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**Committee on the Peaceful
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Status and Application of the five United Nations
Outer Space Treaties**

**Responses to the set of Questions provided by the Chair of
the Working Group on the Status and Application of the
Five United Nations Treaties on Outer Space**

Note by the Secretariat

This document contains responses received from Germany and Kazakhstan to the set of questions prepared by the Chair of the Working Group (A/AC.105/C.2/2012/CRP.10) as a basis for continued discussion in the Working Group on the Status and Application of the Five United Nations Outer Space Treaties, including questions related to the three topics identified by the Working Group during the forty-ninth session of the Legal Subcommittee in 2010. The set of questions are contained in document A/AC.105/C.2/2013/CRP.13.

* A/AC.105/C.2/L.288.



Germany

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Responses of Germany to the questionnaire presented by the Chair during the fifty-first session of the Legal Subcommittee (A/AC.105/C.2/2012/CRP.10).

Question: Issues relating to the implementation of the mechanisms of responsibility and liability of the States Parties as provided for by the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and by the Convention on International Liability for Damage Caused by Space Objects.

Could the notion of “fault”, as featured in Articles III and IV of the 1972 United Nations Liability Convention, be used for sanctioning the non-compliance by a State with the Principles adopted by the UNGA or its subordinate bodies and related to space activities, such as the Resolution on Principles relating to the Use of Nuclear Power Sources in Outer Space (47/68) or the UNCOPUOS Guidelines relating to the Mitigation of Space Debris?

Answer: According to Germany’s understanding of the law, the question of whether generally recognized standards such as DIN norms were in fact met is important in interpreting open legal terms such as “adherence to current best practice” which are of relevance to liability. To this extent, it would also seem reasonable to attach appropriate significance at international level to standards and soft law regulations which have often been arrived at after many years of consultation. One also has to recognize that consensus-building and updating of standards nowadays seem to take place more or less exclusively in the field of soft law. Today it is almost impossible to get a piece of binding international law adopted quickly. Not even in universally recognized problem areas, such as space debris, are any specific legal norms being set. If no due significance were attached to soft law standards (for the interpretation of responsibility and liability), there would be virtually no relevant development of the law at international level.

Question: Could the notion of “damage”, as featured in Article I of the 1972 United Nations Liability Convention, be used to cover the loss resulting from a manoeuvre performed by an operational space object in order to avoid collision with a space object or space debris not complying with the UNCOPUOS Guidelines relating to the Mitigation of Space Debris?

Answer: Such a concrete interpretation of the notion of damage and causality would presuppose sophisticated space traffic management with definite rules of conduct. To that extent, the loss described in the question could come under “damage” within the meaning of Article I in abstract terms, but — as the regulations stand at present — not in concrete terms.

Question: Are there specific aspects related to the implementation of the international responsibility, as provided for in Article VI of the 1967 United Nations Outer Space Treaty, in connection with the UNGA Resolution on Principles relating to the Remote Sensing of the Earth from Outer Space (41/65)?

Answer: The Principles relating to the Remote Sensing of the Earth from Outer Space deal among other things with the provision of data to third States and in particular to sensed States on a non-discriminatory basis. Principle XIV explicitly refers to compliance with Article VI of the Outer Space Treaty. Compliance with international law means, inter alia, that the export/sharing of data, just like the export of other economic assets, must not be used in order to exacerbate international conflicts. A minimum standard is therefore required for security controls; Germany would consider the Act on Satellite Data Security (*Gesetz zum Schutz von Gefährdung der Sicherheit der Bundesrepublik Deutschland durch das Verbreiten von hochwertigen Erdfernerkundungsdaten, SatDSiG*), for example, to embody such a standard.”

Kazakhstan

[Original: Russian]

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Responses of Kazakhstan to the questionnaire presented by the Chair during the fifty-first session of the Legal Subcommittee (A/AC.105/C.2/2012/CRP.10).

