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Long-term sustainability of outer space activities

Analysis of the Guidelines for the Long-term Sustainability of Outer Space Activities, adopted as a result of the 62nd session of the Committee on the Peaceful Uses of Outer Space

Conference room paper by the Russian Federation

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Analysis
of Guidelines for the Long-Term Sustainability of Outer Space Activities,
adopted as a result of the 62nd session of the UN Committee on the Peaceful Uses of Outer Space (hereinafter GLTS OSA)

Sr. No.	Provisions of GLTS OSA	Provisions of the law of the Russian Federation
A.	**Policy and regulatory framework for space activities**	
A.1	**Adopt, revise and amend, as necessary, national regulatory frameworks for outer space activities**	
1.	States should adopt, revise and amend, as necessary, national regulatory frameworks for outer space activities, taking into account their obligations under the United Nations treaties on outer space as States responsible for national activities in outer space and as launching States. When adopting, revising, amending or implementing national regulatory frameworks, States should consider the need to ensure and enhance the long-term sustainability of outer space activities.	Adoption and amendment of legal acts of the Russian Federation pertaining to research, development and use of outer space is carried out in accordance with the goals, priorities and objectives of state policy of the Russian Federation defined in the Fundamentals of State Policy of the Russian Federation in the field of space activities for the period up to 2030 and beyond, approved by Presidential Decree No. 64 of January 27, 2020 (hereinafter - the Fundamentals of State Policy). If the Russian Federation decides to implement GLTS OSA provisions in the national legislation, the development of legal acts, their revision or amendment will be carried out taking into account the recommendations of GLTS OSA, among other things. The space industry of the Russian Federation is currently undergoing significant changes. For example, Aeronet National Technological Initiative and the roadmap for its implementation have been prepared to establish and advance a new direction - the aerospace industry. The roadmap defines the following goals: by 2035, creation of new competitive aerospace and geoinformation industries of the Russian economy that would mostly consist of private enterprises and be competitive at the domestic and foreign markets; development of a line of global innovative products (goods, technologies, services) within the framework of implementation of complex integrated projects to create new market segments that facilitate emergence and development of a network of small scientific, technical and technological companies that have a significant impact on the socio-economic environment in the country; by 2035, creation of infrastructure, personnel training system, a network of scientific laboratories, centers of excellence - points of growth necessary to develop and market global innovative products that would win a significant share of the world market on a permanent basis.
2.	With the increase in outer space activities by governmental and non-governmental actors from around the world, and considering that States bear international responsibility for the space activities of non-governmental entities, States should adopt, revise or amend regulatory frameworks to ensure the effective application of relevant, generally accepted international norms, standards and practices for the safe conduct of outer space activities.	
3.	When developing, revising, amending or adopting national regulatory frameworks, States should take into account the provisions of General Assembly resolution 68/74 “Recommendations on national legislation relevant to the peaceful exploration and use of outer space” (adopted on December 11, 2013) (hereinafter General Assembly resolution 68/74) concerning recommendations on national legislation relevant to peaceful exploration and use of outer space. In particular, states should take into account not only existing space projects and activities but also, to the extent practicable, the potential development of their national space sector, and envisage appropriate, timely regulation in order to avoid legal lacunae.	
4.	When adopting new regulatory legal acts or revising or amending existing legislation, states should take into account their obligations under Article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of January 27, 1967 (hereinafter the Outer Space Treaty). Traditionally, national regulations have been concerned with issues such as safety, liability, reliability and cost. States should consider regulatory	

	provisions that enhance the long-term sustainability of space activities when developing new regulations. At the same time, regulation should not be so prescriptive as to hinder initiatives aimed at improving the long-term sustainability of space activities.	Besides, in order to align the law of the Russian Federation on the use of drop zones of separating parts of space rockets (hereinafter referred to as drop zones) with actual circumstances of their use, and in order to close gaps of legislation in this sphere of activity, as well as to optimize activities ensuring public safety and environmental protection in drop zones, Roscosmos State Corporation has developed a draft federal law "On Amending Certain Legislative Acts of the Russian Federation to Improve Legal Regulation of Issues Related to the Use of Drop Zones of Separating Parts of Space Rockets". At present, the legal relationships pertaining to the use of drop zones are regulated by the Russian Federation Government Resolution No. 536 of May 31, 1995, "On the procedure and conditions of episodic use of drop zones of separating rocket parts" (hereinafter - the Resolution No. 536). This resolution of the Government of the Russian Federation affects Roscosmos State Corporation (formerly Rosaviacosmos, Federal Space Agency) in accordance with the order of the Government of the Russian Federation No. 11-r of January 4, 2000, regarding regulation of the issues of concluding agreements with executive authorities of the constituent territories of the Russian Federation for the use of drop zones (hereinafter referred to as "agreements"). At the same time, the Government of the Russian Federation, defining the essential conditions of the agreements in Resolution No. 536, does not disclose the content and scope of measures to ensure public safety and environmental protection, as well as the procedure for such measures, and refers these issues to the level of agreements between the authorized body for space activity or the Ministry of Defense and the constituent entities of the Russian Federation. The draft law proposes to establish that in order to ensure public safety for the period necessary to ensure the launch of space rockets and safe fall of their separating parts, security measures are introduced in the drop zone territory, including restrictions on entry of vehicles into the drop zone territory, a ban on entry of citizens of the Russian Federation, foreign citizens, stateless persons into the drop zone, suspension of water use, restriction of vehicle traffic, restriction of flights of aircraft, restriction of navigation.

		The draft law also stipulates that the use of land and (or) water bodies as drop zones does not entail changes in the designated purpose and permitted use of land plots and (or) water bodies (their parts), and the procedure of compensation for damage arising from the fall of separating parts of space rockets in the case of launching space rockets in the interests of defense and security and (or) as part of state programs of the Russian Federation**,** is established by the Russian Government. In addition, in connection with the improvement of control and oversight activities in the Russian Federation and implementation of the mechanism of "regulatory guillotine" by public authorities and organizations, updated regulatory systems have been prepared to optimize and align the corresponding sphere of public relations with the provisions of Federal Laws No. 248-FZ of July 31, 2020 "On State Control (Oversight) and Municipal Control in the Russian Federation" and No. 170-FZ of June 11, 2021 "On Amendments to Certain Legislative Acts of the Russian Federation due to Adoption of Federal Law 'On State Control (Oversight) and Municipal Control in the Russian Federation'". In particular, the changes affected the licensing of space activities, which provide for new approaches to the implementation of this state function aimed at reducing administrative barriers to the participants of these legal relations. An important issue in the space industry is the need to conduct conformity assessment of space equipment through regulatory consolidation of the institute of accreditation in the field of space equipment. To this end, Roscosmos State Corporation has prepared a draft federal law "On Amending Certain Legislative Acts of the Russian Federation Concerning Conformity Assessment of Space Equipment" (submitted to the Government of the Russian Federation in March 2021) and draft resolution of the Russian Federation Government "On Accreditation in the Field of Space Activities".
A.2	**Taking into account certain elements in the development, revision or amendment, as necessary, of national regulatory frameworks for outer space activities**	
1.	In developing, revising or amending, as necessary, of regulatory measures for long-term sustainability of space activities, States and international intergovernmental organizations should implement international obligations, including the obligations under the United Nations Outer Space Treaties to which they are parties.	At present the adoption and amendment of legal acts of the Russian Federation in the field of research, development and use of outer space is carried out taking into account the goals, priorities and objectives of state policy of the Russian Federation as defined in the Fundamentals of State Policy.

2.	In developing, revising, or amending, as necessary, of national regulatory frameworks, States and international intergovernmental organizations should:	
a)	take into account the provisions of General Assembly resolution 68/74 concerning recommendations on national legislation relevant to the peaceful exploration and use of outer space;	Most of the provisions of General Assembly resolution 68/74 are regulated by the Russian law. In particular, the issues of space activity licensing are defined by Article 9 of the Russian Federation Law No. 5663-1 of August 20, 1993 "On Space Activities" (hereinafter referred to as RF Law No. 5663-1) establishing that space activities are subject to licensing in accordance with Federal Law No. 99-FZ of May 04, 2011 "On Licensing Certain Types of Activities". Provision on licensing of space activities approved by the Resolution of the Government of the Russian Federation on March 18, 2020 No. 298 "On Licensing of Space Activities" (hereinafter - Provision on Licensing) establishes licensing requirements, requirements for documents and information required to obtain a license, the procedure for checking the submitted documents and information, as well as provisions on licensing control. The issues of maintaining the national register of objects launched into outer space are regulated by Article 17 of RF Law No. 5663-1, according to which space objects of the Russian Federation are subject to registration and must have markings certifying their belonging to the Russian Federation, and paragraph 30 of Article 7 of Federal Law No. 215-FZ of July 13, 2015 "On State Space Corporation ROSCOSMOS" (hereinafter - Federal Law No. 215-FZ) which determines that Roscosmos State Corporation exercises the powers of a state body in the field of registration and maintenance of the national register of launched space objects, maintains registers and cadastres required to perform the functions of Roscosmos State Corporation. The sequence of administrative procedures of the state function to maintain the register of space objects launched by the Russian Federation in outer space is established by Administrative Regulations of the Federal Space Agency to perform the state function to maintain the register of space objects launched by the Russian Federation in outer space, approved by order of the Federal Space Agency of March 22, 2010 No. 44 (hereinafter the Administrative Regulations).

