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ECOLOGICAL SAFETY AND SPACE ACTIVITIES

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The monograph is devoted to the actual problem of our modernity. Attention paid today to environmental issues in the process of space exploration by humanity is not by chance. As a condition and a consequence of the exploration and use of outer space by mankind the scientific and technological leap, the rapid development of the space industry and space activities led to a sharp increase of human activities impact on space exploration to the nature, greatly expanded the intervention scope on the space exploration.

Taking as its theme so complex and meaningful area, the environment protection from the space activities adverse effects, the author set himself the subject which is relevant and actual not only for Kazakhstan, but also for all mankind.

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ABBREVIATIONS AND DESIGNATIONS

UN	United Nations
RK	Republic of Kazakhstan
РКД	Rocket and space activities
CIS	Commonwealth of Independent States
USA	United States of America
NASA	Space Research Center USA
FSA	Federal Space Agency
NSA	National Space Agency
ФКП	Федеральная космическая программа
RF	Russian Federation
ЭБ РКД	Ecological safety of the rocket and space activities
ГЭЭ	Ecological State Expertise
РКТ	Aerospace Technology
ИСЗ	artificial earth satellite
ESA	European Space Agency
ISS	International Space Station
ERS	Remote zoning land

Unit 1: Development of substantiated proposals in order to amend and add to the interstate and intergovernmental treaties and agreements in the field of environmental safety of space activities in RK, to develop new normative legal acts.

Introduction.

Speaking about the legal regulation of space activities in the Republic of Kazakhstan, firstly it is necessary to note that in accordance with the Section 3 of Art. 4 of the Kazakhstan Republic Constitution, "universally recognized principles and international law norms and Kazakhstan Republic international treaties are an integral part of its legal system. If there are established other rules by Kazakhstan Republic international treaty than those stipulated by the law, then the international agreement rules will be taken into account. "

Therefore, Kazakhstan guided by the international agreement provisions in the space activity field at their implementation of space activities, where Kazakhstan is participant of it.

However, giving a priority to international law, we cannot underestimate the importance and the role of national legal rules governing space activities of States - of Space Explorers.

At nowadays the legal regulation of space activities is a key element and plays an important role in ensuring the sustainable development of the national space industry in Kazakhstan Republic. At the same time, despite of large-scale programs implementation of the USSR research and outer space and celestial bodies' exploration the Soviet period of State astronautics is characterized by the absence of a legislative regulation of space activities.

Space Management in this period realized with the strict administration, decision-making and administration of the space activities rules by such authorities as the Ministers Council, Ministry of General Machine Building, the Ministry of Defense Industry and the Ministry of Defense. Unlike to other states implementing their space use national programs (USA, France, Austria, and others.), a specialized government body in order to control the space industry in the USSR also not created.

In 1991 in connection with the collapse of the USSR the lack of legislative and legal regulation of the space sector operation puts the program of space exploration under compromised coagulation. In this regard, in the Republic of Kazakhstan become necessary to adopt legislation on space activities, as well as in the legal registration of the Kazakh space-management - in the creation of a specialized state executive authority for space activities.

In the USSR, in addition to the condition of legislation absence on space activities there had no legislative definition of the legal status of space infrastructure objects. Thus, since inception in 1955, the main objects of space infrastructure - "Baikonur" cosmodrome was to regime military installations. Its legal status is determined by secret normative - legal acts issued by the Ministry of Defence.

Norm analysis of the state legislation on space activities which is establishing the legal situation basis of space infrastructure objects allows us to conclude that there is currently no national base regulatory act in this area and nowadays the operating legal standards have a number of flaws.

The space legislation forming process in the Republic of Kazakhstan has led to the fact that it is currently made up of a significant number of legal documents at various levels, the greater part of it directly doesn't related to the space activities. In this regard, there emerged the need for the development and adoption "On Space Activities" Law in the Republic of Kazakhstan.

Lack of national legislation development on Space Activities becomes the reason that many of the rules of international space law are carry out only declarative. Indeed their effective implementation is possible only in cases of adoption by the State of specific provisions that develop regulations of international space law, establishing the legal responsibility of the state for their violation. This issue acquires particular relevance under modern conditions when the space resources use activities actively pursued not only by state space agencies and non-governmental organizations.

In parallel with the process of norm-formation under consideration in international law, there occurs emergence and development of national legal systems that regulate social relations arising in connection with the implementation of space activities.

At the same time the state of international space law has an impact on the development of national space legislation, wherein as well as positive and as negative - in the case of defects in the international legal instruments on specific issues.

1. Proposals for changes and additions to the normative legal acts

In this connection, it seems to appropriate in the nearest future the development and adoption following normative - legal acts in Kazakhstan:

- **Law "On Space Activities" in the Republic of Kazakhstan** which would define the legal framework of Space Activities, would define the principles and directions of Space Activities, revealed the concept of "space infrastructure." The adoption of the Law "On space activity" would solve the following points:
- securing the national interests in space, specific goals and objectives of the space policy, the basic principles of space activities realization;
- setting priorities of Space Activities in Kazakhstan;
- integrated development and effective use of space capabilities for the benefit of increasing of economy, science and international cooperation, strengthening of national security of Kazakhstan;
- Space Activities management and financing principles;
- organization of state order to carry out development, production and supply of space technology, infrastructure development;
- particular qualities of Space Activity management and security, in particular ecological safety of Space Activities;
- clearly indicate which agency is engaged the National Space Program;
- Draft Law "On entrepreneurial activities in the exploration and use of outer space»;
-amendments and additions draft to the Environmental Code, Land Code of Kazakhstan on environmental safety of space activities and the use of land for this kind of activity;
- Draft Law "On legal regulation of space activity subjects' interaction with foreign and international organizations";
-The national space policy concept of RK;
- About remote sensing of the Earth from space;

The need for the development and adoption of the law "On entrepreneurial activities in the field of exploration and use of outer space" due to the fact that the Civil Code provisions of the Kazakhstan Republic, which is fundamental legislative document to business relationships, it does not reflect the characteristics and properties of conducting these activities in a specific area – the outer space.

Making amendments and additions to the Environmental Code of RK is aimed at legal regulation of relations between the subjects of space activities in order to prevent possible threats to the individual, the society, the state and the environment, resulting in the creation, use and disposal of space technology samples and space infrastructure elements.

The problem of ensuring the environmental safety of space activities is currently significantly escalated and requires an independent legislative provision. This circumstance is determined by a number of factors, firstly by lack of funding measures to achieve the safety of space activities.

Most part of questions remains to date without proper legislative regulation. The confirmation of this fact is still not adopting of draft law on space activities under the consideration in Parliament of RK.

It is also necessary legislatively to consolidate target destination of all elements of the space infrastructure, including the land allocation for space activities need.

In this regard, according to our opinion the land allocation and the use of their facilities and the surrounding exclusion zone for space infrastructure should be carried out in accordance with the land legislation of the Kazakhstan Republic.

We propose **to make an addition to Article 1 of the Land Code of Republic Kazakhstan from 20.06.2003** which is establishing the categories of land compounds in Kazakhstan. For its intended purpose, it is proposed to allocate the category of "land for space activities" and determine the particular characteristics of the legal regime of such lands. It is determined on the basis of their belonging to a particular or other category and permitted use in accordance with the zoning areas, the general principles and procedures of which are set by the relevant laws. Moreover, this land category covers vast areas of land.

For example, in order to provide space activities the land may be granted for the placement of ground space infrastructure, including launch sites, launch facilities and launchers, command and measuring systems, control centers and points of space objects flight, points of reception, storage and processing of information, the database storage of space technology, the areas for falling of separating parts from rockets, polygons for landing and runways of space objects, experimental base objects for developing space technology, centers and equipment for astronauts training and other ground facilities and equipment used in realization of space activities. It is necessary to determine the land areas used for sporadically falling of separating parts from rockets and procedure for compensation to these individuals.

As a further disadvantage it is necessary to recognize the lack of legal definitions of concepts such as separate objects of space infrastructure: spaceport, launch complex, launcher and etc.

It appears that each elements of the space infrastructure should receive its legal definition in the law statute in which should prescribed the implementation mechanism of all activities related to the operation of separate objects of space infrastructure.

The particular importance of this issue is due to the emergence of so-called alternative methods of the space vehicles launch: "Air Launch", "Sea Launch" projects, the use of ballistic missile submarines to launch the space objects into the orbit and etc.

At a meeting in May 15, 1992 by heads of CIS member-states signed the Agreement on Procedures of the content and use of space infrastructure objects in order to fulfill the space programs. One of the Treaty’s main provisions was the fact that the space infrastructure objects which are located on the former Soviet republics territory were declared as the property of these states. For the "Baikonur" cosmodrome this meant his recognition as a property of Kazakhstani Republic. The agreement provides that on the basis of special agreements, strategic forces of the

CIS must be submitted to the right to use immovable, use and possession of movable property of these objects.

On the basis of special agreements the agreement provides to the CIS strategic forces the permission of the right to use immovable, use and possession of movable property of these objects. In connection with the Agreement from 15 May 1992 and 25 May 1992 between the Russian Federation and the Kazakhstan Republic took place the signing of the bilateral agreements on the use procedures of the "Baikonur"cosmodrome.

Russia and Kazakhstan transmit the right of use immovable, cosmodrome's movable property use and possession at their territory to the Strategic Forces of the CIS. As well as, it was noted that the composition of transmitting objects and the conditions of their use, including the social facilities objects should be determined by a special agreement.

October 2, 1992 Russian and Kazakhstani representatives had signed an intergovernmental Agreement on the composition of the "Baikonur"cosmodrome's objects which shall be transmitted to the strategic forces of the Commonwealth of Independent States (military space forces) and their use conditions and security.

At the same time it is provides that the part of "Baikonur" cosmodrome objects can be used in the Kazakhstan Republic interests and the Lenin city. In the context of agreement was made a delimitation of the property use relations and agreed the interests of the Russian and Kazakh sides.

In late 1993 - early 1994 the Government Heads of Russia and Kazakhstan during the negotiations develop and sign a Memorandum on which the Kazakh side has agreed to transfer for rent the "Baikonur" cosmodrome to the Russia. The status issues of this spaceport passes into the development field of the fundamentally new agreement relating to the lease.

In March 28, 1994 the Russian Federation and the Kazakhstan Republic concluded the Agreement on the "Baikonur"cosmodrome's use basic principles and conditions. In pursuance of the provisions specified by this Agreement, the Russia and Kazakhstan governments conclude an Agreement on "Baikonur"complex Lease in December 10, 1994.

In accordance with Article 4 of the Lease Agreement, the "Baikonur" complex is transferred by the Kazakhstan Republic to the Russian Federation for rent for 20 years with an option to extend the contract for 10 years. The rent cost is 115 million US dollars a year (Art. 5)

Being the largest spaceport on the planet, the Baikonur cosmodrome leads among all of the world's spaceports in the number of ongoing manned launches. In all there started the launch around 1200 space rockets and over 1180 military intercontinental ballistic missiles.

It is clear that such intensive activity unfortunately has a downside: the environmental impact of Baikonur on people and the environment is very considerably.

The "Soyuz", "Zenith" Rockets are used kerosene and liquid oxygen as a fuel and "Proton", "Cyclone", "Roar", "Dnepr" rockets and SS-19, SS-20 combat

missiles are used highly toxic liquid components - dimethylhydrazine and nitrogen tetroxide. Falling rocket stages contain significant amounts of toxic fuel residues (2 tons), which are released at the falling stage into the environment and in such a way contaminating soil, surface water, groundwater and vegetation.
In addition, during the Baikonur cosmodrome exploitation there are took place an occurrence of several dozen major accidents of missiles, and information about the impact of these accidents are still inaccessible to the public. There is still no educational program on rocket and space activities safety. Currently, Kazakhstan has no objective assessment of the missile and space activities impact on the environment. Do not assess the risks and damage caused by such kind of activities.
There is no proper supervision by the relevant ministries and agencies on the activities of the Russian side, the operating cosmodrome: no system of environmental monitoring, no cards on pollution by rocket propellant components, there is no conduction on control over the rocket stages withdrawals from economic circulation in falling areas (in fact, these fragments were used by local people for livestock grazing and transportation).
Falling rocket stages' places and space launch crash places are not marked on the terrain, there are no public maps and road atlases of road with direction to the hazardous areas, weakly been established the telephone and radio connection with the remote villages. All this aggravates the risk of possible accidents if there is took place the unavoidable accidents of the missiles.
. The life expectancy of the population which are living in the zone of under spaceport influence is lower than in the whole country, and the morbidity incidence is higher. Not conducted the targeted therapeutic and rehabilitation measures for the population.
Social and economic tensions among the population living in the vicinity of the Baikonur Cosmodrome and the falling rocket stages areas is quite large and significantly worsened after two accidents of the "Proton" rockets in 1999, when the its large fragments fell into the yards of private houses in the villages. At the same time, the Kazakhstan laws do not provide the compulsory insurance of life, health and property of the population from the possible damage from rocket and space activities. Social activity of the population is extremely low.
The urgency and importance of the problem caused by the fact that for more than forty years of rocket-space complex uncontrollably exploits the nature to solve technological problems, completely ignoring the interests of the people living directly under the missiles flight routes.
At the result of study on NASA documents to ensure public safety, it was found that in the world does not exist anywhere confrontation between the rocket - space complex and the public. Government agencies of democratically developed countries have solved the problem before it occurrence.

