Space Resources Exploitation from the International and Domestic Law Perspectives

The Russian Approach

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Abstract

Prospective mining of outer space resources, including those of asteroids and other celestial bodies, has become one of the key topics on the international agenda due to the adoption by the US of a new piece of national legislation – the Space Resource Exploration and Utilization Act of 2015.[1] This national regulatory initiative raises serious concerns when it comes to its compliance with provisions of the fundamental space treaties, in particular the obligation of states under Article II of the 1967 Outer Space Treaty,[2] stating that "outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means".

A whole range of legal issues has to be addressed under the current circumstances, such as a lack of a uniform legal definition of outer space, celestial bodies and their resources; absence of an international legal regime of private space activities; the need for a generally accepted legal mechanism to govern the exploitation of extra-terrestrial natural resources. These are only a few directions for further deliberations and disputes. In view of the high public attention given to the US new law and the topic it relates to, the multifaceted problem of space resource mining should be a priority not only for separate states, but for the international space community as a whole.

This article presents a review of the key international space law principles which extend to prospective space resource mining, as well as the modern Russian legislation and main political documents in the area of exploration and exploitation of outer space from the standpoint of their applicability to the potential exploitation of extra-terrestrial resources as a brand new area of future space activities.

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1 Public Law 114-90, November 25, 2015. Library of Congress, URL: https://www.congress.gov/114/plaws/publ90/PLAW-114publ90.pdf (last visited 27.03.2017).

2 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. UNGA Resolution 2222 (XXI), annex, adopted on 19 December 1966, opened for signature on 27 January 1967, entered into force on 10 October 1967.

I. Commercialization as the Main Trend in Space Activities

Private space activities as a relatively new subject for regulation do not fall under the scope of regulation of the existing space treaties adopted in the 60-70s of the XX century. Article VI of the 1967 Outer Space Treaty only imposes on states parties to the Treaty "international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty". Nothing is said about the essence, scope, boundaries of and requirements to private space activities. However, the said Article VI also stipulates that states shall authorize and continuously supervise non-governmental space operations, so appropriate control regimes of private space activities have to be at the national level.

Thus, the existing international law gives no answer to the most important question raised under the conditions of space commercialization: how to ensure the balance of public and commercial interests. On the one hand, the need to promote and encourage projects aimed at commercial benefit, and on the other – to ensure strict adherence to the fundamental principles and norms of the ISL, primarily those on the exploration and exploitation of outer space for the benefit and in the interest of all mankind, for peaceful purposes, on the basis of non-discrimination and international cooperation, as well as the new principle of LTS. National space legislation might an efficient tool for solving the commercial aspects of the problem, when the public law aspect should be a priority on the supra-national level.

II. Commercial Exploitaion of Space Resources from the International Law Perspective

Prospective mining of outer space resources, including those of asteroids and other celestial bodies, has become a new vector of development of the LTS topic due to the adoption by the US of a new piece of national legislation – the 2015 Commercial Space Launch Competitiveness Act[3] whose main objectives are: "to facilitate the commercial exploration and utilization of space resources to meet national needs; discourage government barriers to the development of economically viable, safe, and stable industries for the exploration and utilization of space resources in manners consistent with the existing international obligations of the United States; and promote the right of U.S. commercial entities to explore outer space and utilize space resources,

3 Public Law 114-90, November 25, 2015. Library of Congress, URL: https://www.congress.gov/114/plaws/publ90/PLAW-114publ90.pdf (last visited 27.03.2017).

in accordance with such obligations, free from harmful interference, and to transfer or sell such resources".[4]

This national regulatory initiative raises serious concerns when it comes to its compliance with the established fundamental international law regime of outer space activities. The constitutional traditions of the majority of states show that the principle of primacy of international law over the national one is generally recognized and respected. However, several states tend to interpret this principle alternatively in support and for promotion of their own interests. This situation is happening with the application of international space law provisions as a branch of the general international law, which is an alarming case when the freedom of exploration and use of outer space for peaceful purposes for the benefit and in the interests of all countries, without discrimination of any kind, on a basis of equality and in accordance with international law, and all the other fundamentals of space law can be disregarded when it comes to national space operations.

In this context special attention should be given to the obligation of states under Article II of the Outer Space Treaty, namely: "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means".