b)	implement space debris mitigation measures, such as those contained in the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space, using applicable mechanisms;	Space debris mitigation issues are not regulated by the legislation of the Russian Federation. According to paragraph 18 (e) of the Fundamentals of State Policy, one of the objectives of international cooperation in the field of space activities is active participation in the discussion and international-level resolution of issues relating to man-made debris in near-Earth space, including space debris mitigation and removal from the operational orbits of spacecraft.
c)	address, to the extent practicable, the risks to people, property, public health and the environment associated with the launch, in-orbit operation and re-entry of space objects;	Risks to people, property, public health and the environment associated with the launch of space objects are taken into account in the draft federal law "On Amending Certain Legislative Acts of the Russian Federation to Improve Legal Regulation of Issues Related to the Use of Drop Zones of Separating Parts of Space Rockets", which provides for measures to ensure public safety during the use of drop zones. Therefore, the draft law proposes to establish that in order to ensure public safety for the period necessary to ensure the launch of space rockets and safe fall of their separating parts, security measures are introduced in the drop zone territory, including restrictions on entry of vehicles into the drop zone territory, a ban on entry of citizens of the Russian Federation, foreign citizens, stateless persons into the drop zone, suspension of water use, restriction of vehicle traffic, restriction of flights of aircraft, restriction of navigation. The draft law also stipulates that the use of land and (or) water bodies as drop zones does not entail changes in the designated purpose and permitted use of land plots and (or) water bodies (their parts), and the procedure of compensation for damage arising from the fall of separating parts of space rockets in the case of launching space rockets in the interests of defense and security and (or) as part of state programs of the Russian Federation, is established by the Russian Government. In addition, paragraph 1 of Article 22 of RF Law No. 5663-1 establishes that any space activity is carried out in compliance with safety requirements established by laws and other regulations of the Russian Federation. The authorized body on space activities and the federal executive authority for defense bear responsibility and perform overall management of the work to ensure safety of space activities. Space activities must be carried out taking into account the level of permissible man-made impact on the environment and near-Earth space.

		Article 25 of the Law of the Russian Federation No. 5663-1 stipulates that organizations and citizens who use (operate) space equipment or who order the design and use (operation) of space equipment, perform compulsory insurance of life and health of cosmonauts, workers of space infrastructure, as well as liability for damage caused to life, health or property of others, in the manner and on the terms established by law. Liability for the damage caused by a space object of the Russian Federation in the course of space activities in the territory of the Russian Federation or outside it, except for outer space, arises regardless of the fault of the causer of such damage (paragraph 1 of Article 30 of the Law of the Russian Federation No. 5663-1). Damage caused to the person or property of a citizen, as well as damage caused to the property of a legal entity by a space object of the Russian Federation while carrying out space activities in the territory of the Russian Federation or outside it, shall be compensated by the organization or citizen who insured their liability for causing the damage, to the extent and in the manner prescribed by the Civil Code of the Russian Federation (paragraph 1 of Article 30 of RF Law No. 5663-1).
d)	promote regulations and policies that support the idea of minimizing the impacts of human activities on Earth as well as on the outer space environment. They are encouraged to plan their activities on the basis of the Sustainable Development Goals, their main national needs, and international considerations regarding the sustainability of space and the Earth;	These recommendations can be implemented in terms of regulation of state environmental expertise and environmental impact assessment. According to Article 32 of the Federal law No. 7-FZ of January 10, 2002 “On Environment Protection”, the environmental impact assessment is carried out in relation to the planned economic and other activities which can have a direct or indirect impact on the environment, regardless of the organizational and legal forms of ownership of legal entities and individual entrepreneurs. The requirements for the materials of the environmental impact assessment are established by the federal executive authorities exercising public administration in the field of environmental protection. Article 10 of Federal Law No. 174-FZ of November 23, 1995 “On Environmental Expertise” (hereinafter Federal Law No. 174-FZ) stipulates that the state environmental expertise is organized and conducted by a federal executive authority in the field of environmental expertise and state authorities of the Russian Federation as established by this Federal Law, other regulatory legal acts of the Russian Federation, laws and other regulatory legal acts of the constituent entities of the Russian Federation. In cases stipulated by Articles 11, 12 and 22 of the Federal Law No. 174-FZ, the draft regulatory/technical and instruction/method

		documents, federal target programs, design documentation of facilities in the field of space activity undergo mandatory state and public environmental impact assessment. During the licensing procedures for space activities, the materials of the space activities environmental impact assessment are not included in the list of documents to be submitted by the applicant for a license in accordance with paragraph 4 of the Provision on Licensing. At the same time, according to the third paragraph of paragraph 1 of Article 22 of the Law of the Russian Federation No. 5663-1, space activities must be carried out taking into account the level of permissible man-made impact on the environment and near-Earth space. The levels of permissible man-made impact on the environment and near-Earth space during implementation of space activities are not defined.
e)	implement the guidance contained in the Safety Framework for Nuclear Power Source Applications in Outer Space and satisfy the intent of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space through applicable mechanisms that provide a regulatory, legal and technical framework that sets out responsibilities and assistance mechanisms prior to the use of nuclear power sources in outer space;	These recommendations are partially taken into account in the Rules for notification of the executive authorities and the State Atomic Energy Corporation ROSATOM in case of launch of a spacecraft with a nuclear power source, as well as the notification of local self-government bodies and, if necessary, provision of assistance to the population in case of emergency re-entry of such a spacecraft, approved by the resolution of the Government of the Russian Federation No. 1039 of August 15, 1997. In addition, in order to implement paragraph 4 of the Action Plan for the implementation of the Strategy of Space Nuclear Power in the Russian Federation until 2030, approved by the Decree of the Government of the Russian Federation No. 1771-r of July 08, 2020 (hereinafter the Action Plan), Roscosmos State Corporation issued an order No. 363 of December 16, 2020 “On approval of the plan to improve legal acts on nuclear and radiation safety in terms of design, operation and decommissioning of space equipment with nuclear power units”. Paragraph 5 of the Action Plan provides for improvement of the legal framework for nuclear and radiation safety as it pertains to the creation, operation and decommissioning of space equipment with nuclear power units (including development of standardization documents) during the period from 2021 to 2025.
f)	consider the potential benefits of using existing international technical standards, including those published by the International Organization for Standardization (ISO), the Consultative Committee for Space Data Systems, and national standardization bodies. In addition, States should	According to paragraph 3 of Article 44 of the Federal Law No. 184-FZ of December 27, 2002 “On technical regulation”, international standards, regional standards, regional sets of rules, standards and codes of foreign states, which result in voluntary adherence to the requirements of the adopted

	consider using the recommended practices and voluntary guidelines proposed by the Inter-Agency Space Debris Coordination Committee and the Committee on Space Research;	technical regulations or which contain the rules and methods of research (testing) and measurement, including sampling rules necessary for the application and implementation of the adopted technical regulations and performance of conformity assessment, are subject to registration in the Federal Information Fund of Technical Regulations and Standards.
g)	weigh the costs, benefits, disadvantages and risks of a range of alternatives and ensure that such measures have a clear purpose and are implementable and practicable in terms of the technical, legal and management capacities of the State imposing the regulation. Regulations should also be efficient in terms of limiting the cost for compliance (e.g., in terms of money, time or risk) compared with feasible alternatives;	All regulatory legal acts and regulatory technical documents of the Russian Federation are adopted taking into account the analysis of possible legal, technical and socio-economic consequences. All draft regulatory legal acts must undergo a procedure of public discussion in the Internet information and telecommunication network, and the results of the discussion should be disclosed in accordance with the Rules of disclosure by federal executive bodies of information on preparation of draft regulatory legal acts and results of their public discussion approved by the Resolution of the Government of the Russian Federation No. 851 of August 25, 2012 (hereinafter the Rules) and published on the Federal Portal of draft regulatory legal acts (regulation.gov.ru). The list of legal acts that are not covered by the Rules is defined in paragraph 2 of the Rules. In accordance with paragraph 4 of the Rules for assessment by federal executive bodies of the regulatory impact of draft regulations and draft decisions of the Eurasian Economic Commission, approved by the Resolution of the Government of the Russian Federation No. 1318 of December 17, 2012 “On the procedure for assessment by federal executive bodies of the regulatory impact of draft regulations and draft decisions of the Eurasian Economic Commission, as well as on amendments to certain acts of the Government of the Russian Federation”,the Ministry of Economic Development of Russia assesses the regulatory impact of draft regulations (draft decisions of the Eurasian Economic Commission) in order to determine and evaluate the possible positive and negative consequences of their adoption based on the analysis of the problem, the purpose of its regulation and possible solutions, as well as identifying provisions in the draft document that introduce excessive duties, prohibitions and restrictions for individuals and legal entities in the field of entrepreneurial and other economic activities, or contributing to their introduction, as well as provisions contributing to the emergence of unjustified costs of individuals and legal entities in the sphere of entrepreneurial and other economic activities, as well as budgets at all levels of the budgetary system of the
h)	encourage advisory input from affected national entities during the process of developing regulatory frameworks governing space activities to avoid unintended consequences of regulation that might be more restrictive than necessary or that conflicts with other legal obligations;	