It is done everything that needs to be done. The areas for falling are designated, all the necessary information is available, any citizen can via the Internet to get any US documents to ensure public safety. As a result, in these countries, society views

spaceports as a welcome source of well-being. Now the United States is a competition among several states who want to build in a new spaceport.
It is profitable to them, and no one protests. Throughout the democratic world, the population security from the environmentally hazardous activities is provided by the insurance. An insurant is owner of a hazardous production or state. The fisheries organizations in Japan receive the compensation for noise pollution (ie, noise) generated by the Japanese spaceport. It is appropriate to note here that the insurance amount for missiles launched from Baikonur is - tens and hundreds of millions dollars. For local residents does not provided anything. We can get US documents on RSA security, but to get our own domestic documents is impossible.
Thus, the international experience of public participation in ensuring security in the spaceports impacts areas, most likely, simply does not exist, because all over the world all the possible problems in this area have been resolved at the stage of design, construction and legal support of the launch sites.

Brief description of the RSA (RDK) organization and management in the context of environmental safety in the case of Russia.

Since 1992, there is the Russian Space Agency (since 2004 -The Federal Space Agency (FSA) - Roscosmos) - A federal specially authorized body in the field of space rocket activities. There is the law with amendments and additions "On Space Activities" from 1993 in the Russia.

One of the basic principles of the law "On Space Activities" is to ensure the environmental safety. However, it is performed in specific way. The "Federal Space Program (FSP) of Russia (2001-2005) " which is now in force (already 2nd) was prepared and adopted without extensive discussion, in fact, as the departmental.

Moreover, that project did not pass the obligatory state ecological assessment which is mean glossy violation of the law - Article 11, 12, 18, 30 Federal Law "On Environmental Impact Assessment" (1995). On this basis, funds from its budget and other sources should be impossible because of unlawfulness, however it is carried out. Moreover, in addition to this FSP programm by the Government decision of the Russian Federation, on the initiative and with the filing of Roscosmos there is occurred the including of new projects, and, as a rule, without obligatory state environmental assessment.

At the same time in the FSP financing there is no laying of the necessary funds for environmental risk insurance, rehabilitation measures for the elimination of pollution, socio-environmental and other problems in the regions affected by the impact and consequences of FSP and etc. Nowadays the history is repeating itself with a new (third) of the FSP of the Russian Federation (2006-2015.).

Above all, there is a long and evolving project of the Federal target program "ECOS-RF" (intended to ensure environmental safety of SRA), which has still not approved. This project has a long prehistory. His development started in the late 1980s of the twentieth century in the USSR, and then was promoted in 1993-1994,

then was "Frozen" and again revived until the present time. However, this project was essentially a purely departmental and remains as aimed to develop a regulatory framework to ensure environmental safety of SRA. It almost does not take into account the interests of citizens and territories of the Russian Federation subjects. The broad discussion of the project to society is not happened. Moreover, if all to do by law, then the program in such a form does not need an existence. Instead of, firstly it is necessary to provide state environmental assessment of Russia FSP, and previously updated it with the appropriate section to ensure environmental safety of SRA. After that, those issues that cannot be solved within the framework of the FSP (including the social and environmental, health-environmental, etc.) should be included into a national target program " Environmental safety of Russian Federations SRA."

It is important to note that the country has a space policy - officially adopted the "National Space Policy of Russia" in 1996 (although the document has not been published publicly), but there is no integrated environmental policy in the field of SRA, with all the consequences of this .

Since the 90s of the twentieth century there is began a process of awareness of the adverse impacts and consequences of SRA. The problem is known to the authorities, professionals and the public. However, unfortunately, it did not until come to the recognition and implementation of priorities to ensure environmental safety SRA – there will be a lack of political will, and separate activities and decisions which are not provided with an adequate " game rules ", international and national strategy, and the necessary funding, this complex problem and entire range of topical issues will not be able to resolve.

In addition, the lack of an integrated and adequate environmental policy hinders the SRA field development, rocket and space technology updating, the implementation of eco-technologies and other innovations, preserves legacy issues, including - a high level of environmental pollution, excessive costs, low economic efficiency of the industry.

In order to ensure SRA’s environmental safety it is necessary to:

1. Develop and adopt the principles of the national and international environmental policy in the field of SRA.
2. Create a special international and national registers (registers) of international and national (state) environmental assessment (SEA), keep a strict record of the conducting of mandatory SEA of all potentially dangerous national and international projects and technical activities.
3. Conduct obligatory SEA of new FSP of Russian Federation (2006-2015), as well as to develop and adopt a state targeted program of RK "DL SRA" to implement a series of measures aimed at ecologization of technology and the entire sphere of SRA.
4. Hold international and national environmental assessments of all documents (agreements, programs, etc.), as well as of particular projects and technical facilities.

5. Make the necessary corrections and adopt adequate measures in order to ensure environmental safety.

All these measures should be implemented with the active participation of civil society, independent experts and organizations.

It is necessary to develop and adopt a central normative act for the structural legislative regulation of space activities "On Space activities ". The law would create a legal framework for the implementation of Kazakhstan's space program and would contain a number of rules governing the organization of space activities; economic conditions for its implementation, issues of space infrastructure, safety of space activities, international cooperation forms and methods; responsibility in the field of space activities.

The absence of the Law "On Space activities" does not solve the most pressing issues of space activities legal regulation and doesn't provide a basis for the development of national space law in specific areas.

As well as the development and adoption following normative - legal acts in Kazakhstan:

- The draft Law "On entrepreneurial activities in the space exploration and outer space using fields ";
- Draft amendments and additions to the Environmental Code, Land Code of Kazakhstan on issues of environmental safety of space activities and the land plots use for this kind of activities;
- The draft Law "On legal regulation of space activities' subjects interaction with the foreign and international organizations";
-The Kazakhstan national space policy concept;
- On the remote sensing of the Earth from space;

In this situation, it would be wise to develop and by the National Space Agency decision to approve the medium-term program of legislative work in the field of space activities.

In conclusion, we must emphasize once again - the space activities legislative regulation largely determines the long-term development strategy of this industry. The political and economic conditions of the Kazakhstan's cosmonautics development in the XXI century depends on the efficiency and quality of this regulation.

Unit 2: The development of systematic list of interstate and intergovernmental normative legal acts on ecological safety provision of the "Baikonur"complex space activities.

1. Justification of changes and additions required for inclusion in the "Baikonur" complex lease Contract between the Government of the Russian Federation and the Government of the Kazakhstan Republic (Moscow, December 10, 1994)

According to para. 6.3. Art. 6 of the Treaty the Lessee have the right to make separable improvements in the leased property, and with the written consent of the Lessor and inseparable improvements. In the event that the Lessee has made its own expense improvements, separable and inseparable without harm to leased facilities and properties (reconstruction, capital construction, overhaul, modernization, replacement of equipment), after the end of the Conract lease term he keeps them accordingly ownership or **the right to compensation for the residual value of these improvements.**

In our opinion, the right to compensation for the residual value of the made improvements should be reconsidered. As well as, according to para. 6.2. Art. 6 The Tenant produces a current, major repairs and reconstruction of leased facilities at their own expense.

When returning the Objects and Property by the Tenant at the end of the lease term, they returned to the Lessor in usable state to the extent of actual wear, established amortization (performance) standards.

In the case of acting this Agreement term of the remaining leased facilities and property depreciation (exploitation) periods have elapsed, as well as in the event of withdrawal or destruction of damaged through no fault of the Lessee, the latter is entitled to notice of the Lessor to eliminate joint act of these objects and property from the leased facilities and properties. Depreciation periods of leased buildings, installations and equipment are determined by their technical and operational documentation.

And what about the objects and properties which of the service life is expired? From the meaning of this paragraph are also eligible for compensation, which clearly not in favor of the Kazakh side.

According to para. 6.15. Article 6 of the Treaty, provision issues of employment, training and social protection of the Kazakhstan Republic citizens, residing in the "Baikonur " complex territory, the control by the Kazakhstan Republic side for the safety and conditions of the spaceport objects operation, ecology and environmental management in the "Baikonur" complex, admission of the Kazakhstan Republic citizens to the special work performed by them at the facilities of the "Baikonur" complex, training the specialists of the aerospace profile and their employability at the facilities of the "Baikonur"complex, using conditions and procedures of the search and rescue services objects, and other economic and social issues are governed by separate agreements, protocols, and regulations agreed by the Parties.

Much of the above are still not implemented, some of them have no agreements or protocols, etc.

It is recommended to the Notified Bodies sides to accelerate the work on resolution of above mentioned issues.

According to para. 8.3 d) of Art. 8 In agreement with the Landlord the Tenant has the right to cancel the lease of not used the facilities, property and land;

In which way this norm is implemented in practice, on the basis of what is failure and what the consequences of failure?

Recommendation: Develop and adopt a protocol which is defines the lease rejection way of the not used objects, property and land in the "Baikonur"complex.

According to para. 8.3 e) of Art. 8 the Tenant has the right over the lease term or after it to make proposals on the full or partial redemption in the property objects of the "Baikonur" complex.

As we know, according to para. 1.4. of Art. 1 lease agreements the "Baikonur" cosmodrome - technical, launching, landing and measuring complex objects search and rescue service *, store, gas station, neutralization, construction, residential, office buildings and offices, social facilities, and other elements of these complexes and services, and other objects with the appropriate property, land and the necessary sanitary protection zones, including land designated for falling of the separating rockets parts of located on the Kazakhstan Republics territory.

This item is contrary to the Kazakhstan Republic Constitution, according to paragraph 2 of Article 2 the Kazakhstan Republic carries out its sovereignty over its territory and it is holistic and not demolish.

According to Article 2 of the Agreement between the Russian Federation and the Kazakhstan Republic on the basic principles and conditions of use of the "Baikonur" cosmodrome (Moscow, March 28, 1994) In order to ensure the continued use of the Baikonur space activities in the interests of the Russian Federation, the "Baikonur" complex objects are transferred by the Kazakhstan Republic for rent to the Russian Federation.

In addition, in 10 December 1994 **between the Government of the Russian Federation and the Government of the Kazakhstan Republic is signed the Lease Agreement of the "Baikonur" complex, not a Lease Agreement with purchase right subsequent of the leased asset.**

It is recommended: to delete subparagraph e) n. 8.3. of Art. 8 Lease Agreement of the "Baikonur" complex between the Government of the Russian Federation and the Government of the Kazakhstan Republic dated December 10, 1994

According to Sec. 5.1. Article 5 of the Treaty the rental price is 115 (one hundred and fifteen) million US dollars per year. Part of the rental price may be redeemed on a reimbursable basis by agreement between the Government of the Russian Federation and the Government of the Kazakhstan Republic. **The Lessee does not make other payments, taxes and fees in connection with the use of a "Baikonur" complex to the Lessor, including the right to use water resources.**

According to Art. 9 of the Water Code of the Kazakhstan Republic Kazakhstan water legislation is based on the principle of payment for special use of water.

It is recommended: Modify the contents of para. 5.1. Article 5 of the Agreement as follows: "The rental price is 115 (one hundred and fifteen) million US dollars per year. Part of the rental price may be redeemed on a reimbursable basis by agreement between the Government of the Russian Federation and the Government of the Kazakhstan Republic. The Lessee does not make other payments, taxes and fees in connection with the use of the "Baikonur"complex to the Lessor.

1. The Agreement between the Government of Kazakhstan Republic and the Government of the Russian Federation for Ecology and Environmental Management in the "Baikonur" complex in terms of his lease by the Russian Federation on 2 June 2005 has not yet entered into force.