Status and application of the five United Nations treaties on outer space

- 1. Issues relating to the Moon Agreement, including possible points of consensus or of concern among States about the Agreement and its implementation.**
- 1.1 Do the provisions of the 1967 United Nations Outer Space Treaty constitute a sufficient legal framework for the use and the exploration of the Moon and other celestial bodies?**

In this day and age, international cooperation in the field of space exploration is inconceivable without the relevant legislation and appropriate international legal regulation, which is becoming increasingly important in the light of the globalization of outer space activities. Therefore, 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 is an example of the inherent need for inter-State relations in the international legal regulation of space exploration.

The 1967 Treaty laid the foundations, reflecting the interest of all humankind in the peaceful exploration and use of outer space. However, the rapid development of space sectors, the commercialization of space activities, new technically complex issues, such as the problem of space debris and the use of nuclear power sources in outer space, and also the need to define intellectual property rights more precisely pose many difficult legal questions and may possibly require an improvement in general standards and practices, in order that relevant forms of activity may be implemented on a systemic and regulatory basis.

It should be noted that today’s level of space activity is defined by a legal framework that has not kept pace with the current scope of space activity. The Outer Space Treaty was developed without sufficient experience of the legal regulation of space activities and in the absence of legal interpretations of basic concepts of international space law. The definitions of basic terms related to space law were not developed in a unified way at international level.

Our consideration of the problem of the legal regulation of activities on the Moon and the planets, including future activities related to the exploitation and use of the planets' natural resources, leads us to the conclusion that, in spite of certain successes in this field, the international community is, effectively, embarking on a long and complicated law-making path. Those aspects of space activity that are currently regulated by international space law represent just a fraction of those that the jurisprudence of States will have to deal with in the future.

In order to appropriately regulate new areas of development of States' space activities, it will be necessary to establish new principles of international space law. The following may be included among these new principles:

- Guaranteed safety of space flights and space activity in general, including the obligation to take measures to ensure the technical reliability of space technology, both in space and on the ground, and prevent acts of illegal interference in space activities;
- Prohibition of all uses of outer space for non-peaceful purposes, including the prohibition of weapons of any kind or military technologies and their composite elements;
- International material liability of private companies for space activities in which they engage and liability for damage caused by space objects.

1.2 What are the benefits of being a party to the 1979 United Nations Moon Agreement?

The Moon Agreement offers a specific international legal framework commended by the General Assembly and accepted by the international community, and constitutes a proactive instrument for achieving consensus among all States, taking into account the interests of developing countries.

The Moon Agreement does not preclude any modality of exploitation, by public or private entities, or prohibit the commercialization of such resources, provided that such exploitation is compatible with the principle of a common heritage of mankind.

The following factors should be taken into consideration as regards the benefits of becoming a party to the Agreement:

1. To date, no other solution allowing the possible exploitation of the natural resources of celestial bodies has been proposed under the provisions of the United Nations treaties on outer space;
2. The Moon Agreement contributes to preventing the development, placement and use of armament systems and weapons in or from outer space (art. 3);
3. Some of the provisions unique to the Moon Agreement are of particular interest for the implementation of projects, activities and missions in that they clarify or complement principles, procedures and notions contained in the other outer space treaties that are applicable to the Moon and other celestial bodies.

Participation in the Moon Agreement offers substantial benefits and guarantees with regard to participation in the other United Nations treaties on outer space. Not only does it offer a better understanding of concepts of international space law and a better description of relevant concepts and procedures, it also, above all, represents

a mutual commitment to seeking a multilateral solution for the exploitation of the natural resources of celestial bodies in accordance with the general principles of outer space law.

1.3 Which principles or provisions of the 1979 United Nations Moon Agreement should be clarified or amended in order to allow its wider adherence by States?

The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (the Moon Agreement) was adopted by the United Nations General Assembly on 5 December 1979. It was opened for signature on 18 December 1979 and came into force on 11 July 1984. In practice, however, it is supported by a minimal number of States that have ratified the main international space law treaties.

The main concern of States that did not become party to the Agreement was the principle of the common heritage of mankind and the international regime proposed in the Agreement for the regulation of the exploitation of the Moon's natural resources.

The disadvantages of the Agreement include the fact that, while establishing a legal regime for the Moon and other celestial bodies in the solar system (art. 1, para. 1), the Agreement does not provide a legal definition or even an interpretation of the term "celestial body".