		Russian Federation. According to paragraph 1.2 of the Methodology for Regulatory Impact Assessment, approved by Order of the Ministry of Economic Development of Russia No. 290 of May 27, 2013, the procedure for assessment of regulatory impact of draft acts (draft amendments, draft decisions) is implemented in order to make an informed decision concerning the method of legal regulation of social relations based on the analysis of alternatives and possible positive and (or) negative effects (economic, social, environmental) of introduction of such regulation, as well as providing an opportunity to consider the opinions of persons whose interests are affected by the regulation. Paragraph 2 of the Rules for expert anti-corruption assessment of regulatory legal acts and draft regulatory legal acts approved by the Resolution of the Government of the Russian Federation No. 96 of February 26, 2010, defines the list of regulatory legal acts and draft regulatory legal acts in relation to which the Ministry of Justice of Russia conducts an expert anti-corruption assessment. These Rules also define the procedure for conducting an independent expert anti-corruption assessment of draft regulatory legal acts. In cases stipulated by Section IV of the Regulation of the Government of the Russian Federation approved by the Resolution of the Government of the Russian Federation No. 260 of June 1, 2004, draft regulations are also subject to assessment by the Ministry of Justice, Ministry of Economic Development of Russia, Ministry of Finance, the Accounting Chamber of Russia, and in some cases FAS Russia. Along with the existing state mechanism for evaluating draft regulatory legal acts, they can also be the subject of discussions at meetings of specialized committees and commissions of the Government of the Russian Federation, chambers of the Federal Assembly of the Russian Federation and other events aimed at choosing the optimal direction of state policy in the relevant areas of public relations.
i)	examine and adapt existing relevant legislation to ensure its compliance with these guidelines, considering the need for transition periods appropriate to their level of technical development.	Only if a decision is made to implement GLTS OSA.
A.3	**Supervise national space activities**	
1.	In supervising space activities of non-governmental entities, States should ensure that entities under their jurisdiction and/or control that conduct outer	Supervision of space activities of non-governmental legal entities is implemented in the Russian Federation during licensing control through

	space activities have the appropriate structures and procedures for planning and conducting space activities in a manner that supports the objective of enhancing the long-term sustainability of outer space activities, and that they have the means to comply with relevant national and international regulatory frameworks, requirements, policies and processes in this regard.	scheduled and unscheduled inspections in the form of desk reviews and site visits. Paragraph 10 of the Provision on Licensing stipulates that the subject of licensing control is compliance of the applicant with the license requirements and adherence by the licensee with the license requirements set forth in paragraph 3 of the Provision on Licensing. At the same time, paragraph 3 of the Provision on Licensing does not provide requirements for a structure and procedure for planning and implementing space activities that contribute to the goal of enhancing the long-term sustainability of space activities, requirements for presence of the means to comply with relevant national and international regulatory frameworks, requirements, policies and processes in this regard.
2.	States bear international responsibility for national activities in outer space and for the authorization and continuing supervision of such activities, which are to be carried out in conformity with applicable international law. In fulfilling this responsibility, States should encourage each entity conducting space activities to:	According to Article 30 of the RF Law No. 5663-1, liability for the damage caused by a space object of the Russian Federation in the course of implementation of space activities in the Russian Federation or outside it, except in outer space, arises regardless of the fault of the causer of such damage (paragraph 1); damage caused to the person or property of a citizen, as well as damage caused to the property of a legal entity by a space object of the Russian Federation while carrying out space activities in the territory of the Russian Federation or outside it, shall be compensated by the organization or citizen who insured their liability for causing the damage, to the extent and in the manner prescribed by the Civil Code of the Russian Federation (paragraph 3). In accordance with the provisions of paragraph 30 of Article 7 of the Federal Law No. 215-FZ and paragraph 3.4 of the Administrative Regulations, prior to the launch of a space object by the Russian Federation, Roscosmos State Corporation preliminarily considers applications from rocket and space industry organizations and other interested legal and physical persons to include space objects in the yearly launch plan. At the stage of preliminary review of such applications, Roscosmos State Corporation takes into account the presence of legal and other grounds for registration of such space objects to make a decision on launching. Information about the launch of a space object under the jurisdiction and control of the Russian Federation is submitted to Roscosmos State Corporation within five days after the launch of the space object in the form

		of an application for its registration according to the recommended template (paragraph 3.5 of the Administrative Regulations).
a)	establish and maintain all the necessary technical competencies required to conduct the outer space activities in a safe and responsible manner and to enable the entity to comply with the relevant governmental and intergovernmental regulatory frameworks, requirements, policies and processes;	The powers and functions of Roscosmos State Corporation to ensure safety of space activities are stipulated in Article 11 of Federal Law No. 215-FZ. The Provision on Licensing establishes licensing requirements, requirements for documents and information required to obtain a license, the procedure for verification of submitted documents and information, as well as the provision on licensing control.
b)	develop specific requirements and procedures to address the safety and reliability of outer space activities under the entity's control during all phases of a mission life cycle;	
c)	assess all risks to the long-term sustainability of outer space activities associated with space activities conducted by the entity, in all phases of the mission life cycle, and take steps to mitigate such risks to the extent feasible.	
3.	In addition, States are encouraged to designate a responsible entity or entities to plan, coordinate and assess space activities with the aim of promoting their effectiveness in supporting the Sustainable Development Goals and in supporting the objectives of the guidelines for the long-term sustainability of outer space activities in a broader perspective and vision.	Part 2 of Article 1 of Federal Law No. 215-FZ establishes that Roscosmos State Corporation is the authorized governance body in the field of research, development and use of outer space, empowered on behalf of the Russian Federation to carry out state management and governance of space activities in accordance with RF Law No. 5663-1, as well as regulation in this area. Part one of Article 7 of Law of the Russian Federation No. 5663-1 also determines that the Ministry of Defense implements the state policy in the field of space activities in the interests of defense and security of the Russian Federation, and organizes work on creation of space equipment for military use and, together with the authorized body on space activities, of space equipment for dual use in scope of the space section of the state armament program, as well as federal programs in the field of space activities.
4.	States should ensure that the management of an entity that conducts outer space activities establishes structures and procedures for planning and conducting space activities in a manner that supports the objective of promoting the long-term sustainability of outer space activities. Appropriate measures to be taken by management in this regard should include:	
a)	a commitment at the highest levels of the entity to promoting the long-term sustainability of outer space activities;	According to Part 2 of Article 4 of Federal Law No. 215-FZ, the activities of Roscosmos State Corporation are aimed at creating conditions

b)	establishing and fostering an organizational commitment to promoting the long-term sustainability of outer space activities within the entity, as well as in relevant interactions with other entities;	and mechanisms for effective implementation of space activities, use of their results, management of Roscosmos State Corporation organizations and their development, as well as to contribute to strengthening national defense and ensuring state security. Paragraph 13 of Article 7 of Federal Law No. 215-FZ stipulates that Roscosmos State Corporation, in order to achieve the goals set forth by this Federal Law, together with the Ministry of Defense, other interested federal executive bodies, the Russian Academy of Sciences and other organizations, is responsible for building the Russian Federation's capacity to monitor objects and events in near-Earth space, including the mechanism of international cooperation in the aforementioned area.
c)	urging, to the extent practicable, that the entity's commitment to the long-term sustainability of outer space activities is reflected in its management structure and procedures for planning, developing and conducting outer space activities;	The legal basis for strategic planning in the Russian Federation, coordination of state and municipal strategic management and budgetary policy, the powers of federal public authorities, public authorities of constituent entities of the Russian Federation, local governments, and the procedure for their interaction with public, scientific and other organizations in strategic planning are established by the provisions of Federal Law No. 172-FZ of June 28, 2014 "On Strategic Planning in the Russian Federation" (hereinafter the Federal Law No. 172-FZ). According to paragraph 2 of Article 11 of Federal Law No. 172-FZ, strategic planning documents developed at the federal level in scope of planning and programming include state programs of the Russian Federation. According to the decree of the Government of the Russian Federation No. 1950-r of November 11, 2010, Roscosmos State Corporation is the responsible performer of the state program of the Russian Federation "Space activity of Russia". In accordance with paragraph 7 of the Procedure for development, implementation and evaluation of the effectiveness of state programs of the Russian Federation approved by the Resolution of the Government of the Russian Federation No. 588 of August 02, 2010, state programs are developed to achieve priorities and objectives of socio-economic development and national security of the Russian Federation, defined in the strategy for socio-economic development of the Russian Federation, sectoral documents of strategic planning of the Russian Federation, the strategy of spatial development of the Russian Federation and the main development

