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COMMENTARY AND SOURCE MATERIALS

Contemporary Issues for National and International Space Law: Commentary and Source Materials

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Space Law

Commentary and Source Materials

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CONTENTS

Introduction

by Stanimir Ilchev, member of the European Parliament, the Alliance of Liberals and Democrats for Europe /ALDE/

The majority of politicians are hardly concerned with space law. And hence, I was nicely surprised when this obviously exotic issue suddenly emerged on the agenda of the Atlantic Club of Bulgaria, whose member I have been since the 90s. In the past 20 years, the Atlantic Club was known in Europe and USA as an originator of political and technological prognoses, proposals and activities, which were ascertained by the history of both Europe and the world, although they sounded shocking, absurd or disgraceful at the time of their initiation. That is why I willingly took part as a co-initiator of the new project „Space Law", which was designed as contribution to the efforts of both Europe and worldwide community for the prevention of future social disasters, wars, and tragedies, caused by or in outer space.

With the present edition we address an issue of great importance to our lives: human activities in outer space and ways for their legal regulation. Space law began its development as an area of international law in the middle of the last century. At that time, the advancement of technologies and the first practical achievements in studying and gaining outer space knowledge brought forward a number of questions. How to avoid disagreements among countries with respect to the use of outer space? How to guarantee access to outer space technologies for countries with lower economic indicators? What should a country's liability be in cases of damage caused in outer space or on the Earth? Should outer space be used for military causes?

In the beginning of XXI century, space activities are already accessible not only to state authorities, but also to private establishments and physical persons. Space law is also a part of national legislation. In this book you will find examples from the most important laws of 19 countries, which regulate national outer space activities, and also a comparative analysis of their basic elements. The book introduces important legal aspects related to one of the contemporary issues that has not been regulated in detail yet, human activities in outer space – waste, traffic and tourism.

Outer space is of key importance to ensure economic growth, security and quality of life in Europe as well. Its use and investigation impacts on a number of European policies with regard to commerce, transport, environment, security and defence, and one of the major prerequisites for achievement of both the political and economic objectives of the EU is to keep Europe at the forefront of the competitive global market for outer space activities. The sphere of outer space is immediately involved in achieving the objectives and priorities of Europe 2020 Strategy - to attain long-term and sustainable economic and social development.

The European space industry is a leader in the world market for aeronautical devices, engines and electronics and contributes to approximately one third of the world turnover of aeronautical production.

Some 31,000 people are employed in the European space industry and the annual turnover amounts to approximately 5.4 billion Euro. There are eleven large satellite operators in

Europe, which operate 153 communication satellites. About 7% of the western countries" GDP, i.e. 800 million Euro, is directly related to the satellite navigation. The space market is rapidly growing. Turnover at the market of satellite navigation applications is expected to reach 240 billion Euro by 2020.

The European Parliament's persistent efforts have resulted in the inclusion of shared competence between the EU and the member states in the sphere of space research, as embodied in Article 189 of the Lisbon Treaty, which became effective in 2009. At present, when new space forces, such as China and India, come to the fore, the Lisbon Treaty suggests legal grounds for space policy to strengthen scientific and technical progress, industrial competitive power and the application of its policies, and also to enhance coordination of EU and ESA joint efforts in space research. The space policy is a key element of the Europe 2020 Strategy and an integral part of the EU industrial policy, endorsing the objectives for both steady and sustainable policy through the creation of positions for highly qualified specialists, business opportunities, through enhancement of innovations, security and the well-being of European citizens.

The Alliance of Liberals and Democrats for Europe /ALDE/ in the European Parliament decided to support this edition, because the progress and some major activities nowadays depends almost completely on space applications – navigation, communications, science, fight against elemental forces, etc. To continue to utilise outer space in a positive direction, however, requires adhrenece to an efficient legal approach, in order to regulate human activities in outer space and their application on the Earth.

The present technological advancement provides opportunities to a large number of countries, both separately and within the framework of organizations such as the European Space Agency (ESA) to carry out space activities. Bulgaria is not a member of ESA yet, but since it is an active partner in the European Union, it has the capacity to contribute significantly to the efforts of the member States so as to develop a thoughtful and consistent policy of space activities.

Space Law vs. Star Wars

Preface by Dr. Solomon Passy*
President of the Atlantic Club of Bulgaria www.atlantic-club.org

In 2011 we marked the 10th anniversary of 9/11. Our civilisation was then treacherously attacked by the forces of evil in a way that took the world completely by surprise. Nearly 3,000 absolutely innocent lives were lost, and the damage to property exceeded trillions of dollars. But let us compare 9/11 with two other memorable disasters, since all three teach the same lesson.

Several years ago, the Gulf of Aden, off the coast of Somalia. There and then sea piracy –considered irreversibly defeated by science, technology and globalisation – made a comeback, as if teleported from the novels of Rafael Sabatini, Jules Verne and Emilio Salgari, and inflicted billions of dollars" worth of damages on the world economy at its hardest times.

A century and a decade ago, in 1898, in London, there occurred the first car crash resulting in a human fatality. This accident triggered the evolution of present-day road traffic laws and regulations.

What these three disasters have in common is that had we foreseen them (just as hundreds and thousands of others), they would not have been unavoidable. And why we didn't?