The Agreement between the Government of Kazakhstan Republic and the Government of the Russian Federation for Ecology and Environmental Management in the "Baikonur" complex in terms of his lease by the Russian Federation on 2 June 2005 has not yet entered into force.

According to Art. 10 This Agreement shall enter into force on the date of receipt of the latter written notification about the realization by the Parties of internal procedures which are necessary for its entry into force.

As well as, according to Article 2 of the Agreement, issues relating to the environmental protection, the activity order procedures of enterprises and organizations, military units and other legal entities in the "Baikonur" complex is determined by a separate protocol which will be concluded between the Parties. These separate protocols still do not exist.

Although in all of the agreements is created a footnote especially of 2 Articles of Agreement, which is currently does not solve anything, but only needs to be rapid adopted of specific protocols. So, for example, in Article 3 it is written:

- Development for objects (groups of objects) of the "Baikonur" complex maximum permissible emissions of hazardous substances into the environment and waste disposal limits production and consumption based on the available operational and design documentation for these objects and presentation materials needed to obtain a permit on the nature of the competent authorities of Kazakhstan in the field of environmental protection for newly constructed objects in the manner prescribed by the protocol specified in **Article 2** of this Agreement;

-Adding to enterprises and organizations, military units and other legal entities the payments for emissions above permitted standard, discharges of pollutants into the environment and waste disposal-limit production and consumption in the manner specified protocol, referred to in **Article 2** of this Agreement;

- To provide the state ecological expertise of project materials for advanced models of missiles and launchers in accordance with the legislation of the Russian Federation and taking into account the protocol provisions referred to in **Article 2** of this Agreement;

- Access to the information concerning the Russian-Kazakh joint programs on environmental issues is carried out in accordance with the protocol which is set out in **Article 2** of this Agreement;

Recommended: To Notified Bodies Parties by the Agreement between the Government of the Kazakhstan Republic and the Government of the Russian Federation for ecology and nature management in the "Baikonur" complex in terms of his lease by the Russian Federation on June 2, 2005 to accelerate the work on the adoption of specific protocols as the following lines:

- Protocol between the Russian Federation and the Kazakhstan Republic on the settlement of "Baikonur" complex' environmental protection issues;

- Protocol between the Russian Federation and the Kazakhstan Republic on determining the order of enterprises and organizations, military units and other legal entities in the "Baikonur" complex' territories;

- Protocol between the Russian Federation and the Kazakhstan Republic on providing the state environmental review of the project materials for the promising models of missiles and launch vehicles;

- Protocol between the Russian Federation and the Kazakhstan Republic on providing the construction projects state environmental review of new facilities and renovation of existing facilities;

- Protocol between the Russian Federation and the Kazakhstan Republic on the development and adoption of standards for maximum permissible emissions of hazardous substances into the environment and waste disposal limits production and consumption of objects of "Baikonur" complex;

- Protocol between the Russian Federation and the Kazakhstan Republic on the procedure rules for obtaining permission to use natural resources for newly constructed facilities;

- Protocol between the Russian Federation and the Kazakhstan Republic on the procedures for environmental monitoring of the "Baikonur" space and rocket complex;

- Protocol between the Russian Federation and the Kazakhstan Republic on the procedures for the access to information concerning the Russian-Kazakh joint programs of environmental issues.

2. The Order of the Environmental Protection Minister dated 31 May 2007 on the Approval of the list, forms and terms of exchange of information on conducting Unified State System of monitoring the environmental and natural resources.

In accordance with paragraph 4 of Art. 138 of the Environmental Code RK dated 9 January 2007 one of the tasks of the Unified state system of monitoring the environmental and natural resources is: to provide data for the analysis of the effectiveness of management decisions and the activities undertaken to ensure environmental safety.

The Russian side is obliged to provide information for the management of common environmental monitoring system under the procedures established by the Environmental Code of RK and this Order.

According to the above mentioned Order the term of consideration of the request is 30 calendar days. If there additional time is required to process the information, the consideration term of the application may be extended with the notice of the applicant.

Recommended:

To carry out work on development of the **Protocol between the Russian Federation and the Kazakhstan Republic on the exchange, terms and forms of access to information on the conducting of the Unified State System of monitoring the environmental and natural resources.**

Specify the exact time (limit) extending the consideration of the request and the timing of the response to it.

8. Agreement between the Government of the Kazakhstan Republic and the Russian Federation Government on the Order of interaction in case of accidents during missile launches from the "Baikonur" cosmodrome dated November 18, 1999 (Ratified by the Law dated May 22, 2006 №141-111).

According to Article 8 of the Lease Agreement p.8.4 "Baikonur" complex between the Russian Federation Government and the Kazakhstan Republic Government (Moscow, December 10, 1994) g) in the case of damage associated with the activities of the "Baikonur" cosmodrome when the Russian space program, Russia is liable as the launching State in accordance with the **Convention** on international Liability for Damage caused by Space Objects dated 29 March 1972. In this case, the Kazakhstan Republic is not considered as a participant in a joint launching or as a launching State.

In the case where the space object launching is carried out by Russia jointly with the Kazakhstan Republic, the damage liability is defined in **Article V** of the Convention.

In the case where the space object launching is carried out by Russia in cooperation with other countries, these countries are jointly and severally liable for any damage caused in accordance with the said Convention. In this case, the Kazakhstan Republic is not considered as a participant in a joint launching or launching State.

By virtue of this Lease Agreement Article measures listed in Article 3 of the Agreement shall be provided and financed by the Russian side, as in accordance with the Convention on International Liability for Damage Caused by Space Objects dated 29 March 1972 all measures of reparation and disaster recovery provides a launching State.

Recommended:

Input a separate article which will provide for mandatory environmental insurance, as well as the financing and organization from the Russian Party of all activities in the event of accidents during missile launches from the Baikonur "cosmodrome.

3. Suggestions for the development of interstate and intergovernmental regulatory legal acts scroll on environmental safety of "Baikonur" complex space activities.

-Protocol between the Russian Federation and the Republic of Kazakhstan for the settlement of environmental issues "Baikonur" complex;

- Protocol between the Russian Federation and the Republic of Kazakhstan on determining the order of enterprises and organizations, military units and other legal entities in the complex "Baikonur";

- Protocol between the Russian Federation and the Republic of Kazakhstan on state ecological expertise of the project materials for advanced models of missiles and rockets;

Protocol between the Russian Federation and the Republic of Kazakhstan on state ecological expertise of projects of construction of new facilities and renovation of existing facilities;

- Protocol between the Russian Federation and the Kazakhstan Republic on the development and approval of standards for maximum permissible emissions of hazardous substances into the environment and waste disposal limits production and consumption of objects of "Baikonur" complex;

Protocol between the Russian Federation and the Kazakhstan Republic on how to obtain the permission to the natural resources use for newly constructed facilities;

- Protocol between the Russian Federation and the Kazakhstan Republic on the procedures for environmental monitoring of "Baikonur" space rocket complex;

- Protocol between the Russian Federation and the Kazakhstan Republic on the access procedures to the information concerning the joint Russian-Kazakh programs of environmental issues.

- Protocol between the Russian Federation and the Kazakhstan Republic on the exchange, terms and forms of information access on the Unified State System of the environment and natural resources monitoring.

Unit 3: «International legislative experience analysis on regulation of environmental safety issues at space activities realization»

Introduction.

Outer space exploration as a historic leap in the science and technology of humanity in the twentieth century greatly affects all aspects of human life. Collision and contradiction between the scientific - technological development and environment protection of humanity becomes incredibly sharp. If the former scientific - technological revolution, which brought a negative impact on the environment has been limited, then the such kind of impact is unlimited in the space age.

In the future the space exploration will bring to mankind to improve the conditions of human life, but along with it opportunities and threats not only to present the space of human existence (the Earth), but also possible near-Earth space. So, the problem of environmental protection in the process of space exploration is not limited to outside of the Earth and the surrounding atmosphere, and is distributed in space. In this context, the scope of international legal settlement of environmental protection also applies to outer space, the corresponding objects covering the ground, airspace and outer space.

Attention paid today to environmental issues in the process of space exploration by mankind, not by chance. Scientific and technological leap, and as a condition, and as a consequence of the exploration and use of outer space by mankind, the rapid development of the space industry and space activities led to a sharp increase in the impact of human space exploration to the nature, greatly expanded the scope of its intervention in the space exploration. Intensive use of terrestrial natural resources, pollution of the earth, air and extraterrestrial environments, increasing the need for new sources of raw materials and energy brought the humanity to the brink of a major crisis. Therefore, the task of environmental protection and sustainable use of terrestrial and extraterrestrial natural resources in the development of humanity in outer space has become a problem of global character, has become an urgent task of the modern international community.

Environment protection in the space exploration process by humanity gradually becomes the center of attention of the international community, has become one of the most important principles of international space law. International protection activities of the natural environment the international community combines with a broad and diverse international cooperation between different states. Cooperation of States is becoming one of the important principles and modern international law and international space law, and is one of the most important conditions for the international protection of the environment.

1. International legal regulation of space activities in the field of environmental security under the influence of universal international agreements (analysis and proposals)

International space law is the main regulator of relations between states on the protection and use of the environment; it has to play a crucial role in the regulation of the environmental activities in their space activities.

Formation of the international legal protection of the environment happened and is happening in the mainstream of the overall process of progressive development of international space law. Therefore, the international legal regulation in this area evolved under the undoubted influence of universal international agreements such as the Moscow Partial Nuclear Test Ban Treaty in 1963, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including Moon and Other celestial Bodies, 1967. Convention on International Liability for Damage caused by Space Objects 1972, Moon Treaty dated 1979 etc. All of these international legal instruments or contain important provisions of environment protection in the process of space exploration by humanity or contribute to improvement of the earth, air and space environment.

However, the growing number of multilateral and bilateral treaties aimed at preventing environmental pollution by radioactive and other hazardous substances, protection and rational use of resources, as well as the entire natural complexes. The main, decisive role in the formation of environmental protection international legal regulation norms of as a common space law belongs to an international treaty. As an example, the formation of norms of international legal regulation of the environment by an international treaty can serve (1). Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967.); (2). Agreement on the Astronauts Rescue, the Astronauts Return and the Return of Objects Launched into Outer Space (1968.); (3). The Convention on International Liability for Damage Caused by Space Objects (1972.); (4). The Convention on Registration of Launched Objects into Outer Space (1975.); (5). Convention on the Prohibition of Military or Any Hostile Use of Environmental Modification Techniques (1977.); (6). The Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques (1978.); (7). Moon Treaty (1979) and etc.

In the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967) embodied only the principal, the basic principles and norms of international legal regulation of space and the environmental protection. Its content is not only the prevention of pollution and other harm to the outer space and the surrounding environment of mankind, but also refers to correction measures and redress after the injury.

We all know that the military use of space is one of the main goals of developed countries at the beginning of space exploration. But any military action in space poses a serious threat to peace and security to the international community, with their particular consequence is the destruction of existing

ecological balance, space and pollution of the environment. Therefore, the rules on the prohibition of military use of space contained in the Outer Space Treaty should be a source of international legal environment.