		areas of the Government of the Russian Federation for the relevant period, based on the provisions of federal laws, decisions of the President of the Russian Federation and the Government of the Russian Federation. Fundamentals of State Policy define the main goals, priorities and tasks of state policy in the field of space activities, including the tasks of international cooperation.
d)	encouraging, as appropriate, the sharing of the experiences of the entity in the conduct of safe and sustainable outer space activities as a contribution by the entity to enhancing the long-term sustainability of outer space activities;	Not regulated by the law of the Russian Federation.
e)	designating a contact point within the entity responsible for communication with relevant authorities to facilitate efficient and timely sharing of information and coordination of potentially urgent measures to promote the safety and sustainability of outer space activities.	Not regulated by the law of the Russian Federation.
5.	States should ensure that appropriate communication and consultation mechanisms are in place within and among the competent bodies that oversee or conduct space activities. Communication within and among relevant regulatory bodies can promote regulations that are consistent, predictable and transparent so as to ensure that regulatory outcomes are as intended.	According to the Provision on Licensing, Roscosmos State Corporation, as the licensing authority, exercises licensing control over the compliance of license applicants and licensees with licensing requirements. Another type of control (oversight) over space activities, as understood by GLTS OSA, is not stipulated by the legislation of the Russian Federation.
A.4	**Ensure the equitable, rational and efficient use of the radio frequency spectrum and the various orbital regions used by satellites**	
1.	In fulfilling their obligations under the Constitution and the Radio Regulations of the International Telecommunication Union (ITU), States should pay particular attention to the long-term sustainability of space activities and sustainable development on Earth and to facilitating the prompt resolution of identified harmful radio frequency interference.	Paragraphs 8 and 23 of Article 14 of Federal Law No. 215-FZ stipulate that Roscosmos State Corporation organizes activities related to the use (operation) of space technology, space systems, including satellite navigation and surveying systems, communications systems, television and radio broadcasting, activities on the design, creation and operation of communication channels, providing communications services, including services for data transmission and telematic services, telephony services, and services on leasing communication channels.
2.	As provided for in article 44 of the ITU Constitution, radio frequencies and any associated orbits, including the geostationary-satellite orbit, are limited natural resources that must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to those orbits	According to paragraph seven of Article 1 of the Federal Law No. 126-FZ of July 07, 2003 “On Communications”, one of the objectives of this federal law is to ensure centralized management of Russian radio frequency resources, including orbital frequency and numbering resources.

	and frequencies, taking into account the special needs of developing countries and the geographical situation of particular countries.	In accordance with the Regulation on the organization of work on international legal protection of the assignment (destination) of radio frequencies and radio frequency channels, approved by Order of the Ministry of Communications of Russia No. 419 of October 22, 2015, Roskomnadzor organizes interaction with the communications administrations of foreign countries, ITU and intergovernmental satellite organizations on application, coordination and registration of frequency assignments for radioelectronic means used by various radio services, on harmful interference, on violations of ITU Constitution, ITU Convention and the Radio Regulations in accordance with Article 15 of the Radio Regulations, as well as violations of agreements between the Russian Federation Communications Administration and foreign communications administrations and (or) intergovernmental satellite organizations on the use of radio frequency bands by radio-electronic means used by different radio services. According to paragraph 3 of the Regulations of the State Commission for Radio Frequencies, approved by the RF Government Resolution No. 336 of July 02, 2004, the main task of the Commission is to ensure effective and proper use of radio frequency resources under the jurisdiction of the Russian Federation, in the interests of all users in accordance with the established priorities.
3.	Consistent with the purposes of Article 45 of the ITU Constitution, States and international intergovernmental organizations should ensure that their space activities are conducted in such a manner as not to cause harmful interference with the reception and transmission of radio signals related to the space activities of other States and international intergovernmental organizations, as one of the means of promoting the long-term sustainability of outer space activities.	
4.	In their use of the electromagnetic spectrum, States and international intergovernmental organizations should consider the requirements for space-based Earth observation systems and other space-based systems and services in support of sustainable development on Earth, in accordance with the ITU Radio Regulations and the ITU Radiocommunication Sector (ITU-R) Recommendations.	
5.	States and international intergovernmental organizations should ensure the implementation of the radio regulation procedures established by ITU for space radio links. Moreover, States and international intergovernmental organizations should encourage and support regional and international cooperation aimed at improving efficiency in decision-making and implementation of practical measures to eliminate identified harmful radiofrequency interference in space radio links.	
6.	Spacecraft and launch vehicle orbital stages that have terminated their operational phases in orbits that pass through the low-Earth orbit (LEO) region should be removed from orbit in a controlled fashion. If this is not possible, they should be disposed of in orbits that avoid their long-term presence in the LEO region. Spacecraft and launch vehicle orbital stages that have terminated their operational phases in orbits that pass through the geosynchronous Earth orbit (GEO) region should be left in orbits that avoid their long-term interference with the GEO region. For space objects in or near the GEO region, the potential for future collisions can be reduced by leaving objects at the end of their mission in an orbit above the GEO region such that they will not interfere with, or return to, the GEO region.	Not regulated by the law of the Russian Federation.

A.5	Enhance the practice of registering space objects	
1.	States and international intergovernmental organizations, acting in accordance with their obligations under article VIII of the Outer Space Treaty and the Convention on Registration of Objects Launched into Outer Space, and taking into account the recommendations contained in United Nations General Assembly Resolutions 1721 B (XVI) "International cooperation in the peaceful uses of outer space" and 62/101 "Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects" (hereinafter General Assembly Resolution 62/101), should ensure the development and/or implementation of effective and comprehensive registration practices, as proper registration of space objects is a key factor in the safety and the long-term sustainability of space activities. Inadequate registration practices may have negative implications for ensuring the safety of space operations.	These recommendations are implemented in the provisions of paragraph 30 of Article 7 of the Federal Law No. 215-FZ and Roscosmos order No. 44 of March 22, 2010 "On approval of the Administrative Regulations of the Federal Space Agency to perform a state function to maintain the register of space objects launched by the Russian Federation in outer space", which determines that Roscosmos State Corporation exercises the powers of a state body in the field of registration and maintenance of the national register of launched space objects, maintains registers and cadastres required to perform the functions of Roscosmos State Corporation. In addition, paragraph 9 of H1 2021 Schedule for preparation of the draft legal acts of Roscosmos State Corporation required to support the activities of Roscosmos State Corporation, approved by Order of Roscosmos State Corporation No. 2 of January 18, 2021, provides for an action to draft an order defining the procedure for Roscosmos State Corporation to exercise its authority stipulated by paragraph 30 of article 7 of the Federal Law No. 215-FZ to register and maintain the national register of launched space objects to replace FSA order No. 44 of March 22, 2010. The draft order of Roscosmos State Corporation is undergoing an approval procedure in federal executive bodies.
2.	To that end, States and international intergovernmental organizations should adopt appropriate national or other relevant policies and regulations to harmonize and sustain over the long term such registration practices on the widest possible international basis. When registering space objects, States and international intergovernmental organizations should bear in mind the need to provide timely information that contributes to the long-term sustainability of outer space activities and should consider also providing information on space objects, their operation and their status, as set out in General Assembly resolution 62/101.	
3.	Prior to the launch of a space object, the State from whose territory or facility a space object will be launched should, in the absence of prior agreement, contact States or international intergovernmental organizations that could qualify as the launching States of that space object to jointly determine how to proceed with the registration of that particular space object. Following the launch of a space object, and considering relevant criteria in the Convention on Registration of Objects Launched into Outer Space (Registration Convention), States and/or international intergovernmental organizations that were involved in the launch should coordinate among themselves, to include those States and international intergovernmental organizations that may exercise jurisdiction and control over the non-registered space object, to register the space object.	

