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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

Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Introduction	1-2	2
II. Replies received from Member States		2
Australia		2
Finland		2
Jordan		3
Kazakhstan		3
Portugal		3
III. Replies received from permanent observers of the Committee		4
International Institute of Space Law		4



I. Introduction

[Original: English]

1. At the fifty-first session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, in 2012, the Working Group on the Definition and Delimitation of Outer Space agreed to address to Member States of the United Nations and permanent observers of the Committee the following questions (A/AC.105/1003, annex II, para. 10(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 will the legal definition of suborbital flights for scientific missions and/or for human transportation impact the progressive development of space law?

(d) 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 by 28 January 2013 from Member States Australia, Finland, Jordan, Kazakhstan and Portugal, as well as from the International Institute of Space Law.

II. Replies received from Member States

Australia

[Original: English]
[24 December 2012]

The Australian Government does not have any position on these matters at this time.

Finland

[Original: English]
[13 December 2012]

Question (a). No.

Question (b). Yes.

Question (c). Suborbital flights may become a market and a source of atmospheric pollution, and also involve liability questions in case of accidents. These have some relationship to space law.

Question (d). None.

Jordan

[Original: English]
[14 December 2012]

Question (a). Yes, once there is a decision to define the boundary of each area, it will separate suborbital flights for scientific missions and those for human transportation.

Question (b). Yes.

Question (c). Once there is a definition for each area, the responsibility of each user will be clear and obvious.

Question (d). Do we need to define also the scientific mission classes? If so, what will be the basis for such a definition?

Kazakhstan

[Original: Russian]
[14 January 2013]

There is currently no legal definition of “suborbital flight” in the legislation of Kazakhstan.

Kazakhstan believes that in legal terms suborbital flights and spacecraft launches into space orbits are related to the definition and delimitation of outer space, as in both cases such flights may lead to crossings not only into outer space but also into the airspace of other States.

We believe that in order to ensure sovereignty and national security with regard to suborbital flights, it makes sense to give serious consideration to establishing a legal definition and the legal status of suborbital flights, which should be enshrined in a multilateral international agreement within the framework of the United Nations.

Additionally, we suggest that a single international glossary should be developed for use when international legal documents and national legislation are drafted, in the interests of the progressive development of space law on the basis of space science terminology.

Portugal

[Original: English]
[3 December 2012]

The design of a regime for aerospace objects remains on the agenda of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space. A clarification of what the two kinds of flights mean in technical as well as economic terms would help to determine whether they should be treated jointly or separately.

III. Replies received from permanent observers of the Committee

International Institute of Space Law

[Original: English]

[28 January 2013]

Question (a). In theory certainly. Article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty) provides for international responsibility for national activities in outer space, which raises the question of where outer space begins. It should also be noted that article II effectively denies States the possibility of exercising jurisdiction over such activities on a territorial basis. Similarly, the liability regime of article VII of the Outer Space Treaty and that of the Convention on International Liability for Damage Caused by Space Objects (Liability Convention), attach liability to damage caused by space objects, which are in turn usually defined with reference to the intention to launch them into outer space. So for responsibility, liability and jurisdictional purposes it is of great importance to determine whether something happens in outer space or below that, in airspace. This is essentially no different for scientific payloads or for human transportation, although obviously in the determination of responsibility, liability and jurisdiction the differences between the two will come to the fore again.

In reality, however, nothing of substance has thus far turned on the lack of a clearly accepted “demarcation” point between airspace and outer space. Indeed, practically speaking, it may for the time being not be that much of a problem, particularly as long as we are speaking only of suborbital hops only entering the presumed lower edges of outer space for a short time, and only vertically directly above the airspace of the State from whose territory the operations are conducted, so that they would be unlikely to interfere with other activities of other States.

Question (b). Yes, presuming of course that an appropriate definition is chosen. It would, for example, help to clarify what legal regimes apply to the respective phases of flight. This includes everything from liability and criminal law regimes (comparable to the Convention on Offences and Certain Other Acts Committed on Board Aircraft) to the issue of registration — the Convention on Registration of Objects Launched into Outer Space (Registration Convention) formally requires the registration only of space objects launched into Earth orbit or beyond, without, however, defining what “beyond Earth orbit” means and hence, conversely, also what “suborbital” means: not completing one orbit regardless of what altitudes are reached — sounding rockets, for example, can go up to an altitude of 1,500 km without ever completing an orbit, and deep space probes travel millions of miles without going orbital — or not achieving the altitude at which an orbit around the Earth is practically feasible (see also the answer to the previous question).

Question (c). Again, presuming an appropriate definition is chosen, the answer is essentially given in the answer to the previous question.

Question (d). There are a number of related issues that may have an impact on the appropriate legal definition. These might include:

- (a) Specifying the purpose of such flights;
 - (b) Specifying the duration of such flights (including whether they are intended to be “return” journeys);
 - (c) Specifying the relevant regulatory framework (national law/international law) and perhaps regulatory institutions;
 - (d) Specifying the relevant type of space technology utilized.
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