This situation should be considered a serious deficiency in today's situation, since it represents a gap in international space law and may very shortly, with the prospect of the exploration of celestial bodies opening up further, give rise to disagreements on various issues and lead to international disputes.

Thus article 1, paragraph 1, of the Moon Agreement states that, "the provisions of this Agreement relating to the Moon shall also apply to other celestial bodies within the solar system, other than the Earth, except insofar as specific legal norms enter into force with respect to any of these celestial bodies".

Meanwhile, article 1, paragraph 3, states that "this Agreement does not apply to extraterrestrial materials that reach the surface of the Earth by natural means".

The conclusion that should be drawn from these provisions is that, under the Moon Agreement, celestial bodies are understood to include all natural extraterrestrial materials found in outer space within the solar system, without exception.

Under the Moon Agreement, therefore, all natural substances found in outer space fall within this definition, which from a legal point of view cannot be considered correct.

In order to ensure the wider participation of States in the Moon Agreement, it is necessary to take into account modern aspects of space activities. It is thus imperative to strengthen measures to prohibit the placement of conventional weapons in outer space, in order to prevent any possibility of an arms race in outer space. Moreover, the Convention does not include provisions to regulate methods for resolving possible disputes nor does it contain a precise interpretation of individual terms (outer space, space object, Earth orbit and celestial bodies, among others).

2. Issues relating to the implementation of the mechanisms of responsibility and liability of the States parties as provided for by the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the Convention on International Liability for Damage Caused by Space Objects.

2.1 Could the notion of “fault”, as featured in Articles III and IV of the 1972 United Nations Liability Convention, be used for sanctioning the non-compliance by a State with the Principles adopted by the UNGA or its subordinate bodies and related to space activities, such as the resolution on Principles relating to the Use of Nuclear Power Sources in Outer Space (A/RES/47/68) or the COPUOS Guidelines relating to the Mitigation of Space Debris?

There is no consensus in international legal theory on the applicability of the notion of “fault” in the legal system. Some specialists consider that, instead of “imputation of fault”, it would be better to use the term “attribution to a party of conduct that constitutes a violation of international obligations”. Others believe that it is essential to apply the notion of fault, which in international law, unlike in systems of national law, has a specific meaning: namely, that the established fact of an internationally wrongful act should in itself be deemed as fault. In this case, imputation of fault is expressed through the complainant’s claim that an offence has been committed and that there is a liable party (it is also essential to take into account the fact that other parties may not react to a minor offence committed by one party and that there may therefore be no imputation of fault. In other words, liability is not attributed, although it arises, in principle, at the time of the offence).

International law also covers cases of liability for performing certain actions that are per se lawful. This has led to the emergence of the legal concept of absolute liability for unintentional harm. One legal instrument of this type is the 1972 Convention on International Liability for Damage Caused by Space Objects (“the Liability Convention”). Article II of the Convention states that the 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”. This type of liability is not a general principle of liability and exists only in treaty law. In other words, absolute liability does not apply to cases not regulated by special agreements.

In order to provide an objective response to this question, it is essential that improvements be made to the terminology used in international law. Clear definitions must be developed that reflect the full meaning of a given term (in this case, the notion of “fault”).

2.2 Could the notion of “damage”, as featured in Article I of the 1972 United Nations Liability Convention, be used to cover the loss resulting from a manoeuvre performed by an operational space object in order to avoid collision with a space object or space debris not complying with the COPUOS Guidelines relating to the Mitigation of Space Debris?

To respond to this question, we must first of all clarify the notion of “damage” and identify the State of registry of the space object.

Of particular importance for the international legal regulation of the space environment is the 1972 Liability Convention. Article II of the Convention attributes absolute liability for damage caused by space objects on the surface of the

earth or to aircraft flight to the launching State. In the event of damage being caused to a space object of one launching State by a space object of another launching State, the latter is liable only if the damage is due to its fault or the fault of persons for whom it is responsible.

Here, it is important to bear in mind that liability only arises as a result of direct material damage.

Article I of the Convention defines “damage” as loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations.

To identify the party at fault, it is important to establish which State has ownership of the space object.