The answer to this question sends us to the foundations of human behaviour and thence to the principles of social governance. In other words, to modern politics and one of its principal flaws: it is far more reactive than preventive. In all three cases there were awakeners who warned of the impending disasters. (I myself heard competent warnings about Al-Qaeda's potential and intentions in the mid-1990s). Yet these awakeners have been invariably underrated. Henceforth, this can be remedied as long as we switch our imagination on early enough.

Therefore, let us think right now how we can avoid another 9/11. We should anticipate it to come where nobody expects it to happen now. Outer space is one such place. Here are three hypothetical future scenarios:

1. 2022: A Richard Branson space tourist shuttle collides with a Chinese space liner, killing all 350 passengers and crew on board. Cause: lack of space traffic regulations.

2. 2031: Space pirates attack and kidnap 10,000 residents of an international space colony on cis-lunar orbit. Cause: lack of international regulation and control over space flights originating from the Earth.

3. 2042: A terrorist group builds a powerful energy generator on the dark side of the Moon and launches the Moon itself towards the Earth. The collision becomes inevitable. Cause: lack of effective international monitoring of the exploitation of the Moon.

In fact, these three scenarios are neither as far-fetched nor as remote in time as they seem. The first serious space accident is already a fact: on 10 February 2009, one Russian and one American communication satellites collided and destroyed each other for lack of effective mechanisms for space traffic control. And a couple of weeks ago, a congress of hackers near Berlin announced that, believe it or not, they will conquer outer space. Unfortunately, this news item was consigned to the Odds and Ends section of TV coverage and never made

it to the government lists of potential disasters.

Therefore, it is time for space law (and space by-laws), which should regulate and guarantee the peaceful uses of outer space for decades to come. The strategic conclusion that can be drawn from 9/11 is that even the most sophisticated defence system may be breached by a simple but unexpected plan. And we should anticipate it – it's as simple as that…

It is precisely for this reason that the Atlantic Club of Bulgaria, which in the past 20 years has proved that strategic projects are not a fiction but an unavoidable future, undertook to build upon the national traditions in space law, that utopian-romantic area of international law. On the one hand, we were encouraged to take on this challenge by the experience we had amassed in another area of international law which was considered no less exotic by Bulgarians in early 1990s: Antarctica! Still, the efforts of Bulgarian Antarctic explorers (and the Atlantic Club leaders were among the first of them) demonstrated that civil society in this country is capable of making miracles come true and mirages materialise. On the other hand, Bulgarian achievements in international law as well as in space science and engineering deserve to be continued befittingly by the coming generations.

And prevented future cyber-disasters, space kidnappings and nuclear terrorism will be the most appropriate memorial to the victims of 9/11.

The collection that our readers now hold in their hands is a Bulgarian contribution to a European effort to achieve a better world order, which must be introduced for the sake of our common future. On behalf of the Atlantic Club of Bulgaria, I would like to cordially thank three institutions which were the first to back our effort: the National Science Fund with the Bulgarian Ministry of Education, Youth and Science, the Faculty of Law at the St. Kliment Ohridski University of Sofia, which gave overall support to the project and orientation to students in the subject matter of space law, as well as the political group of the Alliance of Liberals and Democrats for Europe (ALDE) in the European Parliament, who were persuaded by my friend and colleague, Stanimir Ilchev, to acknowledge the significance of this new Atlantic Club project and support it.

I would like to extend my sincere gratitude and appreciation to Prof. Alexander Yankov (Bulgaria) for his wise guidance which gave our project a solid foundation, to the other co-editors of this book, Prof. Steven Freeland (Australia and Denmark) and Rada Popova (Bulgaria and Austria), for their valuable and energising contribution, as well as to Krassimir Bojanov of the Ministry of Foreign Affairs for his particularly professional input, as well as to the entire team of the Atlantic Club for the methodological help at the most strenuous moments of the effort.

Have a nice reading! But buckle up, we're blasting off!

7 October 2011

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The interaction between Space Law and Law of the Sea within International Law

Prof. Alexander Yankov*

In the1960s, as a young lecturer in International law at the Faculty of Law of the Sofia University „St. Kliment Ohridski", I focused my research interests in the field of general international law, international jurisdiction and the United Nations. I had already had several publications regarding this issue.

The National Republic of Bulgaria became a member of the UN on 14 December 1955, together with 9 other European countries, 5 Asian countries, and 1 African country[1]. After the UN was founded, Bulgaria was elected a member of the UN Disarmament Commission, of the UN Decolonization Committee responsible for monitoring the implementation of the Declaration on the Granting of Independence to Colonial Countries and Peoples, and since 1966 – for the first time – a non-permanent member of the Security Council. At that time, I was appointed Counselor at the Permanent Mission of Bulgaria to the United Nations by the Bulgarian Government and the Ministry of Foreign Affairs, with a priority on international law issues, related to the UN, the Security Council and other UN bodies. By this representation I ran into two current fields of international law simultaneously – through the United Nations Committee on the Peaceful Uses of Outer Space and the United Nations „Seabed" Committee responsible for studying the seabed and ocean floor beyond the limits of national jurisdiction, which in two years developed into a body for organization and implementation of the Third Conference on the Law of the Sea (UNCLOS III). Both of these UN bodies involved prominent jurists and diplomats. The Chairman of the Committee on the Peaceful Uses of Outer Space was the ambassador of Austria - Kurt Waldheim, who was subsequently appointed Secretary-General of the United Nations, and the Chairman of the Legal Subcommittee was the world famous Prof. Manfred Lachs, ambassador of Poland, who became a judge in the International Court of Justice several years afterwards.