The use of the definition "national" in the above provision implies that such appropriation would be in the framework of *national activities* in outer space, which in their turn are a subject of international responsibility of respective states in accordance with Article VI of the Outer Space Treaty. Due to the fact that national activities in outer space can be carried out both by governmental agencies and by non-governmental entities,[5] it can be concluded that the prohibition of national appropriation of outer space, including the moon and other celestial bodies, is equally relevant to all non-governmental (private) entities, both legal and physical.

Another important legal aspect arises from Article 11 para. 5 of the 1979 Moon Agreement, which declares that practical exploitation of extra-terrestrial resources will objectively require a respective detailed and internationally accepted legal regime to govern the exploitation of the extra-terrestrial natural resources. Such a regime would be established when space resources exploitation becomes feasible. However, it is unlikely that these deliberations take place due to the fact that the Moon Agreement is not as popular as the OST and the other space treaties,[6] consequently its provisions are not binding to a large majority of spacefaring nations.

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4 § 51302(a) of the 2015 Commercial Space Launch Competitiveness Act.

5 Further in Article VI of the Outer Space Treaty.

6 The Moon Agreement was ratified only by seventeen states, when the OST received 105 ratifications, the Rescue Agreement – 95, the Liability Convention – 94, and the Registration Convention – 63 ratifications. UN Doc. A/AC.105/C.2/2017/CRP.7

It should be added that despite the absence – either in international space law or any existing national legislation on space activities – of an explicit legal definition of a celestial body, in practice any reference to a celestial body implies the body as a whole, including its surface and all the substance (subsoil, depths) below the surface, unless specifically mentioned otherwise.

III. Russian Space Law and Policy Pertaining to Space Resources

The modern Russian legislation in the area of exploration and exploitation of outer space, the basis of which being the 1993 Law of the Russian Federation on Space Activities,[7] does not provide any specific regulation of resource mining in outer space. At the same time the existing definition of space activities given in Article 2(1) of the above Law states that "space activities shall imply any activities connected with direct operations on the exploration and exploitation of outer space, including the Moon and other celestial bodies". This formula is quite broad, especially that the list of the main directions of space activities is not exhaustive and may include "other activities performed with the use of spacecraft" (Article 2(2) *ibid.*).

It is interesting that space resource mining is mentioned in one of the key political documents of Russia in the area of space activities – the Keystones of State Policy of the Russian Federation in the Area of Space Activities for the Period till 2030 and with a Further Perspective.[8] The document in its Clause 5(c) proclaims that "state interests of the Russian Federation in the area of space activities shall be as follows, *inter alia* <…> obtaining scientific data on space, Earth and other celestial bodies for the utilization of extra-terrestrial resources".

Following the above provisions, one could conclude that in principle the current space law and policy of the Russian Federation does not expressly forbid resource mining beyond the Earth. However, the question is how to interpret the norms mentioned above in full conformity with the established legal traditions of Russia. First and foremost, it should be always remembered that, according to Article 15(4) of the 1993 Constitution of the Russian Federation,[9] one of the fundamental legal principles in this country is primacy of international law over national law, which reads as follows:

"Status of International Agreements relating to activities in outer space as at 1 January 2017", URL: http://www.unoosa.org/documents/pdf/spacelaw/treatystatus/AC105_C2_2017_CRP07E.pdf (last visited 28.03.2017).

7 Law No. 5663-I, adopted on 20 August 1993, last amended on 13 July 2015 (Law on Space Activities). *The Russian Gazette*, No. 186, 6 October 1993.

8 Document No. Pr-906, approved by the President of the Russian Federation on 19 April 2013.

9 Adopted by referendum on 12 December 1993, last amended on 21 July 2014. *The Russian Gazette*, No. 237, 25 December 1993.

> "The commonly recognized principles and norms of international law and treaties of the Russian Federation are a component part of its legal system. If a treaty of the Russian Federation sets forth rules other than prescribed by national law, the rules of the treaty shall apply".

