

The Draft Law of Ukraine “On the Extraction and Utilization of Natural Resources of the Moon and Other Celestial Bodies”

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The development of space resource activities is happening now. In the absence of a clear framework to govern these activities, there is a need to examine the concepts that are being discussed to ensure that they meet existing treaty obligations regarding on-orbit operations and space resource rights. These concepts need to enable, support and coordinate the use of space resources. The international legal framework applies to space resource activities. Primary attention should be paid to the provisions of the Outer Space Treaty and The Moon Agreement. The utilization of space resources has potential for the future of humankind. To create an enabling environment for space resource activities, we have written the draft Law of Ukraine “On the Extraction and Utilization of Natural Resources of the Moon and Other Celestial Bodies.” Provisions of this Draft establish rules concerning the jurisdiction and control over products created in space used in space activities actors and their programs for the extraction and exploitation of natural resources of space bodies, conditions of application of technology, equipment, and devices during the extraction and exploitation of natural resources of space bodies; admission, restriction, and prohibition of exploitation of resources of space bodies; public safety and environmental protection, responsibility for violating the law during the extraction and use of space resources. Establishing a legal framework for the extraction and use of resources from space bodies is a significant issue at present. International recognition of the legality of the use of space resources can ensure support for the legality of domestic laws on the use of space resources by international space law.

Keywords: space activities, space resource activity, space object, operator, rules of space activity, privatization and Commercialization of outer space.

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Section 1. Terms

Article 1. Definition of terms and concepts

In this Law, the following terms are used in the following meaning:

Exploitation activities: activity in outer space, including on celestial bodies,¹ meaning asteroids or on any other natural body present in outer space, to extract mineral resources from those bodies to transfer them, before or after transformation, to the Earth, with the intent to use them for governmental or commercial business.

Space activities: space research, use of outer space, development, production, repair and maintenance, testing, operation, management of space objects, ensuring the launch and return of spacecraft, their constituent parts from outer space to the Earth.

Space resource activity: an activity conducted in outer space to search for space resources, the recovery of those resources and the extraction of raw mineral or volatile materials therefrom, including the construction and operation of associated extraction, recovery, processing and transportation systems.²

Space resource: an extractable and/or recoverable abiotic resource of any kind in situ in outer space.³

Space resource utilization (in-situ resource utilization / ISRU): In situ resource or other is the collection, processing, storing, and use of materials encountered in the course of human or robotic space exploration that replace materials that would otherwise be brought from Earth to accomplish a mission-critical need at reduced overall cost and risk (Sacksteder & Sanders, 2007).

ISRU is a legitimate activity under Article 1, Article 2 of the Outer Space Treaty, as it provides for freedom of use, exploration, and research in outer space (ST/SPACE/11, 2002).

Near-Earth resources (NEERs): resources which include those of the Moon and near-Earth asteroids. NEERs include: potentially vast stores of water, iron, and platinum-group metals among the NEA population; so-called “peaks of eternal light,” i.e., places of uninterrupted sunlight (for solar energy collection) and crater areas in more or less permanent darkness (able to harbor water ice) on the Moon; He3 in the lunar regolith; and the relatively banal resource of terrestrial orbital niches.⁴

¹ In astronomy an astronomical object or celestial object is a naturally occurring physical entity, association, or structure that exists in the observable universe. In astronomy, the terms object and body are often used interchangeably. However, an astronomical body or celestial body is a single, tightly bound, contiguous entity, while an astronomical or celestial object is a complex, less cohesively bound structure, which may consist of multiple bodies or even other objects with substructures (Task Group, 2008).

² Recoverability is added to the definition, alongside extractability, to account for some resources being eventually harvested or collected from a surface and not exactly extracted therefrom, because of evolving technology.

³ According to the understanding of the Working Group, this includes mineral and volatile materials, including water, but excludes (a) satellite orbits; (b) radio spectrum; and (c) energy from the sun except when collected from unique and scarce locations (Building, 2019).