4.	In the event that a State or international intergovernmental organization receives, from another State or international intergovernmental organization, an enquiry seeking clarification about the registration/non-registration of a space object that could presumably be under its jurisdiction and/or control, that State or international intergovernmental organization should respond, as soon as practicable, in order to facilitate the clarification and/or resolution of a particular registration issue. In certain circumstances, a State may choose to communicate an enquiry through or copy an enquiry to the Office for Outer Space Affairs. In such cases, the requested State is encouraged to reply likewise.	
5.	The Office should be effectively engaged, within its standing responsibilities and existing resources, in executing integrated functions pertaining to: (a) the accumulation of information on orbital launches performed (i.e., completed launches resulting in the placement of objects into Earth orbit or beyond) and on orbital objects (i.e., space objects that have been launched into Earth orbit or beyond); and (b) the assignment of international designations to orbital launches and orbital objects in accordance with Committee on Space Research notation, as well as the provision of such designations to the States of registry. States and international intergovernmental organizations should support efforts by the Office to promote initiatives that would enable States to adhere to registration practices and consider implementing and sustaining the provision of registration information in furtherance of General Assembly resolution 62/101.	
6.	The launching States and, where appropriate, international intergovernmental organizations should request all necessary information from space launch service providers and users under their jurisdiction and/or control to meet all registration requirements under the Registration Convention and encourage their receptiveness to and consideration of the provision of expanded registration information. States and international intergovernmental organizations, having institutionalized the practice of providing expanded registration information, should strive to sustain such practice and identify circumstances complicating the achievement of that task.	
7.	States and international intergovernmental organizations should take into account General Assembly resolution 62/101and consider providing	

	information on any change of status in operations (inter alia, when a space object is no longer functional) and, following the change in supervision of a space object in orbit, information about changes in the orbital position. States and international intergovernmental organizations should be aware of the importance of achieving and sustaining a practicable degree of coherence and uniformity in applying the provisions of this paragraph. Varying implementation practices, in as much as such may relate to the contents and attributes of information furnished, may necessitate addressing appropriate interpretative aspects. In such cases, States and international intergovernmental organizations should, through dedicated consultative process within the Committee on the Peaceful Uses of Outer Space, consider, acquire and develop shared positions with respect to providing information on any changes in space objects' status of operations and in the orbital positions of space objects.	
8.	In cases where a launched space object contains other space objects planned for future separation and independent orbital flight, States and international intergovernmental organizations should, when entering these objects in their registry and when furnishing registration information to the Secretary-General of the United Nations, indicate (for example, in the form of side notes) the number and names of space objects that may, in the future, separate from the main space object, on the understanding that those space objects should not be given different or modified names when they are subsequently registered.	
9.	In accordance with article IV, paragraph 2, of the Registration Convention, and considering General Assembly resolution 62/101, on registration practices, as well as principle 4.3 of General Assembly resolution 47/68, States and international intergovernmental organizations should provide information to the Office through internationally accepted mechanisms on all space activities or objects that involve the use of nuclear power sources in outer space.	In accordance with subparagraph 3.2 (e) of the Administrative Regulations, Roscosmos State Corporation prepares information on space objects entered in the Register of Space Objects Launched by the Russian Federation Into Outer Space, and communicates this information to the Russian Ministry of Foreign Affairs for submission to the Secretary-General of the United Nations.
B.	**Safety of space operations**	
B.1	**Provide updated contact information and share information on space objects and orbital events**	
1.	States and international intergovernmental organizations should exchange, on a voluntary basis, and/or make readily available regularly updated contact information on their designated entities authorized to engage in exchanges of appropriate information on on-orbit spacecraft operations,	Not regulated by the law of the Russian Federation. Implementation is possible within the framework of international cooperation.

	conjunction assessments and the monitoring of objects and events in outer space, in particular those entities that are responsible for processing incoming incident reports and forecasts and adopting precautionary and response measures. This may be achieved either by providing such information to the Office for Outer Space Affairs so that the Office can make it available, within its standing mandate and existing resources, to other States and international intergovernmental organizations and/or by providing it directly to other States and international intergovernmental organizations, with the understanding that contact information for national focal points, at a minimum, will likewise be communicated to the Office.	
2.	States and international intergovernmental organizations should establish appropriate means to enable timely coordination to reduce the probability of and/or to facilitate effective responses to orbital collisions, orbital break-ups and other events that might increase the probability of accidental collisions or may pose a risk to human lives, property and/or the environment, in the case of uncontrolled re-entries of space objects.	In accordance with paragraphs two and three of clause 57 of the Federal Regulations for Use of Air Space of the Russian Federation, approved by Resolution of the Russian Government No. 138 of March 11, 2010, in case of emergency and other unforeseen circumstances in carrying out space activities, landing of space objects can be performed outside the polygon. Roscosmos State Corporation and the Russian Ministry of Defense notify the interested state and local authorities of the area and time of the landing of space objects. Resolution of the Government of the Russian Federation No. 1039 of August 15, 1997, also approved the Rules of notification of the executive authorities and Rosatom State Corporation in case of launch of a spacecraft with a nuclear energy source, as well as notification of local governments and, if necessary, providing assistance to the population in case of emergency re-entry of such a vehicle to Earth, which define the procedure, content and scheme for notification of federal executive authorities, Rosatom State Corporation, executive authorities of constituent entities of the Russian Federation and local governments in the event of an emergency involving a spacecraft with a nuclear power source on board, as well as the main areas of activity of these authorities and Rosatom State Corporation to provide assistance to the population, if necessary. Organization of search and evacuation of cosmonauts and descending space objects or their equipment (except military objects) is also carried out by Rosaviatsiya in accordance with the Russian Government Resolution No. 396 of July 30, 2004 “On approval of the Provision on Federal Air Transport Agency”, the Russian Government Resolution No. 538 of August 23, 2007 “On Unified System of Aerospace Search and Rescue in the

		Russian Federation", the Russian Government Resolution No. 530 of July 15, 2008 "On Approval of Federal Aviation Regulations for Search and Rescue in the Russian Federation",Rosaeronavigatsiya order No. 73, Minister of Defense order No. 311, Roscosmos order No. 76 of August 06, 2007 "On Approval of Regulation on Organization of Search and Rescue Support of Space Objects Flight", Rosaeronavigatsiya order No. 22 of April 03, 2007 "On Approval of Instruction on Search and Rescue Support for Flight of the International Space Station with Soyuz Crew Transport Vehicle", Rosaeronavigatsiya order No. 112 of December 21, 2007 "On Approval of Instruction on Search and Rescue Support for Flight of Civil Space Objects".
3.	States and international intergovernmental organizations should exchange, on a voluntary basis and as mutually agreed, relevant information on space objects and information related to actual or potential situations in near-Earth space that may affect the safety of outer space operations. The information exchanged should, to the extent practicable, be reliable, accurate and complete, and be concluded to be so by the providing entity. The information to be exchanged, including time reference and period of applicability and other relevant information, should be provided in a timely manner and on a mutually agreed basis.	Implementation is possible within the framework of international cooperation.
4.	States and international intergovernmental organizations should, through a dedicated consultative process, preferably under the auspices of the Committee on the Peaceful Uses of Outer Space, taking into account the work of relevant technical bodies, consider, acquire specific understanding of, and develop shared positions on the practical issues and modalities, as appropriate, relating to the exchange of relevant information on space objects and events in near-Earth space obtained from different authorized sources, in order to achieve harmonized and standardized record-keeping on space objects and events in outer space.	
5.	States and international intergovernmental organizations should consider the options for effectively accumulating and providing access to information on objects and events in outer space on a timely basis and for achieving consistency in the understanding and use of such information as one of the means to support their activities aimed at maintaining the safety of space operations. The options for consideration could include: standards and formats for representing information to enable the interoperability of	

	information shared on a voluntary basis; bilateral, regional or multilateral arrangements to exchange information; bilateral, regional or multilateral coordination among providers of information to enable cooperation and interoperability; and the establishment of a United Nations information platform. Those options could serve as a basis for a distributed international information system for multilateral cooperation in sharing and disseminating multi-source information on objects and events in near-Earth space.	
B.2	**Improve accuracy of orbital data on space objects and enhance the practice and utility of sharing orbital information on space objects**	
1.	States and international intergovernmental organizations should promote the development and use of techniques and methods to improve the accuracy of orbital data for spaceflight safety and the use of common, internationally recognized standards when sharing orbital information on space objects.	Not regulated by the law of the Russian Federation.
2.	Recognizing that spaceflight safety strongly depends upon the accuracy of orbital and other relevant data, States and international intergovernmental organizations should promote techniques and the investigation of new methods to improve such accuracy. Those methods could include national and international activities to improve the capabilities and geographical distribution of existing and new sensors, use of passive and active on-orbit tracking aids, and combining and validating data from different sources. Special attention should be paid to encouraging the participation and capacity-building of developing countries with emerging space capabilities in this domain.	
3.	When sharing orbital information on space objects, operators and other appropriate entities should be encouraged to use common, internationally recognized standards to enable collaboration and information exchange. Facilitating greater shared awareness of the current and predicted location of space objects would enable timely prediction and prevention of potential collisions.	
B.3	**Promote the collection, sharing and dissemination of space debris monitoring information**	
	States and international intergovernmental organizations should encourage the development and use of relevant technologies for the measurement, monitoring and characterization of the orbital and physical properties of space debris. States and international intergovernmental organizations	Not regulated by the law of the Russian Federation.

