transportation and the definition and delimitation of outer space?

(b) Will the legal definition of suborbital flights for scientific missions and/or for human transportation be practically useful for States and other actors with regard to space activities?

(c) How could suborbital flights for scientific missions and/or for human transportation be defined?

(d) Which legislation applies or could be applied to suborbital flights for scientific missions and/or for human transportation?

(e) How will the legal definition of suborbital flights for scientific missions and/or for human transportation impact the progressive development of space law?

(f) Please propose other questions to be considered in the framework of the legal definition of suborbital flights for scientific missions and/or for human transportation.

2. The present document has been prepared by the Secretariat on the basis of replies received from Algeria, Armenia, Germany, Guatemala and Kenya.

II. Replies received from Member States

Algeria

[Original: French]
[11 November 2013]

Question (a). A suborbital flight is a space activity that occurs in airspace and outer space and may reach an altitude of more than 100 km (the Kármán line). Accordingly, that activity is directly linked to the need to define and delimit outer space in the same way as airspace. Such a definition is of particular importance in relation to the issue of the liability of States that are conducting space activities on a growing scale. Moreover, failure to delimit outer space could give rise to legal ambiguity, which in turn could increase the risk of disputes among States.

Question (b). Therefore, the legal definition of suborbital flights for scientific purposes and/or for transporting persons presents a tangible interest to those States which carry out space activity.

Question (c). Suborbital flights are space activities performed by space objects in outer space and on the border between airspace and outer space.

Question (d). Such activity could be governed by international law pending the ongoing development of space law.

Question (e). The legal definition of suborbital flights will help establish a more precise definition of the concept of “space object”, in the context of the ongoing development of space law.

Question (f). There are several related questions, notably in relation to passengers on suborbital flights: for example, will they be considered astronauts?

Armenia

[Original: Russian]
[5 November 2013]

Question (a). The Government considers there to be a direct relationship between suborbital flights for scientific missions and/or for human transportation and the definition and delimitation of outer space, bearing in mind that rules must be established concerning the execution of such flights.

Question (b). The Government believes the legal definition of suborbital flights for scientific missions and/or for human transportation will be of practical value for States and other operators.

Question (c). Suborbital flights for scientific missions and/or for human transportation could be classified as flights that occur in the area between the lower and upper limits of outer space.

Question (d). Legislation designed to regulate suborbital flights for scientific missions and/or for human transportation could be applied to such flights.

Question (e). The legal definition of suborbital flights will trigger a need to revise legislation that regulates airspace.

Question (f). The Government does not currently have any proposals to put forward.

Germany

[Original: English]
[5 November 2013]

Question (a). Yes, there is a relationship between such suborbital flights and the delimitation question. It has to be differentiated between suborbital flights which reach a height of about 80-120 km (mainly suborbital flights for human transportation) and suborbital flights such as sounding rockets which are designed to perform scientific experiments at altitudes from 50 to 1,500 km with a range of approximately 100-150 km. If these sounding rockets reach a height of more than 120 km, they reach outer space according to common understanding. According to 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, States parties to the Treaty shall bear international responsibility for national activities in outer space. Article VII of

the Outer Space Treaty states that the launching State is internationally liable for damage caused by an object launched into outer space. Furthermore, there is a relationship between the definition of outer space and the key term “space object”. The 1972 Convention on International Liability for Damage Caused by Space Objects introduces the key term “space object” without defining it. According to article II of the Liability Convention, a launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight.

Question (b). In practice, there exists a wide range of suborbital flights which are difficult to integrate into one single definition. As far as the altitude is concerned, they reach a spectrum from upper airspace up to outer space according to generally accepted practice. More relevant than a legal definition seems to be therefore a pragmatic solution for the gray area of 80-120 km between airspace and outer space. In this respect, there are different relevant approaches: the functional approach might be, inter alia, one of those in the gray area between 80 and 120 km.

Question (c). No generally acceptable definition seems to be identifiable.

Question (d). The present suborbital activities take place above national territory. Therefore, the relevant national law is applicable. As far as different States are concerned with regard to suborbital flights, regulation by cooperation agreement is recommendable. If the suborbital activity takes place in outer space, the United Nations treaties on outer space are applicable to this activity.

Question (e). Instead of legal definition of suborbital flights, the successive development of space traffic management and a clear borderline between aerospace and space traffic management seems to be more relevant for practical purposes.

Question (f). None.

Guatemala

[Original: Spanish]
[8 November 2013]

Question (a). The delimitation of outer space is established in United Nations resolutions. Consideration could be given to the situation concerning suborbital flights with respect to the definitions and use of outer space.

Question (b). Yes, because it may be of practical use and, in particular, economic value. In any case, Central American States could work together to establish their rights and obligations as a bloc.

Question (c). The existing definitions that have already been internationally accepted should be revised and action should then be taken to ensure that they are suitable with respect to Guatemala and Central America.

Those definitions could be based on the United Nations treaties and the principle of space law.

Question (d). The resolutions of the United Nations, the International Telecommunication Union and other organizations apply according to hierarchical

level. Guatemala may adapt or create specific legislation after guaranteeing its conformity to international law.

Question (e). If Guatemala and the Central American bloc do not exercise their rights in relation to suborbital and outer space, the use of these resources by our countries could be restricted. There could also be restrictions on possible claims for damages suffered in our territories following accidents and other eventualities. Finally, there could also be economic constraints.

Question (f). A specialized body should be created that is responsible for overseeing these issues exclusively.

Kenya

[Original: English]
[22 November 2013]

Question (a). The definition and delimitation of outer space has a direct bearing on the legislation to be applied regarding suborbital flights. Considering that suborbital flights can be achieved by rocket-powered crafts launched from the surface of the Earth or air-launched crafts, it is necessary that outer space be defined and delimited in order to establish legislation to govern such flights.

Question (b). The legal definition of suborbital flights will be useful for States, especially with the advent of commercial vehicles that might transit through suborbital space over foreign States.

Question (c). A suborbital flight could be defined, as per the International Civil Aviation Organization study on the concept of suborbital flights (C-WP/12436), as a flight up to a very high altitude which does not involve sending the vehicle into orbit.

Question (d). Whereas the Convention on International Civil Aviation mainly deals with registration, airworthiness certification, pilot licensing and operational requirements, international space law effectively addresses registration of objects but does not regulate the requirements for the certification of space objects and the licensing of their personnel.

New legislation should therefore be developed to govern suborbital flights, either as an annex to the Convention on International Civil Aviation or as an independent legal instrument.

Question (e). The development seen in suborbital flights has demonstrated lack of appropriate legislation to govern their safe and effective operation for scientific missions and/or human transportation. The legal definition of suborbital flights will enable development of legislation to address matters of personnel and operational requirements, safety, risk, insurance and liability.

Question (f). None.