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**Committee on the Peaceful
Uses of Outer Space**

Questionnaire on possible legal issues with regard to aerospace objects: replies from Member States

Addendum

Note by the Secretariat*

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* The present document was prepared on the basis of replies received from Member States after 13 January 2003.



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Replies received from Member States*

Question 1. Can an aerospace object be defined as an object which is capable both of travelling through outer space and of using its aerodynamic properties to remain in airspace for a certain period of time?

The Netherlands

1. The value of a definition is ultimately related to the objective and provisions of the instrument in which it is used. In the context of the questionnaire, the fundamental question is whether any object that is capable of travelling in outer space should be subject to applicable space law or not. The Government of the Netherlands would answer this question in the affirmative.
2. Notwithstanding the relative value of any definition, the Government of the Netherlands wishes to contribute to a definition of the term “aerospace objects” that distinguishes such objects from aircraft, satellites, rockets, space shuttles, space debris and meteorites. Accordingly, the Government of the Netherlands suggests defining an “aerospace object” as “a human-made object that can proceed to any altitude and that is subject to human control at any altitude as regards its altitude, direction and speed”.
3. Aircraft do not come under this definition because they cannot proceed to any altitude; nor do rockets and space debris because they are not subject to human control as regards their altitude, direction and speed at any altitude; and nor do meteorites because they are not human-made and not subject to human control. Under the definition suggested in paragraph 2, the space shuttle would, arguably, qualify as an aerospace object. However, the United States of America has unequivocally defined and registered its space shuttle as a space object. The space shuttle does not meet the criteria of this definition because it lacks autonomous manoeuvrability in airspace and is not under all circumstances subject to human control as regards its altitude direction, and speed.

Question 2. Does the regime applicable to the flight of aerospace objects differ according to whether it is located in airspace or outer space?

4. With regard to outer space, States are required to exercise jurisdiction over national activities, including activities involving aerospace objects in outer space (art. 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 (General Assembly resolution 2222 (XXI), annex, the “Outer Space Treaty”). The exercise of such jurisdiction follows the registration of the object (art. VIII of the Outer Space Treaty; Convention on Registration of Objects Launched into Outer Space (Assembly resolution 3235 (XXIX), annex, the “Registration Convention”)), but the registration should reflect the nationality of the object (if only to avoid the exercise of extraterritorial jurisdiction). If international space law permits or

* The replies are reproduced in the form in which they were received.

requires a State to exercise jurisdiction over aerospace objects that travel through outer space, the applicable regime will differ according to the applicable national and international law.

5. With regard to airspace, a State is entitled to exercise jurisdiction over an object that travels through airspace on the basis of the principle of territoriality or nationality, or both, unless such exercise is prohibited under international law. If international air law permits or requires a State to exercise jurisdiction over aerospace objects that travel through its airspace, the applicable regime will differ according to the applicable national and international law.

6. The above applies, for example, to the space shuttle. For the flight through airspace, special procedures are applicable in order to prevent accidents with normal aircraft. In the case of the United States, this is not much of a problem, because only airspace of the United States or airspace over the high seas is concerned, and foreign airspace is not entered.

Question 3. Are there special procedures for aerospace objects, considering the diversity of their functional characteristics, the aerodynamic properties and space technologies used, and their design features, or should a single or unified regime be developed for such objects?

7. The Government of the Netherlands is not aware of any existing special national or international procedures for aerospace objects, with the possible exception of the space shuttle (but see replies to questions 1 and 2 in relation to the space shuttle).

8. With regard to the development of special procedures for aerospace objects, that is, a single or unified regime, the Government of the Netherlands has come to the conclusion that such special procedures are required with respect to registration (see reply to question 9), liability (see reply to question 9) and traffic control.

Question 4. Are aerospace objects while in airspace considered as aircraft, and while in outer space as spacecraft, with all the legal consequences that follow therefrom, or does either air law or space law prevail during the flight of an aerospace craft, depending on the destination of such a flight?

9. According to the Government of the Netherlands, the answer to this question does not depend on the purpose of the flight, that is, (a) a flight from one point of the Earth to another (Earth-to-Earth mission) or (b) delivering a crew or payload in outer space and back to Earth (Earth-orbit mission).

10. The Government of the Netherlands is of the opinion that an aerospace object is subject to the relevant rules of the applicable air law while travelling through domestic or international airspace, that is, "spatialist" rules such as traffic regulations, and subject to the relevant rules of the applicable space law while travelling through outer space, that is, spatialist rules such as the right of visit of space vehicles on celestial bodies. Furthermore, according to the Government of the

Netherlands, an aerospace object is subject to the rules of applicable space law that address space objects irrespective of the location, airspace or outer space, of that object, because it is capable of travelling in outer space, that is, functional rules such as requirements pertaining to the safety of passengers of an aerospace object (see also reply to question 1). In this respect, an aerospace object is comparable to an amphibious vehicle that is also equipped to navigate in water while driving on land. It may be added that the content of such functional rules relates to the environment or space in which an object can be found.