	should also promote the sharing and dissemination of derived data products and methodologies in support of research and international scientific cooperation on the evolution of the orbital debris population.	
B.4	**Perform conjunction assessment during all orbital phases of controlled flight**	
1.	Conjunction assessment should be performed for all spacecraft capable of adjusting trajectories during orbital phases of controlled flight for current and planned spacecraft trajectories. States and international intergovernmental organizations should, through national mechanisms and/or international cooperation, perform conjunction assessments during all orbital phases of controlled flight for their current and planned spacecraft trajectories. With due consideration to article VI of the 1967 Outer Space Treaty, States should encourage entities, including spacecraft operators and conjunction assessment service providers under their jurisdiction and/or control to perform conjunction assessments through national mechanisms, when applicable. International intergovernmental organizations should perform such assessments through their respective mechanisms.	Not regulated by the law of the Russian Federation.
2.	States and international intergovernmental organizations should develop and implement in an appropriate manner approaches to and methods for conjunction assessment that may include: (a) improving the orbit determination of relevant space objects; (b) screening current and planned trajectories of relevant space objects for potential collisions; (c) determining the risk of collision and whether an adjustment of trajectory is required to reduce the risk of collision; and (d) sharing information on the proper interpretation and usage of the conjunction assessment results, as appropriate. States and international intergovernmental organizations should, where applicable, encourage entities under their respective jurisdiction and/or control, including spacecraft operators and conjunction assessment service providers, to develop or help develop such approaches and methods to conjunction assessment.	
3.	Spacecraft operators, including those of non-governmental entities, that are unable to perform conjunction assessments should seek support, via State authorities, as necessary and in accordance with relevant applicable regulations, from appropriate around-the-clock conjunction assessment entities. International intergovernmental organizations that are unable to	

	perform conjunction assessments should seek support through their respective mechanisms.	
4.	States and international intergovernmental organizations should, in a dedicated international consultative process, acting through their designated entities, as appropriate, share knowledge and experience related to the interpretation of conjunction assessment information with the objective of developing methods and consistent criteria for assessing probability of collisions and making avoidance manoeuvre decisions and agreeing on classes of methods applicable to different types of conjunctions. States and international intergovernmental organizations that have developed practical methods and approaches for conjunction assessments and collision avoidance manoeuvre decision-making processes should also share their expertise by, inter alia, providing training opportunities for emerging spacecraft operators and disseminating best practices, knowledge and experience.	
5.	States and international intergovernmental organizations should encourage conjunction assessment service providers under their jurisdiction and control to consult on screening criteria and notification thresholds with spacecraft operators and pertinent parties before providing conjunction assessment services, as practicable.	
B.5	**Develop practical approaches for pre-launch conjunction assessment**	
1.	States and international intergovernmental organizations are encouraged to advise launch service providers under their jurisdiction and control to consider conducting pre-launch conjunction assessment for space objects to be launched. To facilitate and promote such pre-launch conjunction assessment practices, States and international intergovernmental organizations are encouraged, with the involvement of launch service providers and, as necessary, other relevant entities under their jurisdiction and control, to develop, implement and improve the corresponding methods and procedures.	Regulated only in terms of preliminary review of applications for registration of space objects launched by the Russian Federation. In accordance with paragraph 3.4 of the Administrative Regulations, before the launch of a space object is carried out by the Russian Federation, Roscosmos State Corporation performs pre-launch assessment of applications from rocket and space industry organizations and other interested legal entities and individuals for inclusion of space objects in the next yearly launch plan. At the stage of preliminary review of such applications, Roscosmos State Corporation takes into account the presence of legal and other grounds for registration of such space objects to make a decision on launching. Information about the launch of a space object under the jurisdiction and control of the Russian Federation is submitted to Roscosmos State Corporation within five days after the launch of the space object in the form
2.	States and international intergovernmental organizations are encouraged to advise launch service providers under their jurisdiction and control to seek support, as necessary, via designated entities authorized to engage in exchanges of information on pre-launch conjunction assessment, as appropriate and in accordance with relevant applicable regulations, for pre-	

	launch conjunction assessment from appropriate conjunction assessment entities.	of an application for its registration according to the recommended template (paragraph 3.5 of the Administrative Regulations).
3.	When performing a specific pre-launch conjunction assessment, launch service providers are encouraged to coordinate, via designated entities authorized to engage in exchanges of information on pre-launch conjunction assessment, with pertinent States and international intergovernmental organizations concerning the given assessment, if necessary.	
4.	States and international intergovernmental organizations should, with the involvement of launch service providers and other relevant entities under their jurisdiction and control as necessary, develop common international standards for describing relevant information required for pre-launch conjunction assessment in order to facilitate the provision, as mutually agreed, of pre-launch conjunction assessment support.	
5.	States and international intergovernmental organizations are encouraged to exchange their analytical assessment of the trends in the change of the risk of collision of space objects to be launched with other space objects operating near the planned insertion orbit.	
6.	States and international intergovernmental organizations are encouraged to consider providing, using, as appropriate, applicable existing and/or new dedicated mechanisms, information on launch schedules useful for assessing changes in the future population of space objects, pre-launch notifications containing information on the launch plan that would be useful for assisting in the identification of newly launched space objects, and notices for mariners and pilots on restricted zones at sea and in airspace. The contents and attributes of such information should be appropriate for its intended use.	
7.	States and international intergovernmental organizations should, through a dedicated consultative process within the Committee on the Peaceful Uses of Outer Space, consider, acquire and develop shared positions on information to be provided for pre-launch conjunction assessment.	
B.6	**Share operational space weather data and forecasts**	
1.	States and international intergovernmental organizations should support and promote the collection, archiving, sharing, intercalibration, long-term continuity and dissemination of critical space weather data and space	In accordance with GOST R 22.0.03-2020 “National Standard of the Russian Federation. Safety in emergencies. Natural emergencies. Terms and definitions”, approved and enacted by Rosstandart order No. 641-st of

	weather model outputs and forecasts, where appropriate in real time, as a means of enhancing the long-term sustainability of outer space activities.	September 11, 2020, 'space weather' refers to the electromagnetic radiation of the Sun, which can cause damage to humans, farm animals and cause disruption in the operation of energy and communication facilities. The seventh paragraph of clause 3 of the Resolution of the Government of the Russian Federation No. 372 of July 23, 2004 "On the Federal Service for Hydrometeorology and Environmental Monitoring" establishes that the Federal Service for Hydrometeorology and Environmental Monitoring, until changes are made in the respective regulations of the Russian Federation, shall conduct studies of hydrometeorological and geophysical processes in the atmosphere, on land surfaces, in the World Ocean, the Arctic and Antarctic, as well as in near-Earth space in terms of studying and forecasting the radiation situation, the state of the ionosphere and the Earth's magnetic field. In addition, the fifth paragraph of clause 15 "b" of Fundamentals of State Policy determines that the objectives of state policy in the field of space activities in the interests of fundamental space research is, in particular, the deployment by 2030 of space systems for global solar stereo observation, monitoring of solar activity and space weather. These recommendations can also be taken into account in the temporary instructional material on space weather approved by Roshydromet order No. 201 of April 19, 2019 (hereinafter - Temporary Instructional Material).
2.	States should be encouraged to monitor, to the extent feasible, space weather continuously and to share data and information with the aim of establishing an international space weather database network.	
3.	States and international intergovernmental organizations should support the identification of data sets critical for space weather services and research and should consider adopting policies for the free and unrestricted sharing of critical space weather data from their space-and- ground-based assets. All governmental, civilian and commercial space weather data owners are urged to allow free and unrestricted access to and archiving of such data for mutual benefit.	
4.	States and international intergovernmental organizations should also consider sharing real-time and near-real-time critical space weather data and data products in a common format, promote and adopt common access protocols for their critical space weather data and data products, and promote the interoperability of space weather data portals, thus promoting ease of data access for users and researchers. The real-time sharing of these data could provide a valuable experience for sharing in real time other kinds of data relevant to the long-term sustainability of outer space activities.	
5.	States and international intergovernmental organizations should further undertake a coordinated approach to maintaining the long-term continuity of space weather observations and identifying and filling key measurement gaps, so as to meet critical needs for space weather information and/or data.	
6.	States and international intergovernmental organizations should identify high-priority needs for space weather models, space weather model outputs and space weather forecasts and adopt policies for free and unrestricted sharing of space weather model outputs and forecasts. All governmental, civilian and commercial space weather model developers and forecast providers are urged to allow free and unrestricted access to and archival of space weather model outputs and forecasts for mutual benefit, which will promote research and development in this domain.	
7.	States and international intergovernmental organizations should also encourage their space weather service providers to:	
a)	undertake comparisons of space weather model and forecast outputs with the goal of improved model performance and forecast accuracy;	