I was among the youngest members as Deputy Chairman of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space. Shortly afterwards, I was also appointed at the United Nations „Seabed" Committee, in the capacity of Deputy-Chairman.

Thereby, I was involved in two current areas of International law – the new (with regard to its legal and technological issues) Space Law and both revival and update of the most ancient part of international law – the Law of the Sea.

In this text, I will focus my attention on the interaction between them.

The idea of space law dates back to the era of World War II and particularly the decade afterwards. Some American authors argued that the Golden Age for the use of outer space resulted from the Cold War. Outer space was just another front of this war, since both the United States and the Soviet Union had strategic and public diplomatic interests in outer space[2].

[1] From the other European countries, besides Bulgaria, members were also Albania, Austria, Finland, Hungary, Ireland, Italy, Portugal, Romania and Spain, from Africa – Libya, and from Asia – Cambodia, Ceylon, Jordan and Laos.

[2] Gangale, Thomas, The Development of Outer Space**.** *Sovereignty and Property Rights in International*

This political statement should not be merely rejected. Yet, I will not get involved in an ideological argument with the American author referred to above, as a member and Deputy Chairman of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space during the whole process of preparation and adoption of the enactments. In their aggregation, they laid the foundations of the legal regime of contemporary space law. Hence, I would not agree with the statement referred hereinbefore, taking into consideration that dozens of operative international treaties, conventions, agreements, legally binding declarations, and other enactments, testify to basic principles, goals, and regulations of the legal system established and applied in practice, with regard to the exploration and use of outer space, such as the common heritage of mankind, international cooperation and mutual assistance, and the prohibition against placing and using any weapons in orbit or on the Moon or other celestial bodies, which should be used only for peaceful purposes[3].

It is well-known that between the Soviet Union and the United States, in the course of about 6 years, negotiations were being carried out, and were finalized on 12 June 1968 by a Resolution of the General Assembly of the United Nations, ratifying a series of binding international enactments, including the International Treaty on Principles Governing the Activities of States in the Exploitation and Use of Outer Space, the Moon and Other Celestial Bodies from 1967, which was brought forward to ratification simultaneously in London, Moscow and Washington, with the aim to determine its international importance considered by the three world forces (Great Britain, the Soviet Union and the United States)[4].

The interaction between Space Law and Law of the Sea was reflected in a number of enactments – conventions, international treaties, legally binding declarations, etc. Several were drawn, to some extent, from the Law of the Sea. These include, for example, the Outer Space Treaty, the *Declaration* on *International Cooperation* in the Exploration and Use of Outer Space, the Liability Convention, the Registration Convention, the Rescue Agreement. Some of these conventions are influenced by the ancient law of the sea. For example, the notion of the common heritage of mankind, expressed by the prominent builder of international law and particularly of the law of the sea – Hugo Grotius in 1609, under the title „res communis" (common heritage) with regard to the High Seas.

Similar influences of maritime law notions on the new space law are to be noticed with regard to some other concepts. For example, the idea of rescuing astronauts in many aspects originated from the popular International Convention for the Safety of Life at Sea (SOLAS). Another example is the Convention on Registration of Objects Launched into Outer Space, which in many aspects was affected by the international regulations for ship and aircraft registration, in order to determine their belonging by the ship's flag and its registration.

Some other approximate coincidences can be also found in a diverse range of areas of

Space Law. Praeger. Santa Barbara, California* Denver, Colorado* Oxford, England, 2005, p. 1.

[3] See the lists of indicated binding enactments in the abovementioned book „The Development of Outer Space", pp. 263—307; and also Tronchetti, Fabio, The Exploitation of Natural Resources of the Moon and Other Celestial Bodies. A Proposal for a Legal Regime. Martinus Nijhoff Publishers. Leiden 2009, p. 293-358.

[4] Treaty on Principles Governing Activities of States in Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 610 *U.N.T.S.* 206, opened for signature in Washnington, London and Moscow on January 27, 1967, entered into force on October 10, 1967. See also Tronchetti, supra note 4, Annex 2, p. 311-318.

interaction between space law and law of the sea. For example, in Article 136 of the 1982UN Convention on the Law of the Sea, a provision was included as follows: „*The Area and its resources are the common heritage of mankind*". This principle is also confirmed by the Declaration of Legal Principles Governing Activities of States in the Exploration and Uses of Outer Space, Paragraph 1 ("*The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind*").

The presented enactments of Space Law and of Law of the Sea come to support their interaction. Undoubtedly, this may be regarded as a positive element within the system of contemporary international law.

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The Development of National Space Law

Prof. Steven Freeland*

I. The International Legal Regulation of Outer Space

It is now more than 50 years since humankind began its "adventures" in outer space. On October 4, 1957, a Soviet space object, Sputnik I, was launched and subsequently orbited the earth over 1,400 times during the following three month period. This milestone heralded the dawn of the space age, the space race (initially between the Soviet Union and the United States), and the legal regulation of the use and exploration of outer space.

Since then, some fundamental international legal principles have developed, that significantly improve the standard of living for all humanity, through, for example, the facilitation of public services such as satellite telecommunications, global positioning systems, remote sensing technology for weather forecasting and disaster management, and television broadcast from satellites. The prospects for the future use of outer space offer both tremendous opportunities and challenges for humankind, and law at both the international, and also national level, will continue to play a crucial role in this regard.