⁴ Only a small percentage of the NEA population is profitably accessible in the absence of distant, futuristic technology; only so much of the lunar surface is permanently illuminated (or shadowed); the He3 concentration in the lunar regolith is very low, geographically differentiated, and reduces with depth concentration levels are likely to be even lower); and, as is already well-known, there are only so many available orbital allocations.

Near-Earth asteroids or NEAs are small Solar System bodies that have their orbits very close to Earth.⁵

Regolith: is an important feature of airless bodies for a host of reasons. One is due to simple geometric considerations alone: 6% of the volume of a 1-km sphere is within 10 m of its surface, for instance, and the overturn and exhumation processes in regolith increases the likelihood that a given mass has spent time at the surface of an airless body. Regolith is an excellent thermal insulator. It blankets underlying material and buffers temperature changes. It also protects the target bedrock from the impacts of small-to-moderate size, redistributing energy. Variations in the regolith can create pockets that sequester volatiles (Grier & Rivkin, 2018).

Solar wind-implanted volatiles: are resources, with the advantage that their extraction from the regolith can be achieved by heating alone. This volatiles has several potential applications, including their use as a feed product to reduce metal oxides such as FeO for the production of O and H₂O. The main solar wind-implanted volatiles includes the elements H, N, C, and He. These elements can be important for various aspects of lunar exploration and the maintenance of a lunar outpost, and volatile extraction from the regolith may reduce the requirements for the replenishment of these elements from terrestrial sources. Volatile extraction is probably the simplest example of potential ISRU, but because the abundance of volatile elements in the regolith is in general fairly low (e.g. of the order of 50 ppm by mass in the case of H), their practical application to future exploration requires further investigation (Crawford & Anand, 2014).

Space object: an object launched into outer space from Earth, including parts thereof as well as its launch vehicle and parts thereof.

Space-made product: a product made in outer space wholly or partially from space resources.⁶

Objects of space activity: material objects of artificial origin, designed, manufactured, and operated both in space (space segment, space infrastructure) and on the Earth’s surface (ground segment, ground infrastructure) for research and use outer space.

Subjects of space activity: enterprises, institutions, and organizations of any form of ownership and organizational and legal form, including international and foreign, which carry out space activities.

Operator: a governmental, international or non-governmental entity conducting space resource activities.⁷

Commercial space resource utilization entity: an entity is providing space resource exploration or utilization services, the control of which is held by persons duly organized under the laws of a State.

Declaration on conducting economic activity in the field of space activities: a document by which the subject of space activities notifies the central executive body that ensures the

⁵ NEAs are asteroids with perihelia below 1.3 AU. From a Δv perspective, they are the most attractive mining candidates among the asteroids of the solar system. There is a considerable mass of NEAs which can be accessed at Δv values below that required to retrieve resources from the lunar surface as much as 10¹⁴ kg by some estimates (Yárnoz et al., 2013; Access, 2015)

⁶ According to the understanding of the Working Group, this excludes raw mineral and volatile materials, including water, irrespective of the form.

⁷ Taking into account the breadth of the term “operator” concerning space activities by a “governmental, international or non-governmental entity”, the term “organization” is common, but the previous term “operator” is retained for clarity and precision.

formation and implementation of state policy in the field of space activities, the intention to carry out space activities.

Spacecraft: an aircraft for space and space flights for its research and use.

Space technologies and services: the results of scientific developments, methods, tools, and services necessary for the implementation of space activities and for obtaining and using the results of these activities.

Incident: a space-related event that has endangered human life and health, as well as damaged or destroyed the property of citizens, enterprises, institutions, and organizations or caused damage to the environment.

Extraordinary event: an event-related to space activities, which led to the death of people or infliction of severe bodily injuries, as well as the destruction of property of citizens, enterprises, institutions and organizations or causing significant damage to the environment.

Rules of space activity: special rules, technical norms, standards are regulating space activity and its safety.

Certificate of conformity: a document certifying the compliance of the object of space activities with the requirements of operational suitability of space technology, regulated by regulations in force in Ukraine.

Article 2. Legislation on extraction and exploitation of space resources

1. Issues related to extraction and operation are regulated by this Law, the Law on Space Activities in Ukraine, and other acts of legislation of Ukraine.