b)	openly share and disseminate historical and future critical space weather model outputs and forecast products in a common format;	
c)	adopt common access protocols for their space weather model outputs and forecast products to the extent possible, to promote their ease of use by users and researchers, including through interoperability of space weather portals;	
d)	undertake coordinated dissemination of space weather forecasts among space weather service providers and to operational end users.	
B.7	**Develop space weather models and tools and collect established practices on the mitigation of space weather effects**	
1.	States and international intergovernmental organizations should undertake a coordinated approach to identifying and filling gaps in research and operational models and forecasting tools required to meet the needs of the scientific community and of the providers and users of space weather information services. Where possible, this should include coordinated efforts to support and promote research and development to further advance space weather models and forecasting tools, incorporating the effects of the changing solar environment and the evolving terrestrial magnetic field as appropriate, including within the context of the Committee on the Peaceful Uses of Outer Space and its Subcommittees, as well as in collaboration with other entities such as the World Meteorological Organization and the International Space Environment Service.	Issues of research of hydrometeorological and geophysical processes in the atmosphere, on the land surface, in the World Ocean, the Arctic and Antarctic, as well as in near-Earth space in terms of studying and forecasting the radiation situation, the state of the ionosphere and the magnetic field of the Earth are within the authority of Roshydromet. Based on Article 69 of the Air Code of the Russian Federation and in order to implement the standards and recommended practices of the International Civil Aviation Organization, Federal Aviation Regulations "Provision of Meteorological Information to Support Aircraft Flights" were approved by Order of the Russian Ministry of Transport No. 60 of March 03, 2014. Until the aforementioned order of the Ministry of Transport of Russia is amended, the Temporary Instructional Material regulates the issues pertaining to the structure of heliosphere, near-Earth space and the basic physical processes therein, space weather (basic phenomena, NOAA Scale, monitoring), space weather disturbances and aircraft flights (radio communication during flights, flight navigation facilities, radiation hazards for crews and passengers), space weather monitoring, space weather information for aviation users, space weather advisory messages and their distribution, requirements for the content of such messages, spatial ranges and discreteness of values for space weather advisory messages.
2.	States and international intergovernmental organizations should support and promote cooperation and coordination on ground-and-space-based space weather observations, forecast modelling, satellite anomalies and reporting of space weather effects in order to safeguard space activities. Practical measures in this regard could include:	
a)	incorporating current and forecast space weather thresholds into space launch criteria;	
b)	encouraging satellite operators to cooperate with space weather service providers to identify the information that would be most useful to mitigate anomalies and to derive recommended specific guidelines for on-orbit operations. For example, if the radiation environment is hazardous, this might include actions to delay the uploading of software, implementation of manoeuvres, etc.;	

c)	encouraging the collection, collation and sharing of information relating to ground-and space-based space weather-related impacts and system anomalies, including spacecraft anomalies;	
d)	encouraging the use of a common format for reporting space weather information. In relation to the reporting of spacecraft anomalies, satellite operators are encouraged to take note of the template proposed by the Coordination Group for Meteorological Satellites;	
e)	encouraging policies promoting the sharing of satellite anomaly data related to space weather-induced effects;	
f)	encouraging training on and knowledge transfer relating to the use of space weather data, taking into account the participation of countries with emerging space capabilities.	
3.	It is acknowledged that some data may be subject to legal restrictions and/or measures for the protection of proprietary or confidential information, in accordance with national legislation, multilateral commitments, non-proliferation norms and international law.	
4.	States and international intergovernmental organizations should work towards the development of international standards and the collection of established practices applicable for the mitigation of space weather effects in satellite design. This could include the sharing of information on design practices, guidelines and lessons learned relating to mitigation of the effects of space weather on operational space systems, as well as documentation and reports relating to space weather user needs, measurement requirements, gap analyses, cost-benefit analyses and related space weather assessments.	
5.	States should encourage entities under their jurisdiction and/or control to:	
a)	incorporate in satellite designs the capability to recover from a debilitating space weather effect, such as by including a safe mode;	
b)	incorporate space weather effects into satellite designs and mission planning for end-of-life disposal in order to ensure that the spacecraft either reach their intended graveyard orbit or de-orbit appropriately, in accordance with the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space. This should include appropriate margin analysis.	
6.	International intergovernmental organizations should also promote such measures among their member States.	

7.	States should undertake an assessment of the risk and socioeconomic impacts of adverse space weather effects on the technological systems in their respective countries. The results from such studies should be published and made available to all States and used to inform decision-making relating to the long-term sustainability of outer space activities, particularly with regard to mitigating the adverse impacts of space weather on operational space systems.	
B.8	**Design and operation of space objects regardless of their physical and operational characteristics**	
1.	States and international intergovernmental organizations are encouraged to promote design approaches that increase the trackability of space objects, regardless of their physical and operational characteristics, including small-size space objects, and those that are difficult to track throughout their orbital lifetime, as well as facilitate the accurate and precise determination of their position in orbit. Such design solutions could include the use of appropriate on-board technology.	These recommendations can be implemented when Roscosmos State Corporation exercises its powers under Clause 25 of Article 7 of the Federal Law No. 215-FZ, under which Roscosmos State Corporation forms and conducts a unified technical policy in creating modern rocket and space technology, including combat rocket technology for strategic use, in the creation and use (operation) of the objects of space infrastructure, as well as in creating and operating elements of infrastructure for the use of the results of space activities.
2.	States and international intergovernmental organizations should encourage manufacturers and operators of space objects, regardless of their physical and operational characteristics, to design such objects to implement applicable international and national space debris mitigation standards and/or guidelines in order to limit the long-term presence of space objects in protected regions of outer space after the end of their mission. States and international intergovernmental organizations are encouraged to share their experiences and information on the operation and end-of-life disposal of space objects, in furtherance of the long-term sustainability of space activities.	
3.	Due to the importance of small-size space objects to all space programmes, in particular, for developing countries and emerging spacefaring countries, the implementation of the present guideline supports the development of space programmes, including the launching and operation of small-size space objects or any other space objects that are difficult to track, in a way that promotes the long-term sustainability of outer space activities.	
B.9	**Take measures to address risks associated with the uncontrolled re-entry of space objects**	
1.	States and international intergovernmental organizations should have in place procedures for furnishing to other States and/or the Secretary-General of the United Nations, via designated entities, as soon as practicable and with updates if necessary, information on the forecasted uncontrolled re-	Not regulated by the law of the Russian Federation.

	entry of potentially hazardous space objects that are under their jurisdiction and control, and communicating and coordinating the mitigation of risks associated with such events. States and international intergovernmental organizations without space object tracking capabilities should seek support from other States and international intergovernmental organizations with such capabilities. If a State or international intergovernmental organization has early information on forecasted uncontrolled re-entry of potentially hazardous space objects that are under the jurisdiction and control of another State or international intergovernmental organization, it should share such information with that State or international intergovernmental organization via their designated entities. If a State or international intergovernmental organization has early information on the forecasted uncontrolled re-entry of potentially hazardous space objects whose jurisdiction and control is not identified, it should share such information with other States and/or the United Nations via designated entities.	
2.	States and international intergovernmental organizations with relevant technical capabilities and resources and/or States and international intergovernmental organizations which exercise jurisdiction over the objects forecast to re-enter the atmosphere should assist each other (in a proactive manner and/or in responding to a request) to improve the reliability of results when predicting the uncontrolled re-entry of potentially hazardous space objects, such as by tracking the objects and generating information on their trajectory. States and international intergovernmental organizations should cooperate to build capacity in the area of monitoring uncontrolled space object re-entries.	
3.	When feasible and without prejudice to furnishing preliminary information on possible hazardous events associated with the uncontrolled re-entry of space objects, the procedures referred to above should be employed during the final phase of the orbital flight of a space object. The procedures should be used until the termination of the ballistic flight of the space object has been confirmed, as well as in the event of the identification of the space object or its fragments that reach the surface of the Earth.	
4.	States and international intergovernmental organizations should furnish in a timely fashion relevant information they may have at their disposal, as practicable, to support addressing risks from uncontrolled re-entries. The	

	contents and attributes of such information should, to the extent practicable, be relevant to raising awareness, where appropriate, of possible contingencies associated with high-risk uncontrolled re-entries. States and international intergovernmental organizations should designate appropriate entities that are authorized to provide, request and receive such information.	
5.	States and international intergovernmental organizations should consider applying design techniques to minimize the risk associated with fragments of space objects surviving uncontrolled re-entry.	
6.	Without prejudice to article 5 of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, the State(s) having jurisdiction over the territory on which a space object or its component parts have been discovered or are presumed to have reached the surface of the Earth, should respond to any request for timely consultations by the State or international intergovernmental organization with jurisdiction and control over the object. In such consultations, the State or international intergovernmental organization exercising jurisdiction and control over the object should advise and, if mutually agreed, assist the potentially affected State(s) in the search for and identification, assessment, analysis, evacuation and return of the object or its fragments. State(s) on whose territory a space object or its component parts have been discovered or are presumed to have reached the surface of the Earth should respond to requests from the State or international intergovernmental organization with jurisdiction and control over the object to follow appropriate procedures for, inter alia, identification, assessment, and analysis of the space object or its component parts, to avoid the harmful effects of any hazardous materials which could have survived the uncontrolled re-entry.	
B.10	**Observe measures of precaution when using sources of laser beams passing through outer space**	
	When governmental and/or non-governmental entities under the jurisdiction and control of States and international intergovernmental organizations use lasers that generate beams passing through near-Earth outer space, States and international intergovernmental organizations should analyse the probability of accidental illumination of passing space objects by laser beams; conduct a quantitative evaluation of the laser radiation power at the distance of crossing space objects; if possible,	These recommendations are implemented by the order of the Federal Agency for Technical Regulation No. 1040-st of November 22, 2012 GOST 12.2.091-2012 (IEC 61010-1:2001) “Interstate standard. Safety of electrical equipment for measurement, control and laboratory use. Part 1. General requirements”.