This constitutional principle is fully applicable to international space law as a branch of the general international law,[10] which means that the fundamental international space law principles and provisions of the 1967 Outer Space Treaty[11] and other space treaties, to which Russia is a party,[12] have a predominant legal force in respect of the national space legislation. Thus, the freedom of exploration and use of outer space for peaceful purposes for the benefit and in the interests of all countries, without discrimination of any kind, on a basis of equality and in accordance with international law, and all the other fundamentals of space law are applicable to national space operations. The 1993 Law on Space Activities confirms this conclusion by stating that,

> "The area of space activities is regulated in accordance with the Constitution of the Russian Federation, *generally recognized principles and provisions of international law and international agreements of the Russian Federation*, the present Law, other federal laws and other regulatory acts of the Russian Federation"[13]

in its Article 1 and further in Article 4 listing the principles of space activities which fully correspond to those declared by the Outer Space Treaty.
Special attention is given to the obligation which the Russian Federation undertook under Article II of the Outer Space Treaty, namely:

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10 See, e.g.: International Law: A Treatise (5th edition) / Edited by S.A. Egorov. Moscow, Diplomatic Academy of the Russian Federation, 2014. P. 359.

11 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies // UNGA Resolution 2222 (XXI), annex, adopted on 19 December 1966, opened for signature on 27 January 1967, entered into force on 10 October 1967.

12 The Russian Federation signed and ratified four out of five fundamental space treaties: the 1967 Outer Space Treaty, the Convention on International Liability for Damage Caused by Space Objects (UN GA Resolution 2777 (XXVI), annex, adopted on 29 November 1971, opened for signature on 29 March 1972, entered into force on 1 September 1972), the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (UN GA Resolution 2345 (XXII), annex, adopted on 19 December 1967, opened for signature on 22 April 1968, entered into force on 3 December 1968) and the Convention on Registration of Objects Launched into Outer Space (UN GA Resolution 3235 (XXIX), annex, adopted on 12 November 1974, opened for signature on 14 January 1975, entered into force on 15 September 1976).

13 Italics added. – O.V.

> "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means".

The use of the definition "national" in the above provision implies that such appropriation would be in the framework of *national activities* in outer space which in their turn are a subject of international responsibility of respective states in accordance with Article VI of the Outer Space Treaty. Due to the fact that national activities in outer space can be carried on both by governmental agencies and by non-governmental entities,[14] the space law doctrine in Russia[15] strongly supports the view that the prohibition of national appropriation of outer space, including the moon and other celestial bodies, is equally relevant to all non-governmental (private) entities, both legal and physical.

It should be added that despite the absence of an explicit legal definition of a celestial body (either in international space law or national legislation on space activities in Russia) it is assumed in practice that any reference to a celestial body implies the body as a whole, including its surface and all the substance (subsoil, depths) below the surface, unless specifically mentioned otherwise.

Thus, the principal approach to the exploitation of space resources remains traditional:

1) such activity can become a reality only if exercised through a wide international cooperation;
2) adherence to the basic international space law principles is essential;
3) practical exploitation of extra-terrestrial resources objectively requires a respective detailed and internationally accepted legal regime, as rightfully mentioned in Article 11 of the 1979 Moon Agreement,[16] in order to ensure a balance of interests of the private sector eager to exploit new opportunities and gain profit, and the government bound by its international obligations, including full responsibility for national space activities.

IV. Conclusions

The above analysis shows that space activities, connected with an increased risk and a potential danger to human life and health, property, the

14 Further in Article VI of the Outer Space Treaty.

15 See, e.g.: Gennady P. Zhukov. International Space Law and the Challenges of the XXI Century. To the 50th Anniversary of the flight by Yuri Gagarin in outer space. Moscow: RUDN, 2011. P. 46-47.

16 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies // UNGA Resolution 34/68, annex, adopted on 5 December 1979, opened for signature on 18 December 1979, entered into force on 11 July 1984.

environment of the Earth and space, require a comprehensive international regulation in order to ensure stability, predictability, transparency and efficiency of all operations in outer space – that is the long-term sustainability of space activities. One of the main factors to be considered is space commercialization, a global and irrevocable process questioning the whole established international legal system. International space law should ensure harmonization of national regimes governing private space operations, provide for the balance of public and commercial interests in the exploration and use of space. The problem of space resource mining as the challenge to the long-term sustainability of space activities should be a priority not only for separate states, but for the international space society as a whole.