2. Commercial extraction, exploration, and recovery shall facilitate commercial exploration for and commercial recovery of space resources by Ukrainian citizens; discourage government barriers to the development in the Ukraine of economically viable, safe, and stable industries for commercial exploration for and commercial recovery of space resources in manners consistent with the international obligations of Ukraine; promote the right of Ukrainian citizens to engage in commercial exploration for and commercial recovery of space resources free from harmful interference, per the international obligations of Ukraine and subject to authorization and continuing supervision by the Government.

Article 3. Rights to space resources

1. An operator engaged in the extraction of an asteroid resource or space resource shall not be entitled to own that resource.

2. An operator engaged in the extraction of an asteroid resource or space resource shall be entitled to transport and use the asteroid resource or space resource.

3. This law does not assert the sovereignty, sovereign or exclusive rights or jurisdiction over any celestial body or the right of ownership over it.

Article 4. The purpose of extraction and exploitation of natural resources from space bodies

1. Extraction and exploitation of natural resources from space bodies aims to:

- a) promoting the socio-economic and scientific progress of the state; participation in solving problems facing humankind; development of space science and technology, space services and technologies; development of the national economy through the extraction and rational use of natural resources from space bodies; creation of powerful export potential of the space industry;

- b) ensuring the long-term interests of the state in the field of national security and defense capabilities; Ukraine’s participation in international programs aimed at exploring space resources and resolving issues related to global security.

Article 5. Principles of extraction and exploitation of natural resources from space bodies

The main principles of extraction and exploitation of natural resources from space objects are: adaptive management by gradually regulating the activities of space resources at the appropriate time; compatibility of the internal framework of states and the internal framework of international organizations; promoting sustainable development; prevention of disputes arising from activities with space resources; orderly and safe use of space resources; rational, efficient and economical use of space resources; use of leading technologies; legal certainty and predictability for operators; tolerance for the needs of developing countries; use of space resources exclusively for peaceful purposes; state support for the commercialization of space activities; use of outer space and resources contained in it, with restrictions that meet Ukraine’s international obligations in space sector; ensuring national security; effective use and rational use of scientific and technical potential of Ukraine; promoting international cooperation.

Article 6. Scope of the Law

1. Space activities in the field of extraction and exploitation of resources of space bodies affect all states and international organizations and may involve regulating the behavior of states, international organizations, and non-governmental organizations.⁸

2. Space activities in the field of extraction and exploitation of resources of space bodies take place in the solar system.⁹

⁸ Support for the personal scope can be found in the OST. Following its Article VI, States shall bear international responsibility for all national space activities, whether governmental or non-governmental. As far as international organizations are concerned, whenever carrying out space activities, responsibility shall be borne by both the international organizations and their States Parties. The text states: States Parties to the Treaty shall bear 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 outlined in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization. For the States Parties to the MA, said treaty provides for the same regime of State responsibility for national activities, reading in paragraph 1 of Article 14: States Parties to this Agreement shall bear international responsibility for national activities on the Moon, whether such activities are carried out by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions outlined in this Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities on the Moon only under the authority and continuing supervision of the appropriate State Party.

⁹ The solar system is considered as the sun and those celestial bodies held by its attraction and revolving around it, including planets, asteroids, and comets. Article 1, paragraph 1 MA: “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 concerning any of these celestial bodies.”

3. This Law applies to relations between public authorities, individuals, and legal entities regarding the extraction, transportation, processing, use, appropriation of natural resources of space bodies.

Section 2. Organization of extraction and exploitation of natural resources from space bodies

Article 7. Right to resources

1. The use of space resources shall be under the principle of non-appropriation under Article II of The Outer Space Treaty (ST/SPACE/11, 2002).
2. The right to use raw materials and volatile materials extracted from space resources may be legally regulated by the provisions of domestic and international law, bilateral agreements, and/or multilateral agreements.
3. The right to use the extracted resources is mutually recognized by the states.¹⁰