Art. IV of the Treaty stipulates that: 1) "States - Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of mass destruction weapons, install such weapons on celestial bodies, or station such weapons in outer space in any other ways "and 2)" The Moon and other celestial bodies shall be used by all states - parties to the Treaty exclusively for peaceful purposes. It is prohibited the establishment on celestial bodies the military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers. The use of military personnel for scientific research or for any other peaceful purposes not prohibited.
It is does not prohibited the use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies. " Formulation of Art. IV resulted allegations that this article does not prohibit the use of satellites in orbit around the Earth for reconnaissance, missile defense, communications and other military purposes and that, while Art. IV declares demilitarization of celestial bodies, is not prohibited conduct of military maneuvers in outer space and its military use, if such activities are carried out in accordance with international law and the Charter of the United Nations in general, and is not particularly aggressive.
We are inclined to the view that the expression "peaceful use" cannot be interpreted as a "non-aggressive" that any military action should be considered as "non-peaceful" action, even if it is undertaken for defensive purposes or to maintain or restore international peace and security. However, it should be recognized that the formulation of Art. IV leads to its interpretation in the sense that space not demilitarized in same manner as celestial body. As to the extent possible use of space and military purposes, and it is permissible to use any non-aggressive purposes, except for the deployment of nuclear weapons and other weapons of mass destruction in orbit around the Earth, the clear answer to these questions cannot be given.
The principal position, which is became the foundation of the international legal protection of environment from the harmful effects of space activities set forth in Art. IX of the Treaty on the Outer Space: "States - Parties of the Treaty shall realize outer space research and studies, including the Moon and other celestial bodies, in such a way, so as to avoid their harmful contamination and also adverse changes in the Earth's environment as a result of extraterrestrial matter and for this purpose, in the case of the need shall be taken an appropriate measures". This article is concerned some of the most important and fundamental rules. But we should immediately point out the very general nature of this provision and the some vagueness of states obligations contained in it. Firstly, in the Treaty it comes to space activities. Here we have in mind only the study and exploration of outer space, and there is no mention of the use and utilization of outer space is more important in the practice space by humanity; secondly, the avoidance from harmful contamination is limited only by outer space scale, but not with regard to pollution

of the atmosphere and the earth surface; Thirdly, the Earth's environment adverse changes is limited by the problem of extraterrestrial matter contamination -reverse pollution, and does not apply to other causes of pollution; Fourthly, the lack of the necessary interpretations and definitions of some harmful pollution, adverse changes concepts, if it is necessary, and so on.
It is noted by many international lawyers over the world. Thus, Chinese lawyer internationalist He Chichzhi, doing a detailed analysis of the content of art. IX of the Outer Space Treaty, emphasizes the lack of clarity in this position. Indeed, if literally interpreted the provision of Article. IX. it could be concluded that we should avoid the environment adverse changes only because of extraterrestrial matter. But such effects can occur because of other reasons, for example, as a result of radioactive contamination or experiments on weather changes. Exactly, appears to mr. Chichzhi He this provision understands in a such way, who writes that in the Outer Space Treaty, the attempt to prevent "adverse change in the Earth's environment" is limited to the reverse problem of extraterrestrial matter contamination. "

It is not clear also, what is meant by the term "appropriate measures", which states must accept them, who is determines when it is a "necessity" of these measures, does the concept of "appropriate measures" to consult interested parties or to take individual measures of preventive character. Nevertheless, despite the gaps Art. IX of the Outer Space Treaty, its general character even has some advantages because it gives the opportunity to develop further more specific, special rules without fear of coming into conflict with the provisions of Art. IX
According to Art. IX of the Outer Space Treaty, when any State - Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties to the Treaty in the peaceful exploration and use of outer space, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. "In turn, the state, who have reason to conclude that such an activity or experiment would cause potentially harmful interference with the peaceful exploration and use of outer space, in accordance with the Treaty endowed with the right to "request the consultation concerning the activity or experiment." Similarly, the fixed principle of preventing the potentially harmful effects of space activities in the same article. IX of the Outer Space Treaty the obligation to consult are formulated, but in a very general way and provides wide opportunity for any of its interpretation.

In particular, it is not clear totally, whether the cover "potentially harmful interference" activities for the peaceful exploration and use of outer space pollution and other adverse environmental change. There is no indication of what should be the procedure for consultation, as well as their legal implications.

Note that "there is no full clarity regards to when to hold such consultations (immediately before the experiment, or long before him) with whom to conduct

these consultations (with a particular group of States, with all states that have expressed interest in this, or any -or international body), which is meant by international consultation and the extent to which states are obliged to take them, what are the legal consequences of actions undertaken by the government after failing to reach an agreement as a result of consultation. "

2. Multilateral and bilateral international agreements aimed at preventing environmental pollution by radioactive and other hazardous substances, protection and rational use of resources, as well as entire natural systems (analysis and proposals);

With the development of space science and technology and further penetration into outer space some separate provisions of general space law and the general rules of international legal regulation of environmental protection are specified in the agreements on certain areas of human activities in outer space.

Thus, the Treaty provisions of Art. V and VIII have been developed in the Agreement on the Astronauts Rescue, the Astronauts Return and the Return of Objects Launched into Outer Space (Rescue Agreement 1968.). The Treaty provisions of Art. VI and VII on the Outer Space have been developed and supplemented with the adoption of the Convention on International Liability for Damage Caused by Space Objects (Liability Convention 1972.).

In the process of registration of space law standards, including the international legal regulation of environmental protection the Convention on International Liability for Damage Caused by Space Objects (1972) also play an important role. Article II of the Convention provides that the launching State shall be absolutely liable to pay compensation for damage caused by its space object on the Earth surface and the aircraft in flight.

In accordance with Convention's Art. I the space object include component parts of a space object as well as its launch vehicle and parts thereof. Convention on Liability should be regarded as a significant tool in the development of international space law, especially if we bear in mind that so far all attempts to codify common standards and norms of international law governing the States responsibility were unsuccessful.

The Convention was the result of many years of consultation and negotiation between the delegations, which held to different points of view and represent different scientific schools. Distinctive quality (note that the question of the States responsibility under international disposition is still on the agenda of the International Law Commission of the United Nations) of the Convention on Liability is that it was the first instrument of international space law, which has been prepared by the Legal Subcommittee of the United Nations treaties on outer space and approved at the next regular session of the Subcommittee.

However, according to the Legal Subcommittee chairman's speech the Convention is not an instrument that reflects in each of its provisions all the wishes expressed by individual delegations, and in any case is not a perfect tool. In our view, the main drawbacks of the Liability Convention are the presence of a provision allowing for the adoption of recommendatory charecter (Art. XIX, p. 2) and the absence of international Registration of Objects Launched into Outer Space.

The question about the applicable law, ie the nature of compensation, as he ventures into Art. HP shall not be considered as a drawback of the Liability Convention, especially in so far as the Convention does not limit the compensation amount to the victims.

Application of international, public and private law, and the principles of justice and fairness, of course, guarantee a fair and adequate compensation to the victims. Moreover, as stated by the Chairman of the Legal Subcommittee, the provisions of Art. XII should be understood in the context of the fourth paragraph of the preamble, which expresses the recognition of parties to the Convention "the need for effective international rules and procedures concerning liability for damage caused by space objects and to ensure, in particular, the prompt payment under the provisions of the present Convention full and fair compensation for victims such damage".

The provisions of Art. III Convention On Liability may provide a reason for concluding that the Convention applies to all cases of damage, including that caused and on celestial bodies. However, this conclusion is unwarranted. The Convention does not apply to cases of harm to persons engaged in activities on celestial bodies, or stations and other installations created directly on a celestial body. However, as indicated in the report of the eleventh session (dated 1972) of Legal Subcommittee on Space, it is proposed that a new Treaty On the Moon contained provisions on State responsibility for damage caused on the moon.

Finally, we must admit that, despite all its shortcomings, the Liability Convention "protects the victim" and that the Convention should be seen as an important tool in the evolution of space law and education of international legal regulation of environmental protection, in which the General Assembly expresses its opinion, that "the conditions of admissibility of the Liability Convention is that it should contain provisions that would ensure the full compensation of victims, and effective procedures, leading to a rapid and fair settlement of claims" environment issues.

If there were accepted some delegations' insistent demands for the inclusion of provisions in the Convention concerning the applicability of a binding decision on the settlement of claims, it could result in a risk of failure on the part of the major space-faring nations to ratify the Convention. Moreover, the duty to pay full and fair compensation to the victim of damage caused by space objects is a moral issue. A provision stating that the final decision of a recommendatory nature of the Commission Claims shall be considered in good faith is reasonable assurance that the parties to the dispute would not try to explicitly ignore the decision of the Claims Commission.

It should be taken into account that the international law still does not have any effective means of sanctions. Common interests of humanity and the need for international cooperation, understanding and friendly relations are today the only guarantee compliance with international law. Hopefully, there will not need to use Liability Convention and that the activities of States in outer space and on celestial bodies will not lead to deprivation of life, bodily injury or property damage. However, the possible application of the Liability Convention will show whether the Convention will weaken by its disadvantages or drawbacks of this tool apply only to the formal side.

3. The contractual sources of international legal regulation of environmental protection - various multilateral and bilateral agreements on States cooperation in space exploration (analysis and proposals);

The contractual sources of international legal regulation of environmental protection include various multilateral and bilateral agreements on States cooperation in space exploration. One such example is the Treaty on Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (1963). This agreement is the first international treaty dealing with the issue of outer space protection.

The agreement's text consists of a preamble and five short articles. The preamble stated the main objectives of the participants: the desire to achieve the discontinuance of all test explosions of nuclear weapons, put an end to the contamination of humanity environment by radioactive substances and to achieve an early agreement on general and complete disarmament under strict international control. Article 1. of the Treaty imposes an obligation to each participant: "... prohibit, prevent, and not damage must be taken into account ..." to carry out any nuclear weapon test explosion or any other nuclear explosion, at any place under its jurisdiction or control: a) in the atmosphere; beyond its limits, including outer space; under water, including territorial waters or high seas; and b) in any other environment if such explosion causes radioactive debris outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted".

In the provisions of the Treaty (p. 1, Art. 1), the following points are noteworthy: (a) prohibits "any nuclear weapon test explosions." The words "any explosions" in this case means that prohibited bombings of both high and low power, both atomic and hydrogen or other weapons that could be devised on the basis of nuclear energy; (b). Also prohibits "any other nuclear explosions." Thus prohibited all nuclear explosions, scientific and technical results of which may be directly or indirectly used for the production of nuclear weapons in three environments; (c). Prohibits nuclear explosions in three environments (under water, in the atmosphere and in space). In this case, first of all we mean the territory within which the State exercises sovereign power, as well as the territory which is under its control (eg, the US Trust Territory, the British colonies and trust territories). In addition to this we have in mind space that is not under the sovereignty of States (open sea and airspace above it, as well as outer space);

g). In addition to the prohibition of nuclear explosions under the water, in the atmosphere and in outer space the Treaty establishes the prohibition of such explosions in any other environment if such explosion causes radioactive debris outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted. In this case, it refers to the underground nuclear tests if such tests may cause a transition of the radioactive fallout from the territory of the State of such an explosion (eg, exit to the ocean, the atmosphere, in space, in a foreign country). This is so-called explosions with ejection. The Treaty specifically

stated that this provision should not "prejudice to the conclusion of the contract, the permanent banning of all nuclear test explosions, including all such underground explosions."
Thus, the Treaty proclaims the desire of its members to the complete cessation of all nuclear testing. In Sec. 2, Art. 1 of the Treaty states: "Each Parties of the Treaty undertakes furthermore to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or any other nuclear explosions, wherever that may be, which would take place in any of the media, mentioned in paragraph 1 (ie, in the atmosphere, outer space and under water) of this article, or would have referred to in paragraph 1 of this consequence (would cause radioactive fallout outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted.). "
Thereby by the Treaty prevented the possibility of bypassing banning nuclear weapons tests by the use of the territory of a State which is not party to the Contract, or through such a State.
In general, the Treaty facilitates the outer space exploration for peaceful purposes and the promotion of safety of flight crew spacecraft from radiation exposure. He also creates a barrier to the implementation of plans developed in the United States so-called geophysical warfare, whereby is meant by a high-altitude nuclear explosion at any time to eliminate the protective zone in the Earth's atmosphere and thus bring down on the inhabitants of a particular country stream of deadly space radiation.
Favorable environment created by the conclusion of the Moscow Treaty on Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, made it possible to prohibit the deployment in outer space nuclear weapons or other weapons of mass destruction.

3.1. UN General Assembly Resolutions (analysis and proposals)

Important role in the formation of international legal regulation norms of environmental protection belongs to various UN General Assembly resolutions.
An important role in the formation of space law norms, including international legal regulation of space and the environment protection is designed to be played by the United Nations. We are referring to the training practice within the United Nations international instruments on which base further relevant international agreements is concluded.
Among resolutions agreed by the United Nations' that impose certain obligations on the state, should be called the Declaration of Legal Principles Governing the States Activities in the Outer Space Exploration and Use (1963.); Declaration on Environment adopted in Stockholm by the United Nations Conference on the Human Environment issues (1972.); Principles governing the use of nuclear power sources in outer space (1992) and etc.
Declaration of Legal Principles Governing the States Activities in the field of Exploration and Use of Outer Space (1963) was a significant step in the

establishment of space law and international legal regulation of space and the environment protection, all of the principles which are contained in the Declaration, escalated into Outer Space Treaty.
The adoption of the Stockholm Declaration was an event that marked the beginning of a qualitatively new stage in the international legal regulation of environmental protection all of the principles contained in the Declaration also has the leading role in the field of international legal protection of the environment in the process of space exploration.

The content of the Declaration, the process of developing and adopting reflected in a large extent the contradictions that are typical for the conference, as well as for international relations in the field of environmental protection in general.

