

Space Insurance Law – A New Step to Space Commercialization in the Russian Federation

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Abstract

According to Article VII of the Outer Space Treaty and Articles II, III, etc. of the Liability Convention states bear international liability for damage caused by their launched objects. Such damage can occur at any stage of a space object's lifecycle (production, preparation for launch, launch, flight test, on-orbit exploitation, end of exploitation), so a majority of national space legislations establish conditions and specific features of insurance to cover all the stages mentioned. Thus a stable insurance system is created – a guarantee that space operators will be protected against financial consequences of possible damage. A space insurance system is an important element of a risk management system in the course of space activities, especially commercial.

Establishment of a space insurance system in Russia dates back to early 1990-s, the beginning of market reforms. Its first organizational stage is completed; uniform insurance principles and procedures have been elaborated by practice. Currently space insurance is regulated only by article 25 of the 1993 Law "On Space Activities" which establishes mandatory insurance of life and health of cosmonauts and space infrastructure personnel, as well as third-party liability insurance. Requirements for each type shall be set by a separate federal law. In the absence of such a document space insurance is regulated by the 1992 Law "On the Organization of Insurance in the Russian Federation" and Chapter 48 of the Russian Civil Code.

Draft law "On Space Risks Insurance" is targeted at creation of a stable, clear and transparent legal regime for all types of space insurance within the whole lifecycle of space objects, first of all government-owned (launch vehicles, upper stages, spacecraft and parts thereof, launch sites, etc.). The main purpose of the future law is to protect

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state interests in case of international liability for national space activities, ensure unhindered performance of the Federal Space Programme of Russia and other federal task programmes under which spacecraft is created, tested and exploited. Adoption of the federal law governing space risks insurance will guarantee timely and full coverage of damage to life, health and property, minimize risks of unplanned substantial payments, simplify insurance contract-making, prevent diversion of financial resources from international and domestic space programmes and provide for stability of space operations.

I Introduction

Space activity at the beginning of its development was a priority sphere of government interests; consequently, it was the state to bear the legal responsibility and financial risks in the course of space activities.

However, with the growth of space activities, appearance of more complex space projects and programmes, formation of the world space market, creation of numerous commercial space companies, in the complicated conditions of global financial and economic crises governments had to cut expenses on space activities and establish a regime for covering risks and liability via insurance mechanisms.

II International Space Law as a Ground for Space Insurance

The origin of the necessity to insure space risks in case of liability for damage caused to third parties lies in Article VII of the Outer Space Treaty¹ and Articles II, III, etc. of the Liability Convention (LIAB)². According to Art. II of the LIAB, a launching state bears absolute liability (notwithstanding the existence and degree of fault) to pay compensation for damage caused by its national space object on the surface of the Earth or to an aircraft in flight. If such damage is caused by one state's space object to another state's space object, people or property on board thereof anywhere but on the Earth surface, a criterion of fault is applied to determine liability (Art. III of the LIAB). The Convention establishes a uniform requirement to compensation of the damage caused (Art. XII): "The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined

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- 1 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies // General Assembly Resolution 2222 (XXI), adopted on 19 December 1966, opened for signature on 27 January 1967, entered into force on 10 October 1967.
 - 2 Convention on International Liability for Damage Caused by Space Objects // General Assembly Resolution 2777 (XXVI), adopted on 29 November 1971, opened for signature on 29 March 1972, entered into force on 1 September 1972.

in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred". In order to be ready to pay such compensation states have to provide for financial support of all space objects launched or prepared for launch into outer space. The best variant to foresee possible risks of damage and recover loss is insurance.

Apart from International Air Law, International Law of the Sea and International Atomic Law which consider the issues of property liability within the scope of civil legal relations, International Space Law follows an international approach, the basis of which is formed by intergovernmental relations³. So states are especially concerned about adverse consequences of space activity carried out by their nationals.

III National Legal Regimes for Space Insurance

Despite considerable risks during space activity, a tendency of its commercialization has made the problem of space risks insurance come to the fore. Under the conditions of budget limits and economic recession states are unable to ensure financial coverage in full in case of an accident and have to resort to insurance mechanisms. The commercial space sector, which at present plays the major role and determines the environment in the world space market, is even more eager to minimize risk factors of commercial space projects, and in this connection a stable, developed and transparent insurance regime is of utmost importance.