The journey of Sputnik I immediately gave rise to difficult and controversial legal questions, involving previously undetermined concepts. Although the Soviet Union had not sought the permission of other States to undertake this mission, there were no significant protests that this artificial satellite had infringed any country's sovereignty as it circled the earth. This international (in)action confirmed that this new frontier for human activity – outer space - did not possess the traditional elements of sovereignty that had already been well established under the international law principles regulating land, sea and air space on earth.

As was observed by Judge Manfred Lachs of the International Court of Justice shortly after the first international space law treaties had been finalized[1]:

'[t]he first instruments that men sent into outer space traversed the air space of States and circled above them in outer space, yet the launching States sought no permission, nor did the other States protest. This is how the freedom of movement into outer space, and in it, came to be established and recognised as law within a remarkably short period of time.'

This "lack" of national sovereignty in outer space is reflected in article II of the so-called "Magna Carta" of international space law, the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, which provides that[2]:

'[o]uter space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.'

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[1] *North Sea Continental Shelf Cases (Federal Republic of Germany v. Denmark and Federal Republic of Germany v. The Netherlands)* (Judgment), Dissenting Opinion of Judge Lachs [1969] ICJ Rep 3, 230.

[2] For a detailed discussion of the meaning and implications of article II of the Outer Space Treaty, see Steven Freeland and Ram Jakhu, "Article II", in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I – Outer Space Treaty* (2009), 44.

A direct practical consequence of this principle is that the *national* law of States does not directly (or automatically) apply to the regulation of outer space. A State cannot assert that its laws apply to outer space, nor can it assert sovereign rights in outer space in the purported application of its national laws. Any such assertions can only be legally justifiable if provided for under the international regime for the regulation of outer space that has been established by the United Nations Space Law Treaties (see below).

Indeed, the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies does provide that "jurisdiction and control" over a "[space] object, and … any personnel thereof" is retained by a State in certain circumstances[3]. This clarifies the issue, for example, as to what law will apply within a space object, although even this becomes somewhat complicated in the case of multinational space activities such as the International Space Station[4].

In the absence of automatic and comprehensive applicability of national legal laws, what was required, therefore, was a body of *international* law principles that would regulate the development of humankind's activities in outer space. Thus, the law of outer space has developed as a discrete body of law within general public international law. Since the launch of Sputnik 1, this process of evolution has been remarkably rapid, largely driven by the need to agree on rules to regulate activities in this new "frontier."

There is now a substantial body of international law dealing with many aspects of the use and exploration of outer space, mainly codified in and evidenced by Treaties, United Nations General Assembly Resolutions, the decisions of national courts, bilateral arrangements, and determinations by Intergovernmental Organisations. As discussed in this book, national legislation now also represents an increasingly significant part of the body of law that is relevant for activities in outer space.

In 1959, shortly after the successful launch of Sputnik 1, the United Nations General Assembly established the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), the principal multilateral body involved in the development of international space law[5]. Through the auspices of UNCOPUOS, five important multilateral treaties have

[3] See 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, article VIII, which provides:
"A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return."

[4] In essence, each of the Partners to the 1998 Intergovernmental Agreement Concerning Cooperation on the Civil International Space Station is the "State of Registry" for the purposes of article I of the 1975 Convention on Registration of Objects Launched into Outer Space (see below) in relation to its own module within the International Space Station (ISS). The legal and practical effect of this is that different national law will be applicable depending upon where in the ISS an individual is at any one time. Article I (c) of the 1975 Convention on Registration of Objects Launched into Outer Space provides as follows:
"The term "'State of registry'" means a launching State on whose registry a space object is carried in accordance with article II."

[5] See United Nations General Assembly Resolution 1472 (XIV) on International co-operation in the peaceful uses of outer space (1959).

been finalised. These are:

1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies[6];

1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space[7];

1972 Convention on International Liability for Damage Caused by Space Objects[8];

1975 Convention on Registration of Objects Launched into Outer Space[9];

1979 Agreement Governing the Activities of States on the Moon and other Celestial Bodies[10].

Many of the principles contained in (particularly) the Outer Space Treaty also reflect customary international law and thus bind State parties and non-parties to the Treaty alike. In any event, the major space-faring nations are States Parties to each of the United Nations Space Law Treaties, with the exception of the Moon Agreement, which to date has not been supported by those States.

Among other important principles, these United Nations Space Treaties confirm that outer space is to be regarded as a "global common" area, with similarities in this regard to the high seas. The use and exploration of outer space is to be for "peaceful purposes"[11], although this principle has been highly controversial - arguments still persist as to whether this refers to "non-military" or "non-aggressive" activities.

Similar to the structure of other international law instruments regulating global "regimes" – for example the Law of the Sea[12] and the law regulating Climate Change[13] – the international regulation of outer space is based upon a framework instrument, the Outer Space Treaty, which sets out the fundamental principles that govern the regime. The subsequent United Nations Space Law Treaties both affirm and expand upon these principles in relation to the specific aspect of outer space activities to which they relate[14].