Declaration formulated goals, objectives and principles of international cooperation in this field, defined the fundamental rights and duties of states. Declaration proclaimed in general terms the importance of protecting the environment for mankind and stressed the paramount importance of international cooperation in the field of international relations.

In it, reads in particular: "The protection and improvement of the human environment for present and future generations has become an important goal to be achieved by working together and in accordance with the basic goals of peace and international economic and social development. In the international legal literature differently estimated the value and the legal nature of the Declaration. A number of researchers consider it as a source of international law, which establishes the principles and rules of conduct binding on States. So, the Chinese foreign affairs He Chichzh, recognizing that the Declaration are not sources of international law, still inclined to the statement that in this case there is take place the appearance of a new source of international law. The Declaration represents as it is a guidance document which is not legally binding.
Characteristically, the representatives of a number of States at the Stockholm Conference called the Declaration as a "environmental ethics", a kind of "moral code" behavior of states, a platform for future action, etc. Chinese foreign affairs Lin Yi'an has openion that "the Stockholm Declaration sets out the legal philosophy underlying the environmental law and may impose on the states the minimum moral obligations." The value of the Stockholm Declaration in the formation of certain ethical values, in the development of a correct approach to the solving global environment ecological problems is undoubtedly. But beyond that, it should be noted, the Declaration "has an important law-making quality."
Declaration on the Environment, as the resolution of the international conference, it is not a document with legally binding. Even the UN General Assembly resolution which is adopted unanimously or by a majority vote (with the exception of decisions on procedural financial matters, etc.)represents only recommendations.

Some consider that the Declaration "combines all existing international law principles and standards for the use and protection of nature on the basis of certain criteria that reflect the essential provisions of the modern international legal regulation of relations on environmental protection." This is certainly not the case. The states does not seek articulated in the Declaration all international environmental protection principles, as neither among the governments or among the scientists from different countries there are still no unity of views regarding to the existence in international law of those or other nature protection principles and their content.

It is true however, that the most significant principles of the prevailing at that time had find own reflection in the Declaration. Now, after almost 30 years since the adoption of the Declaration, its value is particularly noticeable. In some cases, some contracts directly refer to the provisions of the Declaration, such as the Convention on the Prevention of Military or Any Other Hostile Use of Environmental Modification Techniques, 1977.

Paris Convention on the Prevention of Marine Pollution from Land-Based Sources dated 1974., North Convention for the Protection of the Environment dated 1974, the Vienna Convention for the Protection of the Ozone Layer, 1985. In others, the Declaration principles have been included in international legal instruments as the binding rules of conduct.

Principles governing the nuclear power sources use in outer space (1992.) define the guiding principles and criteria for the international legal regulation of space and the environmental protection in the use of nuclear power sources in outer space. Firstly, this paper develops the definition of " damage " which is contained in the Outer Space Treaty and the Liability Convention, and also fixes the disadvantages of this definition, as applied to nuclear power sources in outer space. Art. 1, the Liability Convention is determined that the term "damage" means the loss of life, personal injury or other health impairment; either individuals or legal entities, or international intergovernmental organizations' property. The Outer Space Treaty and the Convention does not address the question of harm to the space and the environment at the launch of space objects.

And in fact, every crash of space objects, especially space objects with nuclear propulsion, will cause great harm to the environment and space, is forced to spend a lot on finding and clearing from radioactive stuff in the affected State to provide reparation, restoring individuals or legal entities, state or international organization on whose behalf the complaint is filed, a position that would have existed if the damage had not occurred. These harm and consumption should be kept in the term "damage". In the principles on the nuclear power sources use this gap had filled.

Secondly, in these principles the compensation scale is determined more specifically, "compensation shall include reimbursement of the duly substantiated expenses for operations of search, recovery and clean-up, including the costs of assistance received from third parties", this definition offers advisory basis for decisions on compensation disputes between the states.

Thirdly, an important part of the principles contents are different criteria for the safe use of nuclear power sources in outer space, these criteria offers the technical basis for the settlement of international legal protection of the space and environment during the use of nuclear power sources in the outer space. We are talking about radiation protection and nuclear safety, to ensure the design reliability and use of space objects with nuclear power sources, so that radioactive material does not cause a significant contamination of outer space.
During normal operation of space objects with nuclear power sources should be respected recommended by the International Commission on Radiological Protection shall provide adequate radiation protection of the population. Since the nuclear reactor can only be used in sufficiently high orbits - orbits, the length of time which is large enough to ensure that the decay of fission products to approximately on the level of activity of the actinides. As a nuclear reactors fuel should be used only highly enriched uranium-235.
Nuclear reactors shall not be made critical before they reach the operating orbit or interplanetary trajectory during all possible events, including rocket explosion, re-entry to the atmosphere, falling on ground or water, submersion in water or water intruding into the active zone. As for radioisotope generators, they must be protected by containment system is designed and constructed to withstand the heat and aerodynamic forces, since the impact of the containment system and the physical form of the isotope shall ensure that no radioactive material get into the environment, so that the drop area could be completely decontaminated by a recovery operation.
Principles relating to the Nuclear Power Sources Use in Outer Space (1992) are the first document in the UN, especially regarding the international legal regulation of space and environmental protection for one particular problem. This document will inevitably affect the formation of norms and principles of a global problem, the safe use of nuclear energy. Given the fact that environmental protection (including the space) becoming a global problem, in our opinion, this problem belongs to the second group of global problems, the problem of "life support." And such problems solution is possible only if organized cooperation of all states (which can only be achieved within the framework of the UN).
The development of science of international law and formation of a new branch of international law, including international space law is closely linked to technological progress, the creation of space law is the necessary result of technological progress in the field of space research, in other words, scientific and technological progress necessarily affect the science of international law, its principles and norms.

It is true to believe that "to ascertain the technical progress effect on international law we should notice that the existing principles and norms of international law can be divided into two categories. To the first category should include the principles and rules, the origin of which is not directly related to the technology development and technological progress; to the second is the norm, the origin of which is directly related to the technology development.

International legal protection of space and the environment as a set of legal norms is an integral part of the overall international space law. It is therefore natural that such basic principles of international space law, formed in the Outer Space Treaty, as the principles of freedom of exploration and outer space and celestial bodies use, the prohibition of national appropriation of outer space and celestial bodies, the partial demilitarization of outer space and the complete demilitarization of the heavenly bodies, international responsibility States for national activities in outer space, including for damage caused by space objects, to prevent potentially harmful consequences of experiments in outer space and on celestial bodies, to promote international cooperation in the peaceful exploration and use of outer space and celestial bodies, are fully applicable to the relations States regarding the protection and use of space and the Earth's environment and its resources.

"The impact of technological progress on international law, as a rule, expressed in present time is that, firstly, expanding space and subject matter of the application of the basic universally recognized principles of international law and, secondly, there is a completely new international legal principles and rules. Therefore, international legal regulation of environmental protection at startup space objects has its own specific principles and rules, many of which are still in the development stage and enshrined in international treaties

Environment International legal protection as a matter of international space law, began to take shape recently. A special role in this was played by the Outer Space Treaty in 1967. The process of becoming an international legal protection of the environment and therefore the system of international legal principles can be divided into two stages. In the first stage after the conclusion of the first space agreements to the Outer Space Treaty - was mainly the formation of the general principles of space law. On the second - after the Outer Space Treaty - there is a consolidation of this document, summarizing specific rules in more general principles of the system of special folding and binding them to the new international agreements. What are the principles that should guide States and the international community in its efforts to protect the Earth's environment in the process of space exploration?

The environment and human existence space protection principle in the space exploration process the central place among all the principles takes the principle of the protection of the Earth's environment and space of human existence in the process of space exploration. This principle reflects the patterns of modern international space exploration and use development, the objective need to maintain the natural balance of our planet. At the same time he determines the content of other principles and rules governing relations between states in the field of space and the environment in the use and exploration of outer space. This principle is pay attention and lawyers, and scholars in the humanities. Because the international legal regulation of the Earth's environment in the process of space exploration is not only a major issue in space law, but also an integral part of modern social activities.

We consider that the environmental protection problem involves two questions. On the one hand, it is the task of preservation, i.e. natural resources conservation in its current form, on the other hand it is a rational way of nature use. According to some scholars consideration, the space activities could potentially be of great impact to help in both aspects of environmental protection. Because of space technology provides a unique opportunity for not fragmented but global collection of objective data on the natural resources state.

In addition, it was presently able to significantly increase the possibility of deliberate action on the environment in order to obtain the optimal results.

On this basis, it describes the opportunity, the nature and specific forms of international regulation of environmental protection in the space exploration process. If some in their own theory based on the fact that space exploration is more positive effect on the environmental protection, then the Vinogradov S.V. on the contrary based on the negative impact of space activities on the environment. In a highly detailed way this principle explores by Vinogradov S.V. He writes: If at the first stage of space exploration the specialists thought not enough on the environmental aspects of space activities, giving priority to its positive results, and now it is now becoming more and more evident that it can have a significant adverse impact on the near-Earth space environment, the consequences of which are not always predictable.

Should be kept in mind that space activities could have an adverse impact not only on space but on Earth's environment too, for example, such as ozone layer depletion, sea, air pollution and etc.). On the basis of that the space law is an integral part of general international law, generally recognized principles of the international law applies to the space activities and certain tendencies and processes specific to general international law or any of its branches, cannot have its effect on other its industries.

One of these trends in international law is a quick establishment and development of both way conventional and treaty by international legal principles and rules aimed at regulation of international relations in the field of nature conservation and sustainable use of natural resources throughout the environment. It is not quite accurate to consider this principle only as a generalization of the international legal principles of environmental protection on two grounds.

First of all, it would mean that the environmental protection is more affordable in the process of space exploration, because of exactly the human' space activity is represents unlimited conditions for the space protection to the human existence. Secondly, would mean that the environmental protection is more inevitable and actual, because in the space exploration process occurs not only huge positive achievements, but along with it arose and there are serious negative consequences for the space environment, especially for the Earth's environment, which very threatens the humanity existence and destroys the existing environmental medium balance.

The space exploration by humanity has a positive influence on the space environment and Earth's environment, in particular the fact that humanity by the space exploration creates real conditions and opportunities to learn and to master on nature that were not possible before the start of the space age. Specifically, it is about more active use of space resources in Earth's remote sensing, defining the scope of human pressure on nature, industrial pollution degree, the Earth's natural resources' study and especially their changes in the course of human activity, detection of natural hazards from space, involvement in an accurate weather forecasts and so on. In all these cases, space systems, mainly the satellites, realizing the planet monitoring, helps to solve the Earth's environmental problems. If in the early years of the space age is often expressed doubts about In the early years of the space age is often expressed doubts about the substantial appropriations deployment for the space exploration, it is now the space resources use benefits that represents to the humanity in the study of the Earth natural position in meteorology, oceanography, navigation, communications and other fields are absolutely clear.

Definitely that the outer space exploration and use in general opened up to the humanity the enormous prospects, including the possibility of the environmental protection. But at the same time in the space exploration process emerged and there will emerge many negative consequences, particularly in the field of environmental protection. By extending the activities scope in space, humanity pays for its own development besides economic the environmental cost too.

The rocket-space complex functioning and the related to this the increase the launch numbers, increase in power carriers, expanding the number of countries carrying out space activities, increased penetration into the sphere of private capital space - all this has a downside, which is expressed in a growing pressure on the planet's ecological environment. **The negative effects of Astronautics are sometimes quite significant**. Consider some of them:

— Large land areas are alienated by polygons and space centers, industrial areas, some of which are located under the ground;

—In the results of rockets launches, as well as missile technology tests are destroyed fertile land areas (under the influence of high temperatures, settling solids and gases, violations chemical balance of the soil, mineral imbalance, water and air pollution combustion of rocket fuel, high mineralization of the groundwater;

—High energy supply of starting and connection services increases the environmental pressure as under power lines, roads, pipelines must be re-alienate the land; fuel transportation is accompanied by leakage, which is exacerbates an already tense ecological;

— In the testing and launching area dramatically increases the noise level.

— Atmospheric pollution combustion of rocket fuel, non-functioning parts of the rocket and space complex at the end of life, or as a result of accidents..

— Threat to the environment and human life due to falling debris, parts of the space complex, which are not burning in the atmosphere.