	perform an assessment of the risk of malfunctioning of, damage to, and/or break-up of space objects due to such illumination; and, as necessary, observe appropriate measures of precaution.	
C.	**International cooperation, capacity-building and awareness**	
C.1	**Promote and facilitate international cooperation in support of the long-term sustainability of outer space activities**	
	States and international intergovernmental organizations should promote and facilitate international cooperation to enable all countries, in particular developing and emerging spacefaring countries, to implement these guidelines. International cooperation should, where appropriate, involve the public, private and academic sectors, and may include, inter alia, the exchange of experience, scientific knowledge, technology and equipment for space activities on an equitable and mutually acceptable basis.	Implementation is possible within the framework of international cooperation.
C.2	**Share experience related to the long-term sustainability of outer space activities and develop new procedures, as appropriate, for information exchange**	
1.	States and international intergovernmental organizations should share, as mutually agreed, experiences, expertise and information relating to the long-term sustainability of outer space activities, including with non-governmental entities, and develop and adopt procedures to facilitate the compilation and effective dissemination of information on the ways and means of enhancing the long-term sustainability of space activities. When further developing their information-sharing procedures, States and international intergovernmental organizations could take note of existing data-sharing practices used by non-governmental entities.	Can be implemented if the Russian Federation takes a respective decision.
2.	The experiences and expertise acquired by those engaged in space activities should be regarded as instrumental in the development of effective measures to enhance the long-term sustainability of outer space activities. States and international intergovernmental organizations should therefore share relevant experiences and expertise to enhance the long-term sustainability of space activities.	
C.3	**Promote and support capacity-building**	
1.	States and international intergovernmental organizations with experience in space activities should encourage and support capacity-building in developing countries with emerging space programmes, on a mutually acceptable basis, through measures such as improving their expertise and knowledge on spacecraft design, flight dynamics and orbits, performing	Not regulated by the law of the Russian Federation.

	joint orbital calculations and conjunction assessments, and providing access to appropriate precise orbital data and appropriate tools for the monitoring of space objects through relevant arrangements as appropriate.	
2.	States and international intergovernmental organizations should support current capacity-building initiatives and promote new forms of regional and international cooperation and capacity-building that are in accordance with national and international law to assist countries in gathering human and financial resources and achieving efficient technical capabilities, standards, regulatory frameworks and governance methods that support the long-term sustainability of outer space activities and sustainable development on Earth.	
3.	States and international intergovernmental organizations should coordinate their efforts in space-related capacity-building and data accessibility in order to ensure efficiency in the use of available resources and, to the extent that it is reasonable and relevant, avoid unnecessary duplication of functions and efforts, taking into account the needs and interests of developing countries. Capacity-building activities include education, training and sharing of appropriate experience, information, data, tools and management methodologies and techniques, as well as the transfer of technology.	
4.	States and international intergovernmental organizations should also undertake efforts to make relevant space-based information and data accessible to countries affected by natural disasters or other catastrophes, guided by considerations of humanity, neutrality and impartiality, and to support capacity-building activities aimed at enabling the receiving countries to make optimal use of such data and information. These space-based data and information with appropriate spatial and temporal resolution should be freely, quickly and easily available for countries in crisis.	
C.4	**Raise awareness of space activities**	
1.	States and international intergovernmental organizations should raise general public awareness of the important societal benefits of space activities and of the consequent importance of enhancing the long-term sustainability of outer space activities. To this end, States and international intergovernmental organizations should:	These recommendations are implemented when information about Roscosmos State Corporation activities is placed at the official website in the Internet information and telecommunications network in the form of open data in order to create conditions for maximizing the international,

a)	promote institutional and public awareness of space activities and their applications for sustainable development, environmental monitoring and assessment, disaster management and emergency response;	political, economic and social effect of open data use by all participants: the state, business structures and society. In accordance with the Methodological Recommendations on the publication of open data by state and local governance authorities, as well as technical requirements for the publication of open data, approved by the Minutes of the meeting of the Governmental Commission for Coordination of Open Government No. 4 of May 29, 2014, 'open data' refers to information placed on the Internet in the form of systematic data organized in a format that allows its automatic processing without prior human alteration, for the purpose of repeated, free and gratuitous use.
b)	conduct outreach, capacity-building and education on regulations and established practices relevant to the long-term sustainability of space activities;	
c)	promote activities of non-governmental entities that will enhance the long-term sustainability of outer space activities;	
d)	raise awareness among relevant public institutions and non-governmental entities about national and international policies, legislation, regulations and best practices that are applicable to space activities.	
2.	States and international intergovernmental organizations should promote public awareness of space applications for sustainable development, environmental monitoring and assessment, disaster management and emergency response through information-sharing and joint efforts with public institutions and non-governmental entities, taking into account the needs of current and future generations. In designing space education programmes, States, international intergovernmental organizations and non-governmental entities should pay special attention to courses on enhancing knowledge and practice of the utilization of space applications to support sustainable development. States and international intergovernmental organizations should initiate the voluntary collection of information on public awareness and education tools and programmes with a view to facilitating the development and implementation of other initiatives with similar objectives.	
3.	States and international intergovernmental organizations should foster outreach activities by or with industry, academia and other relevant non-governmental entities. Outreach, capacity-building and educational initiatives could take the form of seminars (in person or broadcast over the Internet), published guidelines to complement national and international regulations or a website with basic information on a regulatory framework and/or a contact point within the Government for regulatory information. Appropriately targeted outreach and education can assist all entities engaged in space activities in gaining a better appreciation and understanding of the nature of their obligations, in particular relating to implementation, which can lead to improved compliance with the existing	

	regulatory framework and the practices currently being employed to enhance the long-term sustainability of outer space activities. This is particularly valuable where the regulatory framework has been changed or updated, resulting in new obligations for participants in space activities.	
4.	Cooperation between Governments and non-governmental entities should be encouraged and fostered. Non-governmental entities, including professional and industry associations and academic institutions, can play important roles in increasing international awareness of issues associated with space sustainability, as well as promoting practical measures to enhance space sustainability. Such measures could include adoption of the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space; compliance with the ITU Radio Regulations related to space services; and the development of open, transparent standards for the exchange of data necessary to avoid collisions, harmful radio frequency interference or other harmful events in outer space. Non-governmental entities can also play important roles in bringing stakeholders together to develop common approaches to certain aspects of space activities that can collectively enhance the long-term sustainability of space activities.	
D.	**Scientific and technical research and development**	
D.1	**Promote and support research into and the development of ways to support sustainable exploration and use of outer space**	
1.	States and international intergovernmental organizations should promote and support research into and the development of sustainable space technologies, processes and services and other initiatives for the sustainable exploration and use of outer space, including celestial bodies.	Not regulated by the law of the Russian Federation.
2.	In their conduct of space activities for the peaceful exploration and use of outer space, including celestial bodies, States and international intergovernmental organizations should take into account, with reference to the outcome document of the United Nations Conference on Sustainable Development (General Assembly resolution 66/288, annex), the social, economic and environmental dimensions of sustainable development on Earth.	
3.	States and international intergovernmental organizations should promote the development of technologies that minimize the environmental impact of manufacturing and launching space assets and that maximize the use of renewable resources and the reusability or repurposing of space assets to enhance the long-term sustainability of those activities.	

4.	States and international intergovernmental organizations should consider appropriate safety measures to protect the Earth and the space environment from harmful contamination, taking advantage of existing measures, practices and guidelines that may apply to those activities, and developing new measures as appropriate.	
5.	States and international intergovernmental organizations conducting research and development activities to support the sustainable exploration and use of outer space should also encourage the participation of developing countries in such activities.	
D.2	**Investigate and consider new measures to manage the space debris population in the long term**	
1.	States and international intergovernmental organizations should investigate the necessity and feasibility of possible new measures, including technological solutions, and consider implementation thereof, in order to address the evolution of and manage the space debris population in the long term. These new measures, together with existing ones, should be envisaged so as not to impose undue costs on the space programmes of emerging spacefaring nations.	Not regulated by the law of the Russian Federation. According to paragraph 18 (e) of the Fundamentals of State Policy, one of the objectives of international cooperation in the field of space activities is active participation in the discussion and international-level resolution of issues relating to man-made debris in near-Earth space, including space debris mitigation and removal from the operational orbits of spacecraft.
2.	States and international intergovernmental organizations should take measures at the national and international levels, including international cooperation and capacity-building, to increase compliance with the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space.	
3.	Investigation of new measures could include, inter alia, methods for the extension of operational lifetime, novel techniques to prevent collision with and among debris and objects with no means of changing their trajectory, advanced measures for spacecraft passivation and post-mission disposal and designs to enhance the disintegration of space systems during uncontrolled atmospheric re-entry.	
4.	Such new measures aimed at ensuring the sustainability of space activities and involving either controlled or uncontrolled re-entries should not pose an undue risk to people or property, including through environmental pollution caused by hazardous substances.	
5.	Policy and legal issues, such as ensuring that these new measures are compliant with the provisions of the Charter of the United Nations and applicable international law, may also need to be addressed.	