The United Nations General Assembly has also adopted by way of Resolution a number of space-related Principles, which include:

1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space[15];

1982 Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting[16];

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[6] 610 U.N.T.S. 205 (Outer Space Treaty).
[7] 672 U.N.T.S. 119 (Rescue Agreement).
[8] 961 U.N.T.S. 187 (Liability Convention).
[9] 1023 U.N.T.S. 15 (Registration Agreement).
[10] 1363 U.N.T.S. 3 (Moon Agreement).
[11] Outer Space Treaty, article IV.
[12] See United Nations Convention on the Law of the Sea 1833 U.N.T.S. 3.
[13] See United Nations Framework Convention on Climate Change 31 I.L.M. 849.
[14] For example, articles VI and VII of the Outer Space Treaty articulate general principles that relate to responsibility and liability in relation to certain activities in outer space. The subsequent Liability Convention elaborates on these principles and establishes the specific liability regimes that are applicable in particular circumstances.
[15] United Nations General Assembly Resolution 1962 (XVIII) on the Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space (1963).
[16] United Nations General Assembly Resolution No 37/92 on the Principles Governing the Use by States

1986 Principles Relating to Remote Sensing of the Earth from Outer Space[17];

1992 Principles Relevant to the Use of Nuclear Power Sources in Outer Space[18];

1996 Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries[19].

These sets of principles provide for the application of international law and promotion of international cooperation and understanding in relation to space activities, the dissemination and exchange of information through transnational direct television broadcasting via satellites and remote satellite observations of earth, and general standards regulating the safe use of nuclear power sources necessary for the exploration and use of outer space. More recently, voluntary "guidelines" have also been agreed that are intended to address the problematic issue of space debris[20].

It is generally agreed by most scholars of public international law that Resolutions of the General Assembly are non-binding[21], at least within the framework of a traditional analysis of the "sources" of international law[22] as they are specified in article 38(1) of the Statute of the International Court of Justice[23]. In the context of the regulation of the use and exploration of outer space, these five sets of principles have therefore largely been considered as constituting "soft law", although a number of specific provisions may now represent custom-

of Artificial Earth Satellites for International Direct Television Broadcasting (1982).

[17] United Nations General Assembly Resolution No 41/65 on the Principles relating to Remote Sensing of the Earth from Outer Space (1986).

[18] United Nations General Assembly Resolution No 47/68 on the Principles relevant to the Use of Nuclear Power Sources in Outer Space (1992).

[19] United Nations General Assembly Resolution No 51/122 on the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries (1996).

[20] See UNCOPUOS, "Report of the Scientific and Technical Subcommittee on its forty-fourth session", 2007, A/AC.105/890, Annex 4, 42 <http://www.oosa.unvienna.org/pdf/reports/ac105/AC105_890E.pdf> (accessed 5 January 2011).

[21] See, for example, D.J. Harris, *Cases and Materials on International Law* (6th ed, 2004), 57-61 and the references referred to therein.

[22] A growing body of contemporary academic literature has more recently emerged that questions the traditional understanding of what constitutes a rule of customary international law: see, for example, Iain Scobbie, "The approach to customary international law in the Study", in Elizabeth Wilmshurst and Susan Breau (eds), Perspectives on the ICRC Study on Customary International Humanitarian Law (2007), 15. That author (at 24) describes various "revisionist accounts of custom formation"; see also Christiana Ochoa, "The Individual and Customary International Law Formation", (2007) 48 Virginia Journal of International Law 119, 135-142.

[23] 1 U.N.T.S. 16 (ICJ Statute). It is generally asserted by international law scholars that article 38 (1) of the ICJ Statute lists the so-called "sources" of international law: see, for example, Georg Schwarzenberger, International Law (3rd ed, Vol 1, 1957), 21-22; Antonio Cassese, International Law (2nd ed, 2005), 156. Article 38(1) of the ICJ Statute provides as follows:

"The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:

a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;

b. international custom, as evidence of a general practice accepted as law;

c. the general principles of law recognized by civilized nations;

d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law."

ary international law[24].

Yet, despite all of these developments, it is clear that the existing international legal and regulatory regime in relation to the use and exploration of outer space has not kept pace with the remarkable technological and commercial progress of space activities since 1957. All of this uncertainty represents a major challenge in relation to the ongoing development of effective legal principles, all the more so in view of the strategic and military potential of outer space in an era of globalization.

What is also evident is that the range of entities engaged in the ever-broadening scope of space activities is itself becoming increasingly diverse. Whereas once outer space was for all practical purposes the realm solely of States and Governments, the situation has changed dramatically in this regard, with many non-governmental (private) entities now actively involved in different activities in outer space. It is to be anticipated that this trend will continue.

This has lead to an increasing imperative towards the development of national space law to complement the existing – and future - international legal regime for the use and exploration of outer space. Somewhat ironically, therefore, the pace of development of national space law now surpasses that of international space law, despite the legal characterization of outer space as a non-sovereign area. This is notwithstanding the fact that the international principles themselves may require further development as humankind's endeavours in outer space continue to evolve, for example in relation the future exploitation of the natural resources of the moon and other celestial bodies[25].

It is with these perspectives in mind that this chapter now looks at the evolution of national space law, a process that began relatively slowly but, as noted above, has evolved (and continues to do so) at an increasing level, as more States recognise the need and benefits of providing clarity and certainty in relation to the (proposed) activities in outer space undertaken by those non-governmental entities over which they are in a position to exercise jurisdiction.

