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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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II. Replies received from Member States

Peru

[Original: Spanish]
[27 December 2019]

Question (a). Is there a relationship between plans to establish a system of space traffic management and the definition and delimitation of outer space?

Any system for space traffic management must clearly establish the boundaries within which the vehicles to be monitored will travel. It will be difficult to establish a system for that purpose if outer space is not delimited.

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

The differences between the laws applicable to airspace and to outer space and the fact that technology now enables these so-called suborbital flights (which it would be better to refer to as "non-orbital travel") in which vehicles can travel in the space used by air traffic and then in the space used by objects in orbit, show that there is a clear relationship between such flights and the delimitation of the spaces in which they operate.

Question (c). 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?

The delimitation between outer space and airspace would be of more practical use. Thus, a vehicle capable of travelling through both spaces would be subject to the legislation that is applicable on the basis of the location of the vehicle rather than the nature of the vehicle.

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

It would be more appropriate to refer to such flights as "non-orbital travel" because the associated technology, unlike that used in aircraft, does not employ lift as a fundamental means of movement, and because the term "suborbital" could be interpreted as meaning travel at an altitude below that at which it is possible to orbit the Earth, whereas the concept of this type of flight is related more to the idea of not reaching the state of equilibrium referred to as "in orbit", regardless of the principles applied or technologies used and the length of the journey.

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

As indicated in response (c), the applicable legislation would depend on the location of a vehicle, and more than one law might be applicable.

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

As indicated in response (d), the delimitation of outer space is of great importance for the harmonization of aviation and space law.

Question (g). 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.

No other questions are proposed.

Saudi Arabia

[Original: Arabic]
[3 January 2020]

Question (a). Is there a relationship between plans to establish a system of space traffic management and the definition and delimitation of outer space?

In "suborbital" flights, it is always possible that spacecraft launched for scientific missions and/or for human transportation at high altitudes may reach altitudes recognized internationally as outer space (which remain the subject of discussion by specialized United Nations bodies) at speeds which do not enable them to orbit the Earth.

There is therefore a direct relationship between suborbital flights and the definition and delimitation of outer space. In the view of the Kingdom, it is important to start studying legislation on the organization and management of space flight.

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

As suborbital vehicles are defined as aircraft that could be used as spacecraft or vice versa, it is important to define such vehicles and specify why they are being launched, in accordance with international instruments and with national and international norms governing outer space and airspace. The Kingdom is therefore of the opinion that there is a legal definition of suborbital flight for scientific missions and/or for human transportation which places a legal obligation on States and international organizations regarding their rights and obligations under the Convention for the Unification of Certain Rules Relating to International Carriage by Air (the Warsaw Convention), the Convention on International Liability for Damage Caused by Space Objects (the Liability Convention) and other treaties and principles.

Question (c). 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?

Yes. The Kingdom underscores the importance of holding discussions with States regarding their views on the definition and delimitation of outer space, with an eye to reaching a consensus solution that serves the outer space sector, deciding on a legal definition for space objects and the activities that they undertake and creating a legal framework for the registration of suborbital space objects that benefits the space activities of States and organizations.

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

The Kingdom is of the view that the definition of suborbital flight should be discussed at the sessions of the Committee on the Peaceful Uses of Outer Space and its subcommittees (Scientific and Technical Subcommittee and Legal Subcommittee). It is important that the International Civil Aviation Organization participate in the discussions in order to determine liability. It will be difficult at the current time to define suborbital flight unless the boundaries of outer space are first determined and defined.

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

Where suborbital flights for scientific missions and/or for human transportation pursue the mission for which they were launched, they are subject to either airspace law (the Warsaw Convention) or outer space law, including the Liability Convention, the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (the Rescue Agreement), the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer

Space, including the Moon and Other Celestial Bodies (the Outer Space Treaty) and other treaties and principles.

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

The impact of the legal definition of suborbital flights for scientific missions and/or for human transportation on the progressive development of space law cannot be determined, given that no decisions have yet been reached on legislation to govern the safety and efficacy of suborbital flights for scientific missions and/or for human transportation.

Question (g). 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.

- As there are many purposes and missions for which suborbital flights may be carried out, should voyagers on such craft be considered astronauts or not?
- In the light of the developments seen in the outer space sector, and with an eye to future investment, how important is it to adopt legal instruments defining suborbital flight and the purpose of such activities?

Viet Nam

[Original: English]
[13 January 2020]

Question (a). Is there a relationship between plans to establish a system of space traffic management and the definition and delimitation of outer space?

Due to the situation in which more and more activities are carried out in outer space by not only Member States but also organizations and enterprises, it is necessary to establish and develop a system governing space traffic under the auspices of the United Nations, in order to ensure respect for national sovereignty over airspace.

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

Because of the impacts of science and technology development, suborbital flights for scientific missions and/or for human transportation will be carried out more frequently. Therefore, the management of those flights under international law as well as national regulations and practices of Member States should be discussed in appropriate international forums.

Question (c). 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?

The legal definition of suborbital flights for scientific missions and/or for human transportation has a practical contribution in the current context. In this regard, such a definition needs to be examined in sessions of the Committee on the Peaceful Uses of Outer Space and its subcommittees. These discussions – what is more – should include relevant matters, namely the impact of such a definition on the progressive development of space law, and the legislation applying to suborbital flights for scientific missions and/or for human transportation.

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

No reply.

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

No reply.

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

No reply.

Question (g). 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.

Viet Nam kindly requests the Committee to organize workshops and conferences addressing suborbital flights for scientific missions and/or for human transportation so that States have opportunities to exchange views about methodology and experience in developing and improving their national legislation governing activities in outer space. In order to accelerate the development of international law on outer space, the Office for Outer Space Affairs and the Committee should assist Member States and update information about the development of national legislation, with particular emphasis on the definition of and the delimitation between outer space and airspace, plans to promote systems of space traffic management, and the legal definition of suborbital flights for scientific missions and/or for human transportation.