In the world practice the following mechanism of insurance protection of state interests in the course of national space activity is applied: a uniform requirement for granting a licence for space activity is the obtaining by an applicant of an insurance policy that covers wholly or partially possible compensation that the government will have to pay in case of damage. Such a provision has been elaborated in national space legislations of Australia⁴,

3 Zhukov G.P. International Space Law and the Challenges of the XXI Century (in commemoration of the 50th anniversary of the space flight of Yuri Gagarin). Moscow, 2011. P. 49-50.

4 The holder of a permit (authorization) for launch or return of spacecraft, certificate for launch abroad or a permit for return beyond the territory of Australia shall ensure observation of financial and insurance requirements stipulated by Chapter 7 of the Space Activities Act of Australia (Act No 123 of 1998 as amended). In accordance with these requirements shall be ensured both the holder of an authorizing document in case of third-party liability and the Commonwealth against international liability under the Liability Convention or other sources of international law (Art. 48).

Austria⁵, China⁶, France⁷, Great Britain⁸, the Republic of Korea⁹, South Africa¹⁰ and the USA¹¹.

A minimum amount of insurance cover is established in Austria (60 mln euros¹²), Australia (750 mln dollars¹³ or equal to a maximum probable loss¹⁴),

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- 5 Article 4(4) of the Austrian Outer Space Act (adopted by the National Council on 6 December 2011, entered into force on 28 December 2011) // IISL, URL: <www.iislweb.org/docs/2011_galloway/AustrianOuterSpaceAct.pdf> (last visited 7 September 2012).
 - 6 Article 19 of the Interim Measures on the Administration of Licensing the Project of Launching Civil Space Objects (Order No 12 of the Commission of Science, Technology and Industry for National Defence of the People's Republic of China, 21 November 2002) // CNSA, URL: <www.cnsa.gov.cn/n615708/n620168/n620180/31851.html> (last visited 7 September 2012).
 - 7 Article 6(I) of the Law Concerning Space Operations (Loi No 2008-518 du 3 juin 2008 relative aux opérations spatiales) // Legifrance, URL : <<http://legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000018931380>> (last visited 7 September 2012).
 - 8 Article 1 and section 5.2(f) of the Outer Space Act of 18 July 1986 // UK National Archives, URL: <www.legislation.gov.uk/ukpga/1986/38/introduction> (last visited 11 September 2012).
 - 9 Article 15(1) of the Space Development Promotion Act (Act No 7538 of 31 May 2005) // UN OOSA, URL: <www.oosa.unvienna.org/oosadb/showDocument.do?documentUid=403&country=ROK> (last visited 7 September 2012).
 - 10 Clause 14 of the Space Affairs Act (Act No 84 of 1993) // Government Gazette No 1157, 2 July 1993. URL: <www.info.gov.za/view/DownloadFileAction?id=90147> (last visited 10 September 2012).
 - 11 Public Law 85-568, Title III, Section 308, as added Public Law 96-48, Section 6(b)(2), 8 August 1979, 93 Stat. 348 // NASA, URL: <www.nasa.gov/offices/ogc/commercial/42usc2458b_prt.htm> (last visited 10 September 2012).
 - 12 In conformity with Art. 4(4) of the Austrian Outer Space Act, if third-party liability arises from space activity carried out in the public interests, the insurance coverage can be limited or the operator can be absolved of an obligation to insure liability. The same article stipulates that if the state itself is an operator of space activities, insurance of risks is not compulsory.
 - 13 The Law does not impede additional insurance protection of every launch or return (Art. 49 of the Space Activities Act of Australia).
 - 14 The concept "Maximum Probable Loss" was borrowed from the US National Aeronautics and Space Act of 1958 // Public Law 85-568, 85th Congress, H.R. 12575, 29 July 1958 (codified as amended at 42 U.S.C. §§ 2451-84 (2000) // NASA, URL: <www.nasa.gov/offices/ogc/about/space_act1.html> (last visited 9 September 2012).

Great Britain (100 mln pounds sterling¹⁵), France (60 mln euros¹⁶).