II. The Evolution of National Space Law

The various United Nations Space Law Treaties and General Assembly Principles that form the basis of the international law of outer space were drafted primarily from a State-orientated viewpoint. This is not surprising, given that they were developed when there were very few entities, and these being States (or State instrumentalities) –the two major "superpowers" of the day (the United States and the Soviet Union) - actively engaging in the exploration and use of outer space. Having said this, however, it is important to recognize that there were other countries, including Bulgaria and Australia[26], that also played impor-

[24] See, for example, Ricky J. Lee and Steven Freeland, "The Crystallisation of General Assembly Space Declarations into Customary International Law", (2004) 46 Proceedings of the Colloquium on the Law of Outer Space 122.

[25] See generally the Moon Agreement, which is designed to provide for the future establishment of an "international regime. … to govern the exploitation of the natural resources of the moon [and other celestial bodies] as such exploitation is about to become feasible': Moon Agreement, article 11 (5).

[26] For a detailed discussion of the early space "heritage" of Australia, see Steven Freeland, "Sensing a Change? The re-launch of Australia's Space Policy and Some Possible Legal Implications", forthcoming in (2011) Journal of Space Law.

tant and active roles, particularly in the relatively early days of the "space race".

Nevertheless, the international law of outer space, at least partially, undoubtedly reflects the political pressures imposed by the two superpowers at that time, a factor that is clearly seen particularly in the language used in the United Nations Space Law Treaties relating to the regulation of military uses of outer space[27].

Although it was contemplated by the drafters of the United Nations Space Law Treaties that national space activities might also be undertaken by non-governmental entities, the responsibility for such activities was imposed, from an international law perspective, on States. Article VI of the Outer Space Treaty imposes "international responsibility" on States for "national activities in outer space", undertaken either by "governmental agencies or by *non-governmental entities*"[28].

The provision then goes on to specify that the "activities of non-governmental entities in outer space" require "authorization and continuing supervision by the appropriate State Party".[29] Despite the fact that the range of space activities and the number and type of participants in these activities has grown exponentially since the time that these Treaties were finalised, this remains the position today. The provision itself provides no mechanism for such authorization and supervision, but simply imposes the obligation on States to do so.

Moreover, of course, the United Nations Space Law Treaties do not bind private entities, which lack the international legal personality to be parties to such instruments. In any event, these Treaties only permit States to become Parties, although a number of them specifically provide that particular provisions shall also be deemed to apply to international intergovernmental organizations in certain circumstances[30].

To further emphasize this point, in the case where (former) international intergovernmental organizations themselves are subsequently privatized – as has been the case, for example, with the International Telecommunications Satellite Organization (INTELSAT), the European Telecommunications Satellite Organization (EUTELSAT) and the International Maritime Satellite Organization (INMARSAT) – the private entities that emerge from those "organizations" are no longer able to accept the rights and obligations under the United Nations Space Law Treaties[31].

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[27] See, for example, a discussion of the relevant provisions in the Outer Space Treaty in Steven Freeland, "The Applicability of the *Jus in Bello* Rules of International Humanitarian Law to the Use of Outer Space", (2006) 49 *Proceedings of the Colloquium on the Law of Outer Space* 338.

[28] Emphasis added.

[29] The full text of article VI of the Outer Space Treaty is as follows:

"States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization."

[30] See Rescue Agreement, article 6; Liability Convention, articles XXII (1) and XXII (2); Registration Agreement, articles VII (1) and VII (2); Moon Agreement, article 16.

[31] See Ulrike M Bohlmann and Gisela Suess, "Article XIII", in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I – Outer Space Treaty* (2009), 215, 218.

Over recent years, therefore, an increasing body of domestic law dealing specifically with space-related activities in various countries has been developed, in order to more effectively regulate the space activities of private and semi-private entities that are engaged in space activities, although such legislation can (and sometimes does) also apply to State activities. As a broad observation, while some of the earlier examples of national space legislation were quite generalized in their terms and allowed the State wide discretionary powers in the application of the regulatory rules, in more recent times, these laws have tended to be more comprehensive, specific and "legalistic"[32].

This is largely due to an increasing awareness among drafters of the significance of the national space legislation as a way of addressing the wide range of space activities that are now being undertaken, including the advent of very significant commercial space activities. It also recognises the commercial need for clarity and certainty on the part of non-governmental entities that are considering the allocation of very significant resources towards undertaking an outer space activity.

This also means that the structure and precise terms of the different national space laws that have thus far been enacted vary quite significantly. Moreover, whereas in most countries, the national space law has been incorporated into one piece of legislation, in the United States, there is instead a body of separate legislation, each of which addresses different forms of space activities, such as communication satellites, remote sensing and commercial launches.

In addition, there may be specific national laws that relate to a diverse range of other issues – for example, national security, environmental protection, export controls - that will also be of relevance in the overall regulation of national space activities.

Under the terms of these domestic legal regimes, some States have established a licensing and/or authorization system (to implement the obligation under article VI of the Outer Space Treaty) for those of its nationals who propose to undertake space activities, principally involving launches (and returns), although in the case of the United States domestic regime, for example, this encompasses a much broader range of space activities.

As well as allowing for the regulation (including authorization and supervision) of private space activities, the terms of these domestic regulations have also been driven by the general international liability provisions found in the Outer Space Treaty[33] and the more detailed liability regime specified in the Liability Convention, which imposes liability on a "launching State" for certain damage caused by a space object[34].