Although such a threat in the space exploration history is not very serious yet, but there have been cases that have attracted great attention of the international community, such as: 1) the Soviet satellite "Cosmos-954", which is contained a nuclear energy source and back entered to the atmosphere, and its debris fell on the north-west of Canada in 1978; 2)In 1969, space debris fell to the Japanese vessel, in while 5 sailors were killed; 3) In October 1987, the 7-foot strip of metal from the Soviet missiles fell in the state of California, USA, without causing any damage; 4) in 1979, part of the Skylab fell into the territory of Australia, the weight of its largest part was over 500 pounds. This list reflects the more negative aspects of space activities than positive. But now if these effects cannot be considered significant, in the future they will only increase, which can lead to a dramatic worsening of the situation.

According to our opinion, it is impossible to reduce the content of this principle only to the possibility of environmental protection in the space exploration process by States. The International legal protection of the Earth's environment nature cannot be confined within the scope of specific states. Cooperation on environmental protection should be extended beyond the states over the whole world. It is equally important that the duty of States to cooperate in the protection and sustainable use of the environment on the basis of universally recognized principles and norms of international law and international space law in order to achieve the most harmonious relations between society and nature in the course of practice space.

The lack of whole regulatory formula of the space and Earth's environmental protection principles in the international space law cannot be served as the basis for doubt that he has developed and operates. This is evidenced by the rapid growth in the number of universal, regional and bilateral environmental agreements, declarations and resolutions of international organizations.

In our view, under the space and terrestrial environmental protection principle in the space exploration process should be understood the norm of general international space law imposes on States the obligation to take all possible measures both unilateral and joint, to protect and improve the space, particularly the environment and the rational use of space and terrestrial resources for the benefit of present and future generations of humankind, on the basis of universally recognized principles of international space law and general international law

Note that it is premature to consider this principle as an imperative principle of international space law. It is known that, Shestakov L.N. rightly stresses that "peremptory norms are called such requirements which cannot be changed by agreement between the parties involved, their relationship must be in strict accordance with the requirements of a peremptory norm" '.

And so under the mandatory principles are understood such general rules, deviation from which is unacceptable even by mutual agreement between several states under pain of invalidity of such an agreement from the outset.

It is doubtful that it would be fully applicable to the space and terrestrial environmental protection principle with the space objects launch. It is known that

to the number of peremptory norms of general international law include, in particular, the principles that express the vital interests of all States. Therefore, it is possible that over time the space and the Earth's environmental protection principle will increasingly acquire the character of a peremptory norm of the international law, because the humanity progress the environmental protection as a global problem facing humanity inevitably becomes the center of attention of the international community and the object of international legal regulation.

It is well known that the environmental damage is caused primarily by their pollution and contamination as a result of human activity. Therefore, the main efforts of States aimed mainly at preventing further pollution of the spheres, including through the development and application of the relevant legal principles and rules. This aspect of environmental performance has now reached such a level that it can be said that the international space law has developed the principle of preventing the potentially harmful consequences of experiments in outer space and on celestial bodies. Under the environmental pollution is commonly understood as the artificial injection of toxic or other hazardous substances and materials into it, as well as heat radiation in such quantities that exceed the natural ability of the medium to their disinfection and self-cleaning, which leads to the destruction of animate and inanimate nature and harms health and human well-being.

This principle iunderlies on the basis of numerous international agreements adopted in recent years, which either provide the protection of individual components of space and the environment (sea, freshwater, outer space, air) against the pollution or aimed at combating with the most dangerous types of pollution (radioactive substances, hazardous wastes and chemicals).

Among the rules governing the states activities in outer space occupies an important place the principle of preventing the potentially harmful effects of such activities as set forth in Art. IX of the Outer Space Treaty dated at 1967. According to this the States have committed to the outer space study and exploration so as to avoid their harmful contamination and also adverse changes in the Earth's environment as a result of Y- extraterrestrial matter, and for this purpose, if it is necessary to take an appropriate action. Similar commitments recorded in a number of other agreements. Thus, in the Treaty on States Activities on the Moon and other celestial bodies dated at 1979 states about the prevention of adverse changes in both terrestrial and lunar environment due to the pollution, making them alien substances or in any other way (p. 1, Art. U1 Agreement).

The Provisions analysis of the Art. IX of the Treaty on Outer Space and Art. VI of the Moon Agreement allows us to conclude the existence in the international space law the principle of prevention potentially harmful effects from the space activities in primarily as a result of the space and terrestrial environment pollution. This view is shared by many experts. Since the beginning of the 60s Zhukov G.P. paid great attention to the basic principles of international space law in his own articles and monographs. When it comes to the principle of preventing the potentially harmful consequences of experiments in outer space and on celestial bodies, he emphasizes, first of all meant to prevent clogging and contamination of celestial

bodies and outer space, as well as prevention of infection out of Earth's atmosphere. According to his opinion, boundless enthusiasm for the number of objects launched into the outer space, it is inevitably leads to the space debris. To prevent space debris it is necessary the states agreement to minimize the number of objects that have lost their scientific and practical value, and continues to move in an orbit around the Earth. Also, according to his opinion, the space pollution prevention includes the problem of preventing radioactive, chemical and biological contamination of outer space. So he proposes the development of specific rules designed to prevent or reduce the harmful effects of possible contamination of terrestrial matter of outer space, including the moon and other celestial bodies, as well as to avoid possible adverse changes in the Earth's environment through the introduction of extraterrestrial matter. In accordance with the point of view of Zhukov's G.P., we can state that "the potential harmful consequences of experiments in outer space and on celestial bodies concretize the space debris. In other words, the problem concerning the space environment, more or less connected with it. The above mentioned requires a more detailed consideration of space debris impact on the space environment and how this leads to problems in the space environmental protection.

The Space debris are all man-made objects in Earth orbit or reentering into the dense atmospheric layers, which does not perform any functions and which are should be reasonably assumed as they cannot be used the available options, or any other function, the implementation of which is permitted or may be permitted, including fragments and portions. Space debris in Earth orbit as a result of outer space exploration and use creates a growing danger for future space activities.

Since the Soviet Union satellite's first launch in 1957, all countries and international organizations which are involved in the outer space exploration and use have made more than 3,200 runs, which brought more than 3,800 payloads into orbit around the Earth. From about 6500 artificial space objects in Earth orbit, with a total weight of about 2 million pounds, currently only 6% of the objects registered in the space surveillance network catalog (SSN) are applicable. Others have already moved into the space debris category, of which approximately 7000 are relatively large, with regard to small objects (size in the range 1 cm), the total number is large, presumably from 70 thousand to 140 thousand. A value in the range of 1 mm – about 1 million. In addition, analysts consider that the total orbital debris population is much greater because the debris includes a wide variety of man-made objects. Orbital debris flying in the full range of orbits used artificial satellites. Unlike natural cosmic bodies that pass through the near-Earth space of a few minutes, orbital debris, depending on the height can be rotated in orbit for a long time (several centuries). Given the high speeds of about 10 km / sec, which clashes even such millimeter objects can pierce the satellites outer skin. They constitute a potential danger of the spacecraft work. In the vacuum space, no forces act to slow the velocity of the wreckage, since even very small objects if they are rotated at high speed, can cause significant damage to the working man-made space objects. Risk of collision, causes growth of orbital debris, is recognized

worldwide as a serious threat to space travel. In view of the enlargement of spacecraft structures and longer flight collision probability may be a few percent and therefore become an important structural factor, especially for the planned space station.
In this regard, scientists in China, the US, Europe, Japan and other countries are studying these problems, and at the National Aeronautics and Space Administration (NASA) and the European Space Agency (ESA) set up working groups on orbital debris. At the moment, the main danger of a collision is likely, paired with debris, formed as a result of explosions in Earth orbits. In the future, the interactive collision at altitudes of about 1000 km in 1500 could become the main source of fragmentation that will pose a threat and at lower altitudes due to motion of the fragments closer to Earth. The following example shows how truly large the fragmentation scale and, consequently, environmental pollution on Earth as a result of the collision. According to the established formula of the mass distribution of the fragments collision, a catastrophic collision between two objects with a total weight of
5000 kg leads to the formation of:

600 Larger objects 10 cm (which can be
traced)
50 000 objects in the centimeter range

8,5 million objects in the millimeter range

1,5 billion. 1/10 objects in the millimeter range
Objects larger than 1 cm pose the greatest threat, because they cannot be neutralized by protective coatings. Protection against objects in the centimeter and millimeter possible, but it involves expensive anti measures. And even clash with submillimeter particle leads to surface erosion and poses a threat to vulnerable equipment such as solar panels, antennas and sensors, as well as for astronauts, the leading job board for the space object. Since the particles in this size range can penetrate trim sensitive equipment, cause destruction of solar panels and erosion surfaces, they should also be covered by the model space debris. Large amounts of such fine particles are not formed as a result of explosions in space, but rather a result of the collision, i.e., rather partial strikes millimeter or centimeter objects of larger structures (for example, spent satellites) or collision between two large objects. The latter occurs in space is very rare; past such an event actually been recorded only once, and possibly occurred once. The fine particles formed as a result of such events usually have a very short life, since due to their inherent low weight and area ratio retarding high aerodynamic forces. These particles are lowered towards the Earth surface very rapidly, especially in low circular orbits. For example, at 500 km existence period most of the particles does not exceed one month. At high altitudes, say 800-1000 km, the particles are in space for two to five years, but in this case, their share in the total waste stream at low altitudes (for

example, at the height of the space station - 500 km) will be quite small. However, on all surfaces that are exposed to cosmic factors and were returned from orbit, there are traces of a large number of strokes of fine particles, which indicates a high flow rate. According to the research, this high flow due to particles on eccentric orbits. Perigee these particles may be located at a height of 300 to 500 km and apogee - approximately to the height of 1000 km geostationary orbit. The particles in such eccentric orbits intersect all heights within the low-Earth orbit and thus contribute to the growth of flow. Furthermore, they have a long enough period of that flow becomes intense. High eccentricity of such debris can be attributed to the process of their education; or this eccentricity or its "parent" of the satellite, or the eccentricity is caused by the impact energy. Apparently, a substantial part of the flow of small particles is defined elliptical orbits (unlike most large pieces of debris), which will affect the angular distribution and velocity distribution of the containment structure and possible countermeasures. In addition to the problems of single collisions in the future there is a threat space flight in general: it is an opportunity chain reaction collision. The fragments resulting from the collision of two larger objects orbiting the Earth, can participate in new clashes, which could gradually lead to a chain reaction by forming a belt of artificial debris. Then at some altitudes space missions may become impossible for many centuries. The existence of such a threat was first pointed out in 1978, by Kessler and Kur Pale. It was possible to calculate the risk of collision with the current strength of the Earth-orbiting objects larger than 1 cm, which presumably has 35 000 units: it is about 20 percent a year. The risk of a catastrophic collision, ie. collision that leads to the complete destruction of the goals and the formation of a significant number of objects large enough to again lead to catastrophic collisions is, as it turned out, about 3.7 percent per year. In principle, the number of objects increases the risk of collision increases exponentially. However, a crucial role in the initiation of chain reactions play only larger objects - as potential sources of education, in a collision, a substantial amount of debris. Therefore, the prevention of smaller objects (such as explosive fragments or debris flight), despite the usefulness of this in terms of reducing the risk of collision in the near future, will not prevent a chain reaction of collisions. The steady increase in the number will certainly lead to a chain reaction of collisions. Probably at some altitudes, the number of larger objects already reached a critical level that can cause a chain reaction, or will reach this level in the next few decades if space travel will be as actively as in the past.

Therefore, in order to avoid the formation of too much debris endangering space travel, especially in order to avoid a chain reaction of collisions, it is necessary to limit, or even better to reduce the number of larger objects in Earth orbit. The constancy of the population to be reached in the end, must be maintained at the lowest possible level in order to minimize the generation process fragments as a result of the collision, endangering all space travel activities, such as the planned International Space Station.

. The Space - a unique resource of all mankind, and the problems associated with space debris will succumb to resolve only through global efforts. Definitely

preventive measures are, in terms of the number of information to an uncritical level, preferred and should be introduced as soon as possible. Subsequent active debris removal - it is always more difficult and costly affair.
Examples of effective preventive measures are: a) active withdrawal from orbit payloads and upper stages at the end of the flight, which is especially important at higher altitudes, such as the orbits planned for "Ariane 5"; b) termination of deliberate explosions in Earth orbits, or at least limit them to very low altitude; c) prevention of accidental explosions, such as purging residual fuel in the exhaust upper stages; d) the elimination of functional garbage, for example, separation bolts, cable binders, covers from the lens, et.c.; e) prevent the micro particles formation in the destruction of surfaces, such as delamination color upper stages.
Based on this, we need a fundamentally new way of doing space travel activity at higher altitudes, where the self-cleaning effect of the Earth's atmosphere is absent. All objects that appear into orbit at the end of the flight must undergo active removal, for example, by actively managed the manoeuvering re-entry, and no debris should be left in orbit.