The upper limit of insurance cover is set in the US (500 mln dollars to cover third-party liability insurance and 100 mln dollars for damage caused by a private space operator to state property¹⁷).

Thus by establishing limits for space risks insurance legislators guarantee stability and financial protection that are the main incentives for space activity operators.

The existing space laws deal with insurance in general without specifying separate regimes for each stage of a space object's lifecycle (the only exception is the launch stage as the most risky). In international practice there are no standard conditions for space risks insurance. Instead, basic insurance clauses (policy wording) are elaborated and then adapted during the development of an individual insurance programme for each newly insured space project¹⁸. Imposing on a private entity / person requirements to reimburse expenses sustained, the government has the right to put a load of such responsibility in full on space activity operators. But taking into account extremely high risks and costs of space projects, such a decision would hardly stimulate private

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- 15 Von der Dunk F. Current and Future Development of National Space Law and Policy // Disseminating and Developing International and National Space Law: the Latin America and Caribbean Perspective. Proceedings of the United Nations/Brazil Workshop on Space Law. United Nations, New York, 2005. P. 43. UN OOSA, URL: <www.oosa.unvienna.org/pdf/publications/st_space_28E.pdf> (last visited 11 September 2012).
- 16 Clause III(1)(h) of the Declaration by Certain European Governments on the Launchers Exploitation Phase of Ariane, Vega, and Soyuz from the Guiana Space Centre of 30 March 2007 // UK Official Documents, URL: <www.official-documents.gov.uk/document/cm80/8049/8049.pdf> (last visited 10 September 2012). For more detail see: Hucteau M. The French Law on Space Operations. Space Objects Registration: context, process, status... // ECSL Summer Course on Space Law and Policy, Jaen, Spain, 2010. P. 11. Usually the amounts of insurance coverage significantly exceed the required minimum, which can be explained by fears of operators of a potential threat of satellite collision in outer space through the operator's fault. For more detail see: Montpert P. Space Insurance // Contracting for space: contract practice in the European space sector / Edited by L.J. Smith and I. Baumann. UK, 2011. P. 284.
- 17 Section 70112 (a)(3)(A) 49 U.S.C. Chapter 701. If the maximum probable loss determining insurance amounts in similar cases in the world market is lower than the said sums, the amounts payable are decreased accordingly. In some cases the amounts can be additionally decreased by decision of the US Minister of Transportation upon consultation with NASA and the US Air Force to ensure non-stop national space activity. The remaining amounts of compensation are covered by the federal budget, but limited to 1,5 bln US dollars (Sec. 70113 (a)(1)(B) 49 U.S.C. Chapter 701). For more detail see: Lyall F., Larsen P.B. Space Law: a Treatise. UK, 2009. P. 115.
- 18 Van Traa-Engelman H.L. Commercial Utilization of Outer Space. Martinus Nijhoff Publishers, 1993. P. 324.

investment in the space sector as fully insuring all the risks is problematic. That is why it is preferable to put legislative limits of such responsibility by setting its upper or lower limit. Thus de facto states become partially co-insurers of the licensed space activity¹⁹.

IV Space Insurance in Russia

Cosmonautics is a sphere of strategic interests of the Russian Federation. Stable increase in production output of the rocket-and-space industry (spacecraft, materials and technologies) continues even in the conditions of financial-economic instability²⁰. However, global competition growth in the world space market, commercialization of a greater number of areas of space activities, creation of new prospective spheres of application of space activity results have stipulated the need to reform the space branch – first of all its institutional, technical-technological and legal spheres. A reassessment of political priorities in space and the choice of new directions of development proved to be inevitable and urgent.

New Russian Space Policy

The present condition and perspectives of development of Russian space activities and the national rocket-and-space industry are evaluated by the quality and effectiveness of realization of the Russian Federal Space Programme²¹. In conformity with para. 1 clause 1 art. 8 of the Law “On Space Activities”²², the fundamental space law in Russia and the core of national space legislation, the Federal Space Programme of Russia is “a long-term planning document on the basis of which state order is formed for creation, production and use of spacecraft for scientific and social-economic purposes”.