Article 8. Operators' Rights and Obligations

1. The Operator has the right to:
 - a) use of natural resources of space bodies per this Act and other normative legal acts;
 - b) the appeal in the manner prescribed by law, decisions, and actions of the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities;
 - c) compensation for damages from illegal actions or inaction of the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities;
2. The Operator is obliged to:
 - a) adhere to the standards, norms, and rules of use of natural resources of space bodies;
 - b) comply with the conditions specified in the licenses for the use of natural resources of space bodies and the operating permits;
 - c) to notify the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities, of the termination of the use of natural resources of space bodies;
 - d) provide the authorized persons of the Central Executive Body that ensures the formation and implementation of state policy in the field of space activities with information on technical characteristics, application, placement of technical means and devices, as well as present at their request appropriate licenses, permits, certificates and other documents related to the use of natural resources of space bodies;
 - e) make payments and fees provided by law, as well as in the order established by the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities, the fee for the use of natural resources of space bodies;
 - f) to use only personally without the right to transfer for use to other persons.
3. The Operator is prohibited from:

¹⁰ ARTICLE II of the Outer Space Treaty provides 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) launching or placing in space in any way nuclear weapons and all other weapons of mass destruction or testing such weapons; the use of space technology as a means of influencing the environment for military or other purposes dangerous to humanity; use of the Moon and other celestial bodies for military purposes; creating an immediate threat to human life and health, causing damage to the environment.
- b) violation of international norms and standards on space pollution;
- c) other activities related to space activities that are not permitted by international law.
- d) Activities related to the extraction and use of natural resources of space bodies, which have resulted in human casualties, significant material damage, or significant damage to the environment, must be restricted or prohibited per the current legislation of Ukraine.

Article 9. Liability for violation of legal requirements in the extraction and use of space resources

1. International responsibility for activities in the field of space resources

- a) States shall bear international responsibility for national space resource activities, whether such activities are carried out by governmental agencies or non-governmental entities, and for ensuring that such activities are carried out in conformity with the international framework.
- b) Non-governmental space resource activities shall require prior authorization and continuing supervision by the appropriate state.

2. Legal entities and individuals guilty of violating the legislation on the extraction and exploitation of natural resources of space objects shall be liable under the procedure established by law.

3. A penalty shall be charged for late payment of the fee for the use of natural resources of space objects to the State Budget of Ukraine. The payment of the fine does not release the user of the natural resources of space bodies from the obligation to pay the fee.

4. In case of non-payment of the fee for the use of natural resources of space objects within six months, the license for mining and operating permits shall be revoked without compensation to the operator.

5. In case of violation of the conditions of extraction and use of natural resources of space bodies due to the fault of the operator, all costs for the elimination of the situation shall be borne by this operator.

6. Income (excluding paid taxes, fees (mandatory payments) received by the user as a result of the extraction of natural resources of space objects without licenses, as well as in the case of operation of technical means and devices without permits for their operation, provided by this Act, withdrawn for a court decision and sent to the State Budget of Ukraine.

Article 10. Avoidance and mitigation of potentially harmful effects of space resources.

States and international organizations shall take appropriate measures to avoid and mitigate potentially harmful effects, including risks to the safety of humans, the environment or property; damage to persons, the environment or property; adverse changes in the Earth’s environment; harmful pollution of celestial bodies, taking into account the international policy of planetary protection; pollution of outer space; harmful effects of space debris, harmful interference in other current space activities; adverse changes in outer space.

Article 11. Jurisdiction and control over products created in space used in space

activities

States have jurisdiction and control over any space products used in space resources for which they are responsible.

Article 12. Register of operators and their programs for the extraction and exploitation of natural resources of space bodies

1. Extraction and exploitation of natural resources of space bodies take place following this Act, the Law of Ukraine on Space Activities, international law.

2. The program of extraction and exploitation of natural resources of space bodies shall be entered in the special Register of instructions and published within three working days on the website of the Central Executive Body, which ensures the formation and implementation of state policy in space. The data register is published quarterly in the official bulletin of the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities.

3. The program of extraction and exploitation of natural resources of space bodies may be prohibited based on the revocation of relevant permits for exploitation of natural resources of space bodies following this Act, the Law of Ukraine on Space Activities, international law.