It should be recalled that, under the 1967 Outer Space Treaty, specifically article VIII of the Treaty, the registration of a space object is related to the jurisdiction over that space object and of everything that is on board. Registration should therefore be seen as the basis for linking a space object with the jurisdiction of the registering States. The need, above all, is to ensure that space objects and their position can be identified and that their data can be accessed both in the event that damage is caused by them and for the purposes of managing orbital traffic.

2.3 Are there specific aspects related to the implementation of the international responsibility, as provided for in Article VI of the 1967 United Nations Outer Space Treaty, in connection with the UNGA resolution on Principles Relating to the Remote Sensing of the Earth from Outer Space (A/RES/41/65)?

The adoption of the Principles Relating to Remote Sensing of the Earth from Outer Space (ERS) represents an important step forward in the continuing development of international space law and international law as a whole. The principles are founded on many years of experience of harmonizing the positions of States and are backed up by the authority of the United Nations. And, though the Principles do not directly entail obligations on States, they certainly serve as a solid legal basis for their ERS policy.

The effectiveness of General Assembly resolution 41/65 depends to a great extent on finding suitable solutions to the problems of international liability. Realizing this, developing countries supported the idea of settling them at both stages of sensing, on the basis of the relevant provisions of international space law, that is, establishing the liability of States for all national ERS activities. Western States, with the United States of America at their head, maintained a diametrically opposite position. They expressed their opposition to the extension of such liability to terrestrial activity, aside from liability in accordance with the universally acknowledged principles of international law. Clearly, the legal regulation of the space-based phase of ERS cannot be separated from the regulation of the terrestrial phase, just as an action cannot be separated from its result. The data-collection phase does not give rise to specific difficulties and is sufficiently regulated by the Outer Space Treaty. Specific difficulties arise during the phase where ERS data on foreign territory are used. Therefore, although the text of Principle XIV directly provides for the responsibility of States for their national activities in the use of remote sensing satellites, it would make sense to extend such responsibility to terrestrial ERS stations and to establish States’ responsibility to ensure strict

observance of the Principles by all organizations, whether governmental or non-governmental, and thus direct international responsibility of States for their actions. This conclusion is fully in line with Principle I(e), and the content of the Principles as a whole, which are characterized by an integrated approach to resolving such issues.

The position of the United States, which aims to strictly delimit responsibility with regard to ERS according to where the activity takes place, is based on a literal interpretation of article VI of the Outer Space Treaty. Clearly, such a position does not take due account of the real situation. The principle of State responsibility, as it exists in general international law, cannot guarantee the effective legal regulation of ERS activities from outer space. The general rule is that States bear responsibility for the actions of their bodies. However, as we can clearly see from the plans to commercialize space-flight being implemented in many Western countries, in ERS it is mostly private companies that will be operating.

Assigning responsibility to States for the ERS activities of juridical persons subordinate to them will safeguard the sovereign rights of all Member States engaging in space activities. That is why fairly strict measures for State control of private capital, including the licensing of the production and use of the relevant equipment, periodic inspections of terrestrial stations receiving and processing raw ERS data and rules on the reproduction and sale of images, are prescribed in the United States Land Remote Sensing Commercialization Act of 1984.

An even more complex problem is that of assigning State responsibility for material damage caused by the ERS-related activities of juridical persons. Applied space science, and ERS in particular, is gradually moving towards an economic model. This requires that the independence of business entities be clearly established and that States be free of liability for the debts of such entities, including obligations arising from damage. Issues of liability for material damage are thus settled through private law, without placing further strain on international relations that are already complicated. Such an approach functions reasonably effectively in international shipping, international civil aviation and other areas.

It is also possible to seek compensation for material damage through private-law channels under international space law. Thus, article XI of the Convention on International Liability for Damage Caused by Space Objects (1972) sets out the right of States, and of natural or juridical persons that they represent, to pursue a claim in the courts or administrative tribunals or agencies of a launching State. A State need not pursue such a claim and exhaust local remedies prior to lodging a similar claim through diplomatic channels. However, if it pursues a claim, the State forfeits its right to turn to the public-law channels for claiming compensation for damage described in article IX of the Convention. Private law thus receives a degree of priority in this case. It would also be advisable to use private law to obtain compensation for material damage caused as a result of ERS, particularly given that Principle XIV of General Assembly resolution 41/65 emphasizes that it is possible to apply the norms of international law on State responsibility in this area.