Another important political document – a “Strategy of development of the rocket-and space industry for the period up to 2030 and for a further perspective” – determines state policy in the field of space, perspectives of creation of an

19 Von der Dunk F. Fundamental Provisions for National Space Laws // Space and Telecommunications Law Program Faculty Publications. Paper 11. P. 97. URL: <<http://digitalcommons.unl.edu/spacelaw/11>> (last visited 11 September 2012).

20 For more detail see: Report by the Head of Roscosmos A.N. Perminov to the Prime Minister V.V. Putin of 18 March 2009 // Roscosmos, URL: <www.roskosmos.ru/main.php?id=2&nid=5708> (last visited 10 September 2012).

21 Approved by Decree of the Government of the Russian Federation of 22 October 2005 N_o 5635 // Main provisions of the Federal Space Programme for 2006-2015 [for open publication]. Roscosmos, URL: <www.federalspace.ru/download/fkp_2015_for_site.doc> (last visited 11 September 2012).

22 Law of the Russian Federation of 20 August 1993 N_o 5663-1 “On Space Activities” // Russian Gazette, N_o 186, 6 October 1993. Reference retrieval system “ConsultantPlus”.

economically stable, innovation-based, competitive on the global level rocket-and-space industry²³.

In Section VIII “International Cooperation” of the Strategy one of the priority directions of development is “enhancement of the international legal base, creation of a reliable legal and organizational base for cooperation and partnership” (para. 11). And in clause 9.6 of the Section dedicated to *priorities of development* of the respective legal mechanisms are set the purposes of this work:

- creation of conditions to boost competitiveness of space systems and complexes at the world level;
- enhancement of effectiveness of legal mechanisms of organization and management of space activities in the interests of innovation-based development of science, social-economic sphere, security and defence;
- broadening of international cooperation;
- stimulation of use of space activity results;
- creation of conditions for efficient realization of responsibilities of Russia under its international treaties and agreements, the Federal Space Programme, other target federal programmes of development of space activities taking into consideration real capabilities of the national economy.

The problem of boosting competitiveness of the national industry at the global level is the top priority, which proves concern of the nation’s leading authorities about insufficient presence of Russian space enterprises in the world market and the lacking attention to global processes of space commercialization. In this connection the *main task* is to develop the legal base for:

- ensuring competitiveness of national spacecraft;
- modernization and acceleration of re-equipment of industrial capacity of domestic rocket-and-space enterprises;
- ensuring the required level of reliability and safety of spacecraft;
- implementation of public-private partnership mechanisms;
- use of space activity results and transfer of space technologies in other branches of economy;
- development of mechanisms of licensing, certification and *insurance*.

The last task highlighted in the Strategy proves that special attention is drawn to the means of financial protection of strategic space programmes and projects, which is especially important at the current stage of total reforming of the rocket-and-space branch of Russia.

Current Situation with Insurance of Space Risks

The prerequisites for development and implementation of a space risks insurance system in Russia appeared with the beginning of market reforms; the first organizational stage of forming the national space insurance system

23 A current draft of the Strategy can be found on the official website of Roscosmos at URL: <www.federalspace.ru/main.php?id=402> (last visited 11 September 2012).

has been completed by now. At present its further development is required as well-organized insurance mechanisms will serve as an impetus for commercialization of national space activities, contribute towards the increase in safety of space activities and attraction of foreign investment²⁴.

At present in Russia are applied uniform principles and procedures of placing space risks in the insurance market and the respective document workflow. As to the legislation, currently space insurance in Russia is governed only by article 25 of the Law “On Space Activities” which sets mandatory insurance of life and health of cosmonauts, personnel of space infrastructure objects, as well as liability for damage to life, health or property of third parties. In accordance with clause 1 of the said article, the insured parties shall be organizations and citizens exploiting spacecraft or by whose order creation and use (exploitation) is made. The order and conditions of mandatory insurance shall be determined by a *separate law*. Due to the absence of such a law currently space risks insurance is regulated by the Law “On the Organization of Insurance in the Russian Federation”²⁵ and Chapter 48 of the Russian Civil Code. At present Roscosmos has accelerated the work on preparation of a draft federal law on space risks insurance which is expected to be passed in the near future.