Article 13. Financing of the Extraction and Exploitation of Resources of space bodies

1. Financing of **Extraction and Exploitation of Resources of space bodies** for scientific and economic purposes in cases where the customer is government agencies or institutions, is carried out based on the National Targeted Scientific and Technical Space Program of Ukraine and is provided in the State Budget of Ukraine in separate lines.

2. Foreign loans and investments in space activities related to the implementation of the National Targeted Scientific and Technical Space Program of Ukraine are guaranteed by the state by the current legislation of Ukraine.

Section 3. Technology, Equipment & Devices

Article 14. Conditions of application of technology, equipment, and devices during the extraction and exploitation of natural resources of space bodies

1. The condition for the use of technology, equipment and devices is documentary proof of their compliance with technical regulations (declaration of conformity).

2. Attestation of conformity technology, equipment, and devices correspond with the Law of Ukraine “On Confirmation of Conformity” by duly accredited bodies authorized to carry out this activity, the list agreed with the Central Executive Body, which ensures their formation and implementation.

3. The register of technology, equipment, and devices prohibited for use in space activities is maintained by the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities, and twice a year publishes this list in the official bulletin of the Central Executive Body ensures the formation and implementation of state policy in the field of space activities.

Article 15. Determining the possibility of using technology, equipment, and devices during the extraction and exploitation of natural resources of space bodies

1. Determining the possibility of using technology, equipment, and devices during the

extraction and exploitation of natural resources of space bodies corresponding with the following basic principles:

- a) the use of technical tools and devices during the extraction and exploitation of natural resources of space bodies per the Operator's Plan and approved by the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities;
- b) implementation security measures;
- c) the priority of application of the newest domestic, European, and world types of technical means and devices during the extraction and exploitation of natural resources of space bodies

2. The decision on the possibility of using technology, equipment, and devices during extraction and exploitation of natural resources of space bodies is made by the Central Executive Body, which ensures the formation and implementation of state policy in space, based on the application for specific types of technical tools and devices.

3. To obtain a decision of the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities, on the possibility of using a specific type of technical tools or device during the extraction and exploitation of natural space resources, the applicant shall submit the following documents: a statement on determining the possibility of using specific types of technical tools and devices; information on technical data of tools and devices; additional information on technical characteristics, which is necessary for the preparation of a decision on the recognition of the possibility of using technical means and devices during the extraction and exploitation of natural resources of space bodies.

4. The application remains without consideration if:

- a) documents submitted in violation of the requirements of part three of this article;
- b) the term of application of technical tools and devices expires in less than a year.

5. The central executive body that ensures the formation and implementation of state policy in the field of space activities within a month from the date of receipt of the application provides reasonable conclusions about the possibility or impossibility of using the declared type of technical tools or devices during extraction and exploitation of natural resources.

6. If the provided technical information is insufficient for the technical examination and for the preparation of conclusions on the possibility of using the technical device or tools, the applicant must provide additional technical information on request. The term of the examination shall be extended until the necessary information is received.

Article 16. Standardization in the field of extraction and exploitation of resources of space bodies

1. The purpose of standardization in the area of extraction and use of resources of space bodies is to create a single system of state standards and other regulations that define the requirements for technical tools and devices, as well as harmonization of these requirements with international settlements.

2. The requirements of state standards, other normative documents on technical tools and devices, according to which the extraction and exploitation of resources of space bodies take place, are obligatory for all research, design, and private organizations.

3. State standards are developed and approved following the legislation of Ukraine on standardization, taking into account international standards and recommendations of international organizations.

4. Standards, norms, and rules, the procedure for conducting tests and research in the field of extraction and exploitation of natural resources of space bodies, are subject to publication and are mandatory.

Article 17. State supervision over the exploitation of resources of space bodies

1. State supervision over the use of resources of space bodies — a set of measures to ensure the use of natural resources of space bodies per the law.

The central executive body that ensures the formation and implementation of state policy in the field of space activities approves the strategy for state supervision over the use of natural resources of space bodies.