3. Issues related to the registration of space objects, notably in the case of transfer of space activities or space objects in orbit, and the related possible legal solutions for the States involved.

3.1 Is there a legal basis to be found in the existing international legal framework applicable to space activities and space objects, in particular the provisions of the 1967 United Nations Outer Space Treaty and of the 1975 United Nations Registration Convention, which would allow the transfer of the registration of a space object from one State to another during its operation in orbit?

The registration of a space object is of importance for the study and utilization of outer space. The obligation to register applies to all objects launched into outer space, regardless of their status, nature or purpose.

Article II, paragraph 1, of the Registration Convention includes a provision that a space object launched into earth orbit or beyond must be registered by the launching State by means of an entry in an appropriate registry.

Article II, paragraph 2, of the same Convention also includes a provision that, where there are two or more launching States in respect of a space object, they must jointly determine which one of them will register the object in accordance with paragraph 1 of the article.

According to article VIII of the 1967 Outer Space Treaty, the State on whose registry a space object is carried retains jurisdiction and control over such object, and over any personnel thereof, while in outer space. Therefore, registration may be transferred only between the launching States of the same space object. Under article VIII of the Treaty and the provisions of the Registration Convention (article II in particular), a space object may not be registered by a State that is not a launching State.

There is thus no mechanism for the transfer of registration of a space object from one State to another during its operation in orbit (that is, after its launch) under the norms of international law concerning space activities and space objects.

3.2 How could a transfer of activities or ownership involving a space object during its operation in orbit from a company of the State of registry to a company of a foreign State be handled in compliance with the existing international legal framework applicable to space activities and space objects?

The core United Nations treaties do not include provisions for the transfer of the ownership rights of a space object during its operation in orbit. Thus, the 1967 Outer Space Treaty lays down the fundamental principles for the study and utilization of outer space, placing the emphasis on peaceful cooperation for peaceful purposes; the provisions of the 1972 Convention on International Liability for Damage Caused by Space Objects focus on the observance of the norms of international law as regards international liability; and the Registration Convention calls for the establishment of a mandatory registration procedure for space objects with a view to providing full accountability and identification to ensure international security.

The International Institute for the Unification of Private Law (UNIDROIT) Convention on International Interests in Mobile Equipment was opened for signature on 16 November 2001 in Cape Town, South Africa. The Convention aims

to provide assistance in financing the acquisition and effective utilization of mobile equipment that is highly valuable or of special economic significance.

The Convention provides for the registration of information that is of practical importance for commercial ends. First and foremost, this applies to information on the right to ownership of space objects, their rental or a change of owner. This does not prejudice the procedure relating to the registration of objects launched into outer space under the Registration Convention and, furthermore, allows for the transfer of a space object (a clearly identifiable object belonging to one of the categories of objects listed in article II, paragraph 3, of that Convention) by means of the signing of a leasing agreement whereby one person (the lessor) grants title to the possession or control of an object (with or without an option to purchase) to another person (the lessee) in return for a rental or other payment.

3.3 What jurisdiction and control are exercised, as provided for in Article VIII of the 1967 United Nations Outer Space Treaty, on a space object registered by an international intergovernmental organization in accordance with the provisions of the 1975 United Nations Registration Convention?

With regard to jurisdiction and control over a space object launched by multiple launching States, the State that has registered a space object retains jurisdiction and control over that object, in accordance with article VIII of the Outer Space Treaty. In the event of a planned change to jurisdiction and control over a space object, an appropriate agreement must be concluded among launching States in accordance with article II of the Registration Convention.

Under that article, when “a space object is launched into Earth orbit or beyond”, the launching State must register the space object by means of an entry in an appropriate registry and inform the Secretary-General of the United Nations of the establishment of such a registry, thus securing its jurisdiction and control over the object.

Under article VIII of the Outer Space Treaty, “jurisdiction and control” related to the right of ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts.

The Convention establishes appropriate terminology to clarify the notions of “space object”, “launching State” and “State of registry”, as its provisions also apply to any intergovernmental organization that conducts space activities and has declared its acceptance of the rights and obligations provided for in the Convention.