In the absence of specific country-to-country waivers, or where the various exceptions and exonerations contained in the Liability Convention do not apply[35], a launching State will bear this international treaty obligation of liability[36]. As a consequence, the enactment of

[32] See also, European Space Policy Institute, Matxalen Sánchez Aranzamendi, "Economic and Policy Aspects of Space Regulations in Europe" (Part I), 21 September 2009, page 4.

[33] Article VII of the Outer Space Treaty prescribes the general terms giving rise to international liability for damage caused by an object launched into outer space.

[34] Article I (c) of the Liability Convention defines a launching State widely as follows:
'(i) A State which launches or procures the launching of a space object;
(ii) A State from whose territory or facility a space object is launched".

[35] See, in particular, Liability Convention, articles VI and VII.

[36] For a detailed discussion of the terms of the Liability Convention, see Steven Freeland, "There's a Sat-

appropriate national laws enables space-faring States to formalise domestic legal processes that would allow them to pass on financial responsibility to, and recover from their private entities (or their insurers) the amount of the compensation for which the State may be liable at the international level. The extent of the financial responsibility on the private entity may be capped at a particular amount, according to the space policy of the State and its desire to encourage – or put otherwise, to not overly discourage - private activities in outer space.

Of course, it is important to bear in mind that the use of national law for these purposes does not relieve the relevant launching State of the international obligation of liability it bears as a State Party to the Outer Space Treaty and/or Liability Convention, or indeed pursuant to the general public international law principles of State responsibility. Rather, depending precisely on the terms of the legislation, it serves as a "financial risk-sharing" mechanism for States whose private entities are engaged in activities in outer space. It would allow the State, which itself may be the subject of a claim for compensation and/or reparation, to turn to its private entity to recover all (or part) of the amount that is the subject of such claim.

Whilst it is clear that the precise terms of any domestic law fall to be determined by issues of sovereignty and the internal constitutional and administrative requirements of the relevant State – not to mention, of course, its particular economic, political, developmental, societal and cultural situation - there are a number of elements that *ceteris paribus* would typically form a basis for most national legislation dealing with activities in outer space. This next part of this chapter therefore seeks to identify those general elements, drawing particularly from the Australian Space Activities Act to provide practical illustrations.

III. Essential Elements of (most) National Space Legislation

Many of the elements that would most likely form a part of national space legislation stem from the terms of the United Nations Space Law Treaties themselves. As a party to an international (space) treaty, States are bound by the fundamental principle of *pacta sunt servanda* – involving the obligation to comply with its treaty obligations in good faith[37].

Thus, while the United Nations Space Law Treaties, unlike some other multilateral treaties[38], do not expressly incorporate words that affirm the obligation on States Parties to specifically incorporate these international obligations into their domestic space legislation, this does not negate the fact that to do so is simply a manifestation of this fundamental principle of international law.

Moreover, one could argue that, from a practical viewpoint, it is necessary to enact appropriate national legislation in order to implement the provisions of the United Nations Space Law Treaties, and to give effect to those obligations that might impact upon the ac-

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ellite in My Backyard – MIR and the Convention on International Liability for Damage Caused by Space Objects", (2001) 24(2), University of New South Wales Law Journal, 462.

[37] See, for example, *Case concerning rights of nationals of the United States in Morocco*, *(France v. United States of America)* (Judgment) [1952] ICJ Rep 176, 212. See also Vienna Convention on the Law of Treaties 1155 U.N.T.S. 331, article 26.

[38] See, for example, article 5 of the 1948 Convention on the Prevention and Punishment of the Crime of Genocide 78 U.N.T.S. 277 (Genocide Convention), which provides as follows:
"The Contracting Parties *undertake to enact, in accordance with their respective Constitutions, the necessary legislation to give effect to the provisions of the present Convention* and, in particular, to provide effective penalties for persons guilty of genocide …." (emphasis added).

tivities of that State and, more particularly, of its non-governmental entities.

With this in mind, some of the basic elements that one might expect to see in national space legislation are set out below. It should be noted, however, that, as has already been evident in practice, there is no precise "model" national legislation that will necessarily be sufficient and appropriate for all States involved in activities in the use and exploration of outer space. A "one size fits all" approach to national law does not take sufficient account of the varying circumstances and capabilities of different States with respect to the multitude of outer space activities.

The list below is, therefore, not intended either to be exhaustive or to be necessarily appropriate in every case – rather it is intended as a useful "check list" for legislators as they consider the precise areas to be addressed in a particular State's domestic space law. In addition, this list only relates to national space legislation that is in practical terms directed towards the general obligations set out in the United Nations Space Law Treaties. Most States will also (already) have in place other national laws relating to activities that have a (indirect) relationship to, or are dependent upon space technology, but are directed specifically towards those activities – for example, television/radio broadcasting, telecommunications etc. Obviously, those specialized laws will themselves incorporate technical and other elements that are necessary for the management of those particular services. Those elements are not addressed in this chapter, since such laws are beyond the scope of this book.

(a) *The Incorporation of International Obligations into National Law*

As noted above, an important reason to enact national space law is to facilitate the formal incorporation of various aspects of the United Nations Space Treaties into the domestic legal regime of a State. In this way, (some of) the provisions of the international Treaties are converted into part of the regulatory framework of the relevant State. This is particularly the case in those States where implementing legislation is expressly required, under its constitutional legal system, in order to transform *international* obligations into *national* ones.