2. The purpose of state supervision of the use is to ensure that operators comply with the established procedure for the exploitation of resources of space bodies, the interests, and security of the state and citizens of Ukraine; crime prevention in the use of natural resources of space bodies; control over compliance with the requirements of international agreements on the restriction and prohibition of nuclear weapons tests, and the implementation of nuclear explosions for peaceful purposes

3. In carrying out state supervision, the Central Executive Body, which ensures the formation of state policy in the field of space activities, has the right to:

- a) access in the manner prescribed by law to the territory and premises of users of natural resources of space bodies to verify compliance with the requirements and rules per the legislation on space activities;
- b) *check compliance with the law by operators, in particular, to receive from them the necessary explanations, materials, and information;*
- c) within the limits of its powers to provide obligatory for execution orders (instructions) concerning the elimination of violations of the legislation on the use of natural resources of space bodies;
- d) in case of operation of technical tools, devices, and other equipment without permits or with violation of the parameters established in permits to stop in the order established by the legislation operation of illegally operating technical tools, devices, and other equipment;
- e) apply sanctions in the manner prescribed by law for violations of the legislation on the use of natural resources of space bodies;

4. State supervision over the use of resources of space bodies takes place by conducting scheduled and unscheduled inspections, implementation of other measures per the legislation aimed at preventing, detecting, and eliminating violations of the law.

5. Scheduled inspections are *carried out* once a year per the plans approved by the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities.

6. Unscheduled inspections are carried out by the decision of the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities based on a written request for violation of legislation, standards, and other regulations in the use of natural resources of space bodies; in case of detection of the inaccuracy of the data specified in the documents of the obligatory reporting submitted by the user of natural resources of space bodies, or non-submission of such forms;

7. Based on the results of inspections, an act shall be drawn up in two copies. One copy of the Act is issued to the operator, which was inspected. The second is stored in the Central

Executive Body, which ensures the formation and implementation of state policy in the field of space activities.

8. An operator who has received an order or instruction from the Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities to eliminate violations of the law, is obliged to eliminate violations and provide information in writing about their elimination.

Section 4. General requirements for space activities during the extraction and exploitation of resources from space bodies

Article 18. Certification of extracted resources of space bodies

1. Resources of space bodies extracted by Ukrainian operators and intended for further operation are objects to mandatory certification for compliance with the requirements of operational suitability established by the regulations in force in Ukraine, with the issuance of a certificate of conformity.

2. Resources of space bodies extracted by Ukrainian and foreign operators are objects to certification for compliance with the requirements of operational suitability within the framework of the agreement between the operators and international law. The certification procedure of space resources shall be defined in the Space Resources Certification System, which operates within the State Certification System.

3. The procedure for the use and certification of space resources extracted by Ukrainian operators, as well as the execution of relevant certification documents shall be established by the Rules for Certification of Space Technology in Ukraine, approved by the Cabinet of Ministers of Ukraine.

Article 19. Registration of extracted resources from space bodies

1. Extracted resources from space bodies are subject to mandatory state registration in the State Register of Space Resources under the Rules for registration of space resources, which are approved by the central executive body in space activities. If space resources are extracted and used jointly with legal entities of other states or international organizations or for other states, foreign economic entities or international organizations, the issue of their registration is resolved per concluded international agreements (contracts).

2. In order to ensure the efficient use of space resources, state supervision over their condition, use appropriate measures to support the targeted financing of these resources following the procedure defined by the Cabinet of Ministers of Ukraine and international law.

Article 20. Admission, restriction, and prohibition of exploitation of resources of space bodies

1. Resources extracted from space bodies are allowed for further exploitation if this procedure is subject to appropriate permission.

2. The central body of executive power, which ensures the formation and implementation of state policy in the field of space activities, may restrict or prohibit the exploitation of resources extracted from space bodies in the case of lack of permission to use the exploitation of resources extracted from space bodies in violation of current legislation of Ukraine and international agreements; the exploitation of resources extracted from space bodies in violation of the requirements established by the operational and technical documentation.

Section 5. Ensuring the safety of space activity during the extraction and exploitation of resources from space bodies

Article 21. State supervision over the safety of extraction and use of resources of space bodies

The Central Executive Body, which ensures the formation and implementation of state policy in the field of space activities, the Ministry of Defense of Ukraine, and other executive bodies following their competence exercise state supervision over compliance with safety requirements for extraction and use of space resources.