Draft Federal Law on Space Risks Insurance

Considering specific features of space risks, the draft federal law “On Space Risks Insurance”, work on which has been carried out since 2002, shall provide for a clear legal regime for all types of insurance (personal and property insurance) throughout the whole lifecycle of space infrastructure objects. The purpose of the law is economic protection of state interests in case of international liability for damage caused by national space activity, as well as the ensuring of unhindered performance of the Federal Space Programme of Russia and other target federal programmes, within whose framework spacecraft is created and exploited. To achieve this purpose the law shall establish reliable guarantees of compensation for damage caused in the course of national space activities.

The draft law stipulates conditions, principles and order of space insurance, sources of financing (including the federal budget), requirements to underwriters, control measures, state regulation of the process of setting insurance rates, rights and obligations and other clauses and specific features of insurance agreements, dispute settlement issues.

24 For more detail about the history of development and current problems of space risks insurance in Russia see: Medvedchikov D.A. Organization of Space Risks Insurance. Moscow, 2005. P. 12-38.

25 Russian Gazette, No 6, 12 January 1993. Reference retrieval system “ConsultantPlus”.

The following types of insurance are covered by the future law:

- (a) insurance of life and health of cosmonauts and personnel of space infrastructure objects;
- (b) insurance of liability for damage caused to life, health or property of third parties;
- (c) insurance of the federal property of launch sites, including those rented by the Government of Russia (i.e. the Baikonur launch site in the territory of Kazakhstan), against risks of loss or damage during commercial space launches.

The ambit of the future law covers the following categories of persons:

- cosmonauts and personnel of ground-based infrastructure objects;
- organizations and citizens creating or using (exploiting) spacecraft or by whose order spacecraft is created or used (exploited);
- insurance companies (in the part of their rights and obligations);
- third parties suffering damage to their lives, health or property as a result of space activities.

To date insurance of cosmonauts and space infrastructure personnel is financed by the orderer at its expense and by own will as the abovementioned article 25 does not provide for a mechanism and conditions of mandatory insurance.

Liability insurance in its turn is financed by the budgets of companies preparing and performing the launch of carrier rockets with spacecraft on board. It means that indirectly the financing is drawn from the federal budget which is a heavy load on it. So far there have not been any limits of liability (and thus insurance coverage) in case of an accident.

Third-party liability insurance is presented in the draft law only as “insurance of liability under obligations arising from damage to life, health or property of third parties during *preparation and performance of launch of space objects*”. The authors of the draft law consider it important to establish mandatory liability insurance only at two stages of a space object’s lifecycle, thus limiting the provision of clause 1 art. 25 of the Law “On Space Activities” which implies (though does not state directly) the necessity to insure spacecraft throughout its whole life.

The current fragmentarity of the legal regulation of space insurance impedes full use of financial resources of the Russian insurance market to ensure stability and integrity of space activities, compensation of potential damage, lowering a burden on the state budget due to the absence of unambiguous mechanisms and conditions for using own financing of space enterprises and other non-budget sources.

Passing of the federal law on space risks insurance will, first of all, minimize the problem of considerable unplanned payments in case of accidents and other similar situations, guarantee compensation for damage to life, health, property

of third parties caused by space activities, simplify the procedure of determining clauses and conditions of standard insurance contract clauses, allow not to draw financing from different state and international space programmes for payment of a compensation and concentrate funds in the Russian insurance market preventing from their outflow abroad.

V Conclusion

Apart from the globally accepted practice analyzed above the Russian legislator does not consider insurance as a compulsory condition to grant a licence for space activities. This specificity can be explained as at present spacecraft in Russia is created at the expense of the federal budget, the government monopoly in the field is evident and currently it is hard to assert that commercialization in its pure form is underway in the rocket-and-space industry and that a private space sector is created fast – the key coordinating instrument of which on the part of the government is licensing. All the same, the draft law on space risks insurance is an important step towards future commercialization as by providing state guarantees it will help domestic industry raise own funds and enhance financial stability and competitiveness. The issue of state support of the evolving commercial space sector of the Russian rocket-and-space industry is of the most immediate interest and will require specific attention from the point of view of creating a corresponding legal regime for the commercialization process in the near future.