Question 5. Are the take-off and landing phases specially distinguished in the regime for an aerospace object as involving a different degree of regulation from entry into airspace from outer space orbit and subsequent return to that orbit?

11. It is the understanding of the Government of the Netherlands that this question seeks to establish whether a right of innocent passage through foreign airspace exists for aerospace objects during take-off and landing phases as opposed to in-flight passage. The answer of the Government of the Netherlands to this question is negative in view of the absence of any practice and, hence, any rule of customary international law with respect to the flight of aerospace objects. The Government of the Netherlands, however, considers the development of special rules for the flight of aerospace objects desirable (see also reply to question 3). Such rules may provide for a right of innocent passage during take-off and landing, as well as for air traffic control procedures for travelling through domestic airspace and international airspace.

Question 6. Are the norms of national and international air law applicable to an aerospace object of one State while it is in the airspace of another State?

12. A State is entitled or required to exercise jurisdiction over an object that travels through its airspace on the basis of the principle of territoriality or nationality, or both, unless such exercise is prohibited under international law (see reply to question 2). With regard to rules of air law that apply to the airspace of a State, for example, the obligation of a vehicle to follow designated traffic lanes, an aerospace object is subject to the law of the State where it is physically present (principle of territoriality). With regard to rules of air law that apply to international airspace, an aerospace object is subject to the law of the State where it is registered (principle of nationality). With regard to rules of air law that apply to aircraft, for example, liability for damage to passengers and cargo under the Warsaw System (Convention for the Unification of Certain Rules relating to International Carriage by Air (Warsaw Convention)), it depends on the qualification of an aerospace object as an aircraft by the State where it is registered (principle of nationality) or the State where it is physically present (principle of territoriality).

Question 7. Are there precedents with respect to the passage of aerospace objects during take-off and/or re-entry into the Earth's atmosphere and does international customary law exist with respect to such passage?

13. The Government of the Netherlands is aware of only one instance of a space shuttle passing through foreign airspace after re-entry into the Earth's atmosphere. During its only flight, the Soviet space shuttle Buran passed through Turkey's airspace for a part of its re-entry phase. However, the lack of autonomous manoeuvrability of the Buran distinguishes this space shuttle from aerospace objects (see reply to question 1). Even if the passage of the Buran through Turkey's airspace without prior consent can be based on a rule of law (see below), the same rule of law may not apply to aerospace objects because they are designed to have autonomous manoeuvrability.

14. In the absence of operational aerospace objects and, hence, of practice, the Government of the Netherlands is of the opinion that no rule of international customary law exists that allows passage without prior consent through foreign airspace of aerospace objects following re-entry into the Earth's atmosphere (on the need for special rules, see reply to question 3). Only cases of accident, distress, emergency or unintended passage may constitute circumstances that preclude the wrongfulness of such passage.

Question 8. Are there any national and/or international legal norms with respect to the passage of aerospace objects during take-off and/or re-entry into the Earth's atmosphere?

15. The Government of the Netherlands is only aware of provisions in national laws. Examples of national laws of States that have not, as yet, replied to this questionnaire and that contain special rules with respect to the passage of space objects after re-entry into the Earth's atmosphere include:

(a) The Commercial Space Act of 1998 (amendment of the Commercial Space Launch Act of 1984, 49 United States Code (USC) 70101 et seq.) that contains provisions with respect to re-entry in the framework of the licensing system for space activities;

(b) The Australian Space Activities Act of 1998 that contains similar provisions.

Question 9. Are the rules concerning the registration of objects launched into outer space applicable to aerospace objects?

16. The Registration Convention applies to space objects launched into outer space, but finds its origin in a provision of the Outer Space Treaty that applies to all objects launched into outer space (art. VIII). Since an aerospace object is designed to take off as if it were an aircraft, taking off from a runway and gradually gaining altitude thanks to the uplifting powers of air streaming over its wings, it cannot be considered launched in the ordinary sense of the word and, hence, would not be

subject to the Registration Convention or to article VIII of the Outer Space Treaty. Since the space shuttle is launched in the ordinary sense of the word, this has been one of the reasons why it has been treated and registered by the United States as a space object.

Question 10. What are the differences between the legal regimes of airspace and outer space?

17. In view of all the differences between the legal regimes of airspace and outer space, the Government of the Netherlands would like to point out that it is not capable of giving an exhaustive answer to this question and instead would like to offer the following succinct and schematic approach:

(a) The rules of air law generally apply to airspace (spatialist basis) or to aircraft (functionalist basis);

(b) The rules of space law generally apply to outer space (spatialist basis) or to space objects (functionalist basis);

(c) With regard to spatialist-based rules, the major difference between the legal regimes of airspace and outer space concerns the existence of sovereignty over national airspace and the absence of sovereignty over any part of outer space;

(d) With regard to functionalist-based rules, the concept of "aircraft" is rather well defined, whereas the concept of "space objects" is not and the application of functionalist-based rules of air law as well as space law to one and the same object is not precluded.