Article 22. Public safety and environmental protection

In the process of extraction and use of resources of space bodies, operators must comply with safety requirements for life and health of the population, property of citizens, enterprises, institutions, organizations, and the environment.

Article 23. Protection of resources of space bodies

1. The protection of space resources during extraction, testing, transportation, and operation are carried out following the law.

2. In agreement with the central governing body of the National Police, space resource protection units may be established, namely at enterprises belonging to the management of the central executive body, which ensures the formation and implementation of state policy in the field of space activities.

3. The central executive body, which ensures the formation and implementation of state policy in the field of space activities, in coordination with the central governing body of the National Police, approves regulations on the protection of space bodies and monitors the activities of its units.

Article 24. Incidents and emergencies

1. Operators must provide full information to the executive on any incidents and emergencies.

The central executive body that ensures the formation and implementation of state policy in the field of space activities, ministries, and other central executive bodies must provide timely and accurate information on the dangers that arise in the extraction and use of resources of space bodies. The central executive body that ensures the formation and implementation of state policy in the field of space activities, ministries, and other central executive bodies should take measures to create the necessary security conditions for the population, property, and the environment.

2. In the event of a threat during the extraction and use of space resources for the population and the environment, the central executive body implementing state policy in the field of space activities shall immediately inform the relevant state bodies of Ukraine following applicable law and take the necessary measures to ensure the safety of the population, the property of citizens, enterprises, institutions and organizations, and the environment.

Article 25. Compulsory insurance in the extraction and use of space resources

1. Operators must carry out insurance when extracting and utilizing the resources of space bodies.

2. The procedure for compulsory insurance shall be established by the Cabinet of Ministers of Ukraine.

Article 26. Liability for damage caused during the extraction and use of resources of space bodies and compensation for damage

The provisions of current legislation determine the amount of liability for damage caused during the extraction and utilization of resources of space bodies and the procedure for determining the amount of such damage to be compensated.

Section 6. International cooperation

Article 27. Purpose and general principles of international cooperation

1. The intention of global partnership concerning the extraction and exploitation of resources of space bodies is to establish relations with other states to ensure the efficient use of outer space.

2. International legal protection of Ukraine on the assignment of resources of space bodies takes place by concluding international agreements on the use of resources of space bodies; participation in the work of international organizations on the extraction and use of resources of space bodies; involvement in the implementation of international projects related to the extraction and use of resources of space bodies, harmonization of state standards, norms and rules with international standards, recommendations, relating to the extraction and exploitation of resources of space bodies.

Section 7. Final provisions

Article 28. Responsibility for violating the law during the extraction and use of space resources

Violation of the law during the extraction and use of space resources in Ukraine leads to disciplinary, civil, or criminal liability following current legislation of Ukraine and international legal agreements.

Conclusion

Summarizing the above, we should note that establishing a legal framework for the extraction and use of resources from space bodies is a vital issue at present. International recognition of the legality of the use of space resources can ensure support for the legality of domestic laws on the use of space resources by international space law. The Moon, other planets, and asteroids contain a rich diversity of minerals, gases, and water that can be used to provide raw materials, energy to sustain human life and enable exploration deeper into space. The Moon is the closest near-Earth object bound by the Earth’s gravity. Analysis of the Moon and the 400 kilos of lunar rock and regolith surface material already brought back to Earth indicate that it is rich in useful elements. Other near-Earth objects include asteroids that can be rich in carbon, metals, or silica.

Currently, there is a lack of a clear legal framework concerning space area, exploitation, and utilization of resources of space bodies. In the absence of a clear framework to govern these activities, there is a need to study the concepts regarding on-orbit operations and space resource rights. These plans need to facilitate, support and regulate the use of space resources.

In the Draft Law of Ukraine “On the Extraction and Utilization of Natural Resources of the Moon and Other Celestial Bodies,” we have noted the most important aspects of the principle of the common heritage of mankind such as non-appropriation, the peaceful use of the international commons, and protection of the environment.

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