So, for the next generation of European rocket "Ariane 5" is planned shortly after payload separation removed from orbit center stage-managed by a braking device. However, if limit the number, especially the number of larger objects in a timely manner (i.e., in the next few decades) will be impossible, the only way to reduce the unacceptable high level of critical or number will be active removal.
Therefore, in the future may require special flights to remove objects that are already in orbit to achieve tangible effect only through active removal from the high orbits of many large objects, in this regard, in IFRRO / TUBSH developed a new strategy for economical removal of numerous large objects from Earth use of satellite orbits for hauling debris, known as Teresa. This strategy provides for the transmission cycle and energy conversion using the space tug, in the near future will be the subject of a more detailed study, in cooperation with NASA and industry.
The pollution prevention principle is an expression of restraining, a kind of "negative" approach to environmental protection. Their functional specialization is to establish certain restrictions on the freedom of action of States to prohibit such activities, which is contrary to the basic principles of general international law and international space law and the common interest of all countries in maintaining balance and stability of the planet space of human existence. These principles reflect, therefore, the "negative" conservative element of the principle of environmental protection in the space exploration process. But along with this principle of environmental protection contains "positive" elements to the duty of States to cooperate with each other in the conservation and management of open space and the Earth's natural resources, to coordinate their environmental performance, make joint efforts to achieve these goals. The international cooperation principle is one of the basic principles of international law, inevitably acts in international space law and international legal regulation of the environment. In the field of environmental protection in the process of cosmic

practice urgency cooperation is enhanced by the fact that its preservation is provided only by collective efforts of all countries and peoples, as for financial reasons, and because of the degree of development of relevant scientific and technical research. This principle has been fleshed out in the principle of promoting international cooperation in the peaceful exploration and use of outer space and celestial bodies in the outer space activities, and the nature of cooperation has been limited within observe the flight of space objects launched by States and of the States, launching a space object, the UN and in other international organizations information on the activities in outer space. And in fact, the principle of international cooperation in the field of international space exploration is not limited to these limits. On the contrary, this principle permeates all space practices, including international legal regulation of the environment. Stockholm Declaration of the United Nations comes from the fact that "international matters concerning the protection and improvement of the environment should be addressed in a spirit of cooperation by all countries, big and small, on an equal basis." Moreover, such cooperation should take into account the sovereign rights and interests of all members of the international community. As a prerequisite for the conservation of space and environment at the launch of space objects and as a concrete manifestation of the principle of cooperation in the protection should be considered preliminary consultations and exchange of information between the countries concerned in cases where the actions of one or more States in space activities, there is a threat space and the environment outside their jurisdiction. For the first time the problem was formulated prior consultation of the USSR in 1962 at the Geneva session of the Legal Subcommittee of the UN Committee on Space. The Soviet draft of the Declaration of Basic Principles of Activities of States in the Exploration and Use of Outer Space for Peaceful Purposes, in paragraph 6 that says, cooperation and mutual assistance in the development of outer space should be the duty of all States; the application of any measures that might in any way hinder the investigation or the use of outer space for peaceful purposes other states should be allowed only after prior discussion and agreement on such measures among the countries concerned. " The representative of the USSR G.I. Tunkin, speaking at a meeting of the Legal Subcommittee, June 7, 1962 indicated that within the meaning of paragraph b of the draft declaration, may be recognized as legitimate only those measures on which there was a preliminary agreement. He called for the conclusion of such an agreement, stating that cooperation in space - the duty of all states.

The cooperation and prior consultation Principles contained in paragraph 6 of the Declaration of Legal Principles 1963 were included and developed in the wording of Art. IX of the Outer Space Treaty, which clearly states that, if a State Party to the Treaty has reason to believe that they planned or its citizens an activity or experiment in space can have harmful consequences for other States Parties to the Treaty, "to it shall undertake appropriate international consultations before proceeding with any such activity or experiment".

If any State Party to the Treaty any similar doubts about the activity or experiment of another state, it may request consultations with respect to the activity or experiment. It should be noted that the principle of prior consultation enshrined in the Declaration and the Outer Space Treaty only in general terms, and requires further development and concretization. We believe that no state has the right to carry out experiments and activities in space, a result that could change the Earth's environment. We affirm "that such steps to change the Earth's environment could be taken only under a special international agreement adopted after a thorough and qualified study of the problem relevant international bodies. Specific measures to prevent potentially harmful effects of activities in space should be reflected in a special international instruments, conventions and agreements. Observed that although the number of countries with which it is necessary to conduct preliminary consultations is not defined, "any discrimination in the matter completely unacceptable" for the success of efforts to prevent pollution of space and terrestrial environment are not only interested states actively involved in space exploration, but all countries and peoples. On the other hand, such consultations are not intended to establish a procedure in which "excessive nicety some states have limited interest in space exploration, could slow down the implementation of programs of other states peaceful uses of outer space. GP Zhukov in one of his works writes: "There is still no clarity as to when to hold such consultations (immediately before the experiment, or long before him) with whom to consult (with a certain group of States, with all states that have expressed interest in this, or any international body) what is meant by international consultation and the extent to which states are obliged to take them, what are the consequences of actions undertaken by the government after failing to reach an agreement as a result of the consultation. All these questions require careful analysis and development. In this connection, it seems logical to raise the issue of the development of an additional protocol to the provisions of Art. IX of the Outer Space Treaty. In this document, it would be an appropriate to reflect the rules of consultation procedure as well as recommendations on general measures to prevent pollution and adverse changes in the earth and space environment. Technology and criteria for these measures should be determined taking into account the current capabilities of scientific and technological progress and systematically reviewed. The need for consultation, as we may be at any stage of the preparation of the experiment (immediately before the experiment, or long before him), as reflected in the art. IX of the Treaty, depending on the information that was known, or additionally became known about the potential dangers of activity or experiment, creating a tort within the meaning of Art. IX of the Treaty. Take into account these main principles as broad international cooperation, compliance with the relevant interests of all states, as enshrined in the Outer Space Treaty, it seems most appropriate to conduct preliminary consultations on CT.IX.

3.2. Contract within the international intergovernmental organization (analysis and proposals)

Contracts within the international intergovernmental organization. Some lawyers expressed an idea to create a new international organization on space within the United Nations, taking into account the benefits (universal character; activities on the basis of universally recognized principles and norms of international law-making authority, significant positive experience in the current international situation and others) possessed by the United Nations. The new international space organization could be a specialized agency of the United Nations, or have the rights of the International Atomic Energy Agency, ie become a special kind of organization that would cooperate with the UN more closely than do its usual specialized agencies. Solutions of such an organization must have the certain legal validity. In our opinion, such a new international organization should differ from Inmarsat, which has only typical operational and economic activities on a commercial basis, and from the UN Committee on Space, is only a subsidiary body. The new organization of the Space business should have the character of a general international organization for solving global problems.

More specifically, it comes down to this: This organization should operate on an ongoing basis to address environmental protection problems in the space exploration process; the main functions of the organization are operational, regulatory and control that will ensure the states' behavior unity, enriched with new institutions, regulations, standards and programs; feature of its structure is that the two beginnings are balanced in the legal status of international organizations- a legal cooperation type in the supranational organization form and operational functions in the operational and economic activities form on a commercial basis; the organization has an international legal personalities quality, and acquires the right to sign along with the states of multilateral conventions, also has the right to examine their disputes through international dispute resolution proceedings; its membership should be have universal character, to attract as many as possible the largest number of States, regardless of their development' degree, no matter are they or not the space countries.

At the moment, when there are still not created any new organizations, it would be appropriate to use for consultation holdings of the UN Committee on Space. It is appropriate to note that the UN Committee on Space since 1962 keeps the official register of the information about the objects launched into outer space.

It seems that any state using the UN system, or a new organizations system, may request to hold the consultations within the meaning of Art. XI of the Treaty, and if the usefulness of such consultations is adopted , and a majority of States Parties to the Treaty with practical experience of outer space exploration and use, the Treaties State Party to which directed a request to give advice about their planned experiments or activities in space should conduct such consultations within these organizations. The need to use the international organization structure in order to effectively control the states activities in the space is dictated by the legitimate concern of all States of the Earth in relation to the dangerous consequences of a

global nature, which may be a space activities consequence. With regard to the international cooperation in case of emergencies, creating a risk of significant harm to the environment, the "embryonic" state of the corresponding obligations contained in Art. XXI of the Convention on International Liability for Damage Caused by the Space Objects.

Participating States, in particular, the launching State shall be obliged to examine the possibility of rendering appropriate and rapid assistance to the State which suffers damage, if it "presents danger in a large-scale to human life or seriously interferes with the living conditions of the population or the functioning of vital centers." The responsibility problem for pollution and adverse changes in the Earth's space environment and space exploration in the analysis of the current general international law shows that the space law was one of the integral branches of modern international law, an integral part of the international legal order.

This fact, however, in no way does not affect a certain independence and specificity of this branch of law, which has managed to develop its own principles and standards. Positively developing mainly on a contractual basis, the space law at first develops the cardinal principles based on which the states can carry out their activities in space. This kind of "space code" is the Outer Space Treaty. It is therefore quite natural that the space law practice after 1967 has taken the path specification and deepening of fundamental provisions of the Treaty on Outer Space.

It is known that the international responsibility principle of States for space activities was first formulated in Art. Art. U1 and NC Outer Space Treaty. However, its insistent solutions and concretization require still many issues related to human activities in outer space, among that the problem of non-pollution and harmful environmental changes and the space environment take not last place. The need for a legal ban on such irrational activities in space is hardly in doubt. However, over the prospect of using on space objects of nuclear installations as a rocket engines and energy sources, the possibility of radioactive contamination is seems to be quite real. The "dead" objects space debris represents as a real challenge that could cause a collision. In this regard, correctly to note that as under the Treaty of 1967 all parts of the spacecraft and launch vehicles are owned by the launching States and represents its property, so it is primarily should monitor the space cleanliness. We must also point out that radio emission which is produced by the "dead" space objects for a long time is a source of interference. Above all in 1960 the Committee for Aeronautics Association of the Bar of New York City has prepared a series of questions, which, in their opinion, will be included in an international agreement on space.

Among these provisions, in particular, it was proposed to provide the state's obligation to take the appropriate measures to reduce the possible harmful effects of biological, radiological and chemical contamination of the Earth or other celestial objects due to space activities. "

4. International legal problems of liability for environmental contamination (analysis and proposals).

The international legal liability challenge on environmental pollution. The State responsibility problems, admittedly, is one of the most pressing and complex in modern international law, and requires its scientific development. Stockholm Declaration explicitly says that "States shall cooperate in the further development of international law regarding the liability and compensation for the pollution victims and other environmental damage caused by activities of States within their jurisdiction or control to areas beyond their jurisdiction. States Adoption of the preventive measures still not guarantee of damage beyond them.

Such damage can occur as a result of the human knowledge imperfections of the interactions existing in nature and its individual elements, and as a result of States agreeing impossibility to sufficiently effective preventive measures as a result of the actions of political factors. The international law doctrine generally recognized that the State's responsibility comes as a result of violations of international law, or, more precisely, the obligations established by this standard, the international legal responsibility of the state arises in case of violation of its obligations under the international law.

The State responsibility challenges for causing a transnational damage to the space and terrestrial environment in the process of space activities, to be welling as part of a more general problem of international legal responsibility, it has its own specifics. A particular difficulty is the inadequate development of international environmental standards. In the international legal literature there is no consensus as to whether the damage independent element of international crimes. There is no doubt, however, that the damage due to exposure to the natural environment of another state is one of the most important conditions for liability of the wrong doing State. At the same time, such damage will almost always have a material expression, carry an economic character in nature. As a rule, the other States impact on the environment to qualify it as an international offense must be characterized by at least two qualities: to be "adverse" and to be "serious" or "substantial". It is known that the offender States responsibility types, forms, and extension depend on the damage nature and extent. Therefore, the main type of liability for environmental damage material responsibility is expressed as a rule the duties to correct the harm, i.e., recover the situation prior to the violation, or, failing that, to compensate to the state victims suffered damage.

Highly complex issues arising from the considering the problem of liability for the environmental damage, it is the question of fault state, one of the most controversial in the doctrine of general international law, in particular international space law.

Becoming the subject of inter-state relations in the space exploration process the environmental protection found its regulation in international law and international space law, however, this regulation still does not respond adequately seriousness of this problem.

In our opinion, in the international legal protection of the environment in the space exploration process it should include a group of norms that regulate relations between states in the natural environment use (space, atmospheric and terrestrial environment), as well as group of norms that govern relations between States the environment management in the space exploration process.

The international law sources analysis gives a reason to consider that in contemporary international law there are establishment of a new principle - the principle of the human environment protection, and also in international space law there is originated the space and environment protection principle since the international space law inception. The essential content of the international legal principle of the human environment and the space environment protection is that activities undertaken by the state under its jurisdiction or control in the outer space use and exploration should not prejudice the environment of other States and their interests in outside national jurisdiction areas.
Nowadays, the degree of outer space use and exploration by humanity far from reaching in order to strictly limit the scope of State responsibility for his actions on pollution of outer space and specific celestial bodies.
While the international community turns its attention only on the space exploration and the environmental protection the interaction, i.e., the humanity uses various positive conditions for the Earth's environment protection, which offers space practice to limit or prevent the negative effects of the Earth's environment in the space exploration process. In short, the human existence space protection eliminates the actual and potential threats in the process of the space exploration. An essential part of the environmental protection principle is the norm on the environmental pollution and space prevention. In the broadest sense of the word under the environment and the space pollution should be understood such changes in outer space, in which humanity has already got or will get, and in the earth's nature (in which lived and lives the humanity) arising in the course of space exploration because of metabolism and human energy with the environment, and threaten to destroy the nature and harm to human well-being. Damage caused by common environmental and space environment pollution occurs when the pollution level exceeds the natural ability of the environment to its disposal.

Under the surrounding environment and space pollution and adverse changes which are the result of States space activities it is understood any action (intentionally or unintentionally) leading to changes in the environment, outer space and on celestial bodies, which creates the potential threat of damage or applied direct damage to human life and health, its scientific and economic interests, as well as destroy the biological integrity and other celestial bodies, which could adversely affect them in the further development of the states.
The activities carried out by the State within its jurisdiction or control, and leading to space environment pollution and adverse changes should be regarded as an unlawful. States carrying out such activities should bear the international responsibility without any exceptions. For pollution damage which may arise as a

result of legitimate activities with high risks in the spacecraft operation, space station, etc. for environmental and space environment, international space law establishes the responsibility of the causer of such damages, regardless of his guilt. Guilty for pollution damage caused in areas beyond the limits of national jurisdiction, should be held accountable under the laws of the State of which they are, unless otherwise specified in an international treaty.

Those guilty for pollution damage caused in areas beyond the limits of national jurisdiction, must be held responsible by the State laws of this citizens, unless otherwise specified in an international treaty. The agreements in the maritime law field practice setting a fixed limit of pollution damage compensation. This principle, which is based on the true premises that the defendant is obligated to pay certain compensation for damages, and plaintiff excessive demands are will be limited, cannot be applied to pollution damage as a result of space activities, as it is almost impossible to determine in advance the size of such damage mean any amount.

In accordance with the international space law legal entities and individuals recognized as defendants for pollution damage. However, these persons may sometimes be unable to provide adequate financial compensation for pollution damage. For this purpose, the international agreement on civil liability for pollution damage should include provisions requiring the State to guarantee pollution damage compensation caused by legal entities and individuals having the nationality or membership of this state, to the established agreement limits.

States should have the right, enshrined in international treaties, taking in areas beyond the limits of national jurisdiction, protective measures to prevent contamination of their territories, provided that such measures will not exceed reasonable limits necessary to achieve this goal. Under the international law and international space law States are obliged to adopt national legislation on the prevention of environmental pollution with the existing treaties, as well as the decisions and recommendations of the competent international organizations in this field. In this regard it would be a very useful the development of a unified basis for such legislation.

In general international law and space law the need to intensify the process of State universal technical standards and regulations development and adoption that would establish criteria for optimal reliability design of technical facilities, as a result of accidents which may occur the environmental pollution, especially the Earth's environment. No less important is the development and adoption of optimal states norms and standards that would ensure the removal of the surrounding space environment and harmful agents in safe amounts, in other words, that such removal was not the contamination character. Of great importance for the successful solution of the space and environment pollution prevention problem has control on the part of the proper execution of rules and regulations that prohibit the space and the environment pollution, as well as control over the contamination level.

Such an especially important by the State side the control acquires in areas beyond national jurisdiction. The need for such control has led to the development of

specific international agreements and decision-making a number of international organizations. The implementation of such monitoring should be carried out in strict compliance with the generally recognized principles and norms of international law and space law and shall not cause undue interference with the lawful activities of states in areas beyond national jurisdiction or to violate international legal status of such areas.

Effective protection of the environment from the pollution is impossible without international cooperation states. On the one hand such kind of states cooperation should be based on multilateral, regional and bilateral agreements or other appropriate means, respecting the principle of equality and with due regard to the interests of all countries: developed and developing, large and small, regardless of their political orientation. Only under such conditions it is possible to effectively protect the environment from the pollution in the space exploration process by mankind.

On the other hand, for the purpose of cooperation among states in the space exploration process we need to create an international organization for the space and environment protection. This organization should play the role of a regulator of the states in their efforts to protect the space environment. For example, the center of information, counseling, monitoring, etc. As well as the organization should have certain functions for the settlement of international disputes arising out of space activities between the international law subjects on the environment issue. With the space exploration process development the creation of such an international organization becomes highly necessary.

References:

The major international instruments on outer space:

- Treaty on Principles Governing the States Activities in the Outer Space Exploration and Use, including the Moon and Other Celestial Bodies, 1967 (Kazakhstan joined May 30, 1997);
- Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Space Objects Launched into Outer Space 1986 (Kazakhstan joined 30 May 1997.)
- Convention on International Liability for Damage Caused by space objects 1972 (Kazakhstan joined 30 May 1997.);
- The Convention on Registration of Objects Launched into Outer Space, 1975 (Kazakhstan joined May 15, 1997);
- Moon Treaty 1979 (Kazakhstan joined May 15, 1997);
- Treaty on Testing of banning weapons in the atmosphere, outer space and under water in 1963;
- Convention on the International Telecommunications Satellite Organization (INTELSAT Convention) 1996 (Kazakhstan participates in the activities of INTELSAT from 11 May 1995);
- Declaration of Legal Principles Activities of States in the Exploration and Use of Outer Space (adopted by the UN General Assembly on December 13, 1963);
- Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting (adopted by the UN General Assembly on December 10, 1982);
- Principles of Remote Sensing of the Earth from space (adopted by the UN General Assembly December 3, 1986);
- Principles Relevant to the Nuclear Power Sources Use in Outer Space (adopted by the UN General Assembly June 23, 1992);
- Declaration on International Cooperation in the Outer Space Exploration and Use for the states benefit and interests, with particular reference to the developing countries needs in 1996;
- The Vienna Declaration on Space Activities and Human Development (adopted in 1999 on the UN World Conference on Space).

Literature:

1. Abdullayev. A.B. The Space exploration and environmental problems. Kishinev, 1990.
2. The USSR struggle for the peaceful use of outer space 1957-1985. Том,1-2.M., 1985.
3. Vasilenko B.A." State responsibility for international offenses. - Киев, 1976.
4. Vereschetin B.C. International cooperation in space. M., 1977.
5. Vinogradov C.B. International legal regulation of the Environment (the UN mechanism role) Author's abstract of the master's thesis M., 1981.
6. Vinogradov C.B. The International law and the atmosphere protection. M., 1987.
7. Gusev RK, Petrov B.B. The nature Legal protection in the USSR.M., 1979.,
8. Zhukov G.P. International legal problems of space exploration. Thesis abstract on scientific a doctoral degree. M.,1966.
9. Zhukov G.P. International space law. M., 1971,
10. Kolbasov O.S. Ecology: politics - law. M.,1976
11. Y.M. Kolosov. Responsibility in International Law. M., 1975,
12. Y.M. Kolosov. The current international law Том, 1-3. M., 1997
13. The Space and the world peace issues. M., 1966,(Ans. Ed. GP Zadorozhnyj. Authors: E. G. Wasilewska, GP Zhukov, P. Lukin)
14. Lazarev M.I. Technological progress and international law. M., 1963.
15. Levin D.B. The State responsibility in contemporary international law. -M., 1966.
16. International space law M., 1985.
17. Molodtsova E.S. Peaceful settlement of international disputes in the field of space activities. The master's thesis Autoabstract M., 1986.
18. Polyakov I.N. Responsibility for the obligations owing to a tresspass, M., 1998.
19. Rubanov A.A. International Space legal property liability. M., 1977.
20. Rudev A.I. The space stations international legal status M., 1982.
21. Sevastyanov V.I., Ursula A.D., Shkolenko Y.A. The Space exploration and environmental problem: the society and the natural environment. M., 1980.
22. Vinogradov S.V., Zhukova E.G. International legal regime for the sea, air and space environment protection: a comparative analysis. In the book. International maritime, air and space law. M. 1992.
23. Vinogradov S.V., Activities in the space and the environment. Proc .: Space and right. M., 1980.
24. Zhukov G P. The liability problem for damage in space law. "The Soviet state and the right"1965, №.6, c. 66-74.
25. Zhukov G.P. For the space cleanliness, on the prevention from potentially harmful experiments in space "Aviation and Cosmonautics"1965, №.11, c. 39-42.
26. Zhukov G.P. The UN and the outer space peaceful use problems. Proc .: UN and current international issues. For the UN 20 years M., 1965, c. 312338.

27. Zhurahov. V.G. and Mikhailov Y. The Nature Conservancy and international law. "International Affairs 1971. №.9.стр. 139-140.
28. Tymoshenko A.S. International legal protection of the Europe environment Proc .: Environment and law. In book.: Environment and law., 1977.

Bibliography in English

1. He Qi Zhi. Environmental Impact of Space Activities and Measures for International Protection, Journal of Space Law, Vol. 16, No. 2, pp. 117-127.
2. He Qi Zhi. On Strengthening International Measures for Protection of Space Environment, Environmental Aspects of Activities in Outer Space; State of the Law and Measures of Protection, Ed. by Karl-Heinz B6clcstiegeJ, Koln, 1990, pp. 245
3. He Qi Zhi . Legal Aspect of Space Activities and the Environment, Space Law: Development and Scope, Ed. by N. Jasentuliyana, New York, 1992.
4. Orbiting Debris: A Space Environmental Problem, Washington, 1990.
5. Fawcett J, E.S. International Law and the Uses of outer space. N. Y. 1978.

Documents

1. Treaty on the Nuclear Weapon Tests Prohibition in the Atmosphere, in Outer Space and Under Water, 1963.
2. Treaty on the Principles Governing the States Activities in the Outer Space, including the Moon and Other Celestial Bodies Exploration and Use, 1963
3. Agreement on the Astronaut Rescue, the Astronauts Return and the Return of Objects Launched into Outer Space, 1967.
4. Convention on International Liability for the Damage Caused by Space Objects. 1971.
5. Convention on Registration of Objects Launched into Outer Space, 1975.
6. Convention on the Prohibition of Military or Any Other Hostile Use Means of influencing to the environment, 1978.
7. Agreement on the States Activities on the Moon and Other Celestial Bodies, 1979.
8. The General Assembly adopted a resolution containing the Principles Relevant to the Nuclear Power Sources Use in Outer, 1992.
9. International Court Status
10. The Stockholm Declaration, 1972.
- The Agreement between the Kazakhstan Republic and the Russian Federation on the basic principles and conditions of the "Baikonur" cosmodrome use, 1993;
- The lease agreement of the "Baikonur" complex between the Kazakhstan Republic Government and the Russian Federation Government, 1994 (entered into force on 25 September 1995);
- The Agreement between the Kazakhstan Republic Government and the Russian Federation Government on the interaction order in case of accidents during missile launches from the "Baikonur" complex, 1999;

- The Agreement on cooperation principles between the Kazakhstan Republic Government and the Ukraine Government in space activities in 1994;
- The Agreement between the Kazakhstan Republic Government and the Ukraine Government on Cooperation in the Outer Space Exploration and Use, 1997 (entered into force on 8 February 2010);
- The Kazakh-Chinese Agreement on Cooperation in the outer space exploration for the peaceful purposes in 1998.
- The Kazakhstan Republic Constitution. August 30, 1995.
- The Environmental Code of the Kazakhstan Republic. June 20, 2007.
- Land Code of the Kazakhstan Republic. June 7, 2003.
- Water Code of the Kazakhstan Republic. July 9, 2003.

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