This is the case in, for example, Australia, where that State's constitutionally established regime of "separation of powers" means that an Executive (Government) decision to ratify a treaty cannot automatically "create" domestic law – rather, law in Australia can only be created by the legislature (Parliament) or by the judiciary (Courts). As a consequence, and in an attempt to incorporate the international obligations of Australia that arise under the five United Nations Space Law Treaties into Australian law[39], one of the express objects of the Australian Space Activities Act is[40],

"to implement certain of Australia's obligations under the United Nations Space Treaties".

It should be noted, however, that it will be the express terms of any such implementing legislation – the national space law – that will determine precisely how, to what extent and when those international obligations are to form part of the domestic regulatory system. Irrespective of the applicability of the *pacta sunt servanda* principle, a State will typically regard the drafting of domestic law as the sovereign prerogative of the State itself. Not only

[39] Australia is one of only 13 States (as at 1 January 2010) that are States Parties to all five of the United Nations Space Law Treaties. It was the seventh State Party to the Moon Agreement, having acceded to that instrument on 7 July 1986.

[40] Space Activities Act, section 3(c).

does this take account of the particular circumstances, but it may also mean that, in practice, not all of the relevant international obligations that arise under a treaty will be incorporated into the national legal framework - note, for example, the use of the words *certain of Australia's obligations* in the Space Activities Act.

Whilst this may not necessarily be satisfactory from an international law perspective, nor from the viewpoint of achieving a "harmonization" or "approximation" of national law, it is a factor to be considered when analysing the differences that arise when comparing the various examples of national space legislation that are included in this book.

Moreover, the incorporation of these international obligations and requirements into the framework of domestic law will require very careful thought and drafting, in order to avoid any inconsistencies with those existing national laws that most States would already have in place relating to other areas that are in some way dependent upon various activities in outer space - for example, broadcasting, media and telecommunications. A State may have particular legal, economic, political, moral, societal, religious and/or national security concerns that mean that its national laws in these areas (and others) are not themselves necessarily consistent with the obligations that arise under international space law.

(b) *An Interpretation of "National Activities'*

It has already been noted that States bear "international responsibility for national activities in outer space" pursuant to article VI of the Outer Space Treaty. This applies irrespective of whether the activity is undertaken by a governmental agency, a non-governmental entity, or both (for example, with respect to a public/private cooperative space venture).

There is, however, no precise clarification provided in the United Nations Space Law Treaties as to what constitutes a national activity in outer space[41]. Whilst it may be obvious in situations where, for example, a State launches its own space object, the position may not always be as clear. In this regard, the terms of the domestic space law of a particular State will serve to clarify the scope of activities to which it refers – in essence, representing an interpretation by the drafters of that legislation as to what they regard to be "national activities in outer space", at least for the purposes of that domestic law.

This is generally achieved by incorporating concepts that are akin to general international law principles relating to State jurisdiction. Most domestic laws provide for national activities to be determined on the basis of either *territoriality* (an activity undertaken by entities of any nationality in/from the territory of the relevant State) and/or *nationality* (an activity carried out by a national of the relevant State, irrespective of the territory).

For example, the Space Activities Act provides that certain space activities carried out in Australia, or by an Australian national from outside Australia, are subject to regulation under its national space legislation and would thus require an appropriate licence under the authorization system that it establishes (see further below).

In this way, national space laws may often have an extraterritorial effect, an issue that must be taken into account by lawyers when structuring and implementing commercial space activities involving entities with different nationalities. In essence, in order for a par-

[41] For a detailed discussion of the scope of those "national activities" that may be contemplated by article VI of the Outer Space Treaty, see Michael Gerhard, "Article VI", in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I – Outer Space Treaty*, (2009), 103.

ticular space activity to proceed, it might be necessary from a regulatory perspective to seek and obtain prior licensing approval for a particular activity under the domestic space legislation of more than one State. This will, of course, serve to complicate (and probably result in the delay in) the completion of all of the relevant regulatory requirements, particularly if the pre-conditions under the respective national laws are not necessarily consistent with each other (or indeed with the various international obligations arising under the United Nations Space Law Treaties).

(c) *Restrictions on Certain Types of Weapons*

The first paragraph of Article IV of the Outer Space Treaty imposes certain restrictions in relation to "objects carrying nuclear weapons or any other kinds of weapons of mass destruction".[42] It has been noted by many commentators that these provisions do not constitute a ban on *all* types of weapons.[43] Indeed, there have, from time to time, been proposals put forward at various international forums to amend article IV in order to enhance its scope, but these efforts have thus far not been successful[44]. There have also been frequent calls by the United Nations General Assembly directed towards such an end[45].

One of the most significant of these initiatives – and one sponsored by a number of leading space powers – was the recent submission by Russia and China of the draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (PPWT) at the 2008 meeting of the United Nations Conference on Disarmament in Geneva[46]. Whilst the PPWT is still only a draft proposal and is not in force, it does add significantly to the ongoing international debate relating to the future imposition of more rigorous "anti-weaponization" obligations under international space law[47].

[42] The first paragraph of article IV of the Outer Space Treaty provides as follows:
"States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner."

[43] See, for example, Jackson Maogoto and Steven Freeland, "Space Weaponization and the United Nations Charter: A Thick Legal Fog or a Receding Mist?", (2007) 41:4 *The International Lawyer* 1091-1119.

[44] See, for example, Vladimir Bogomolov, "Prevention of an Arms Race in Outer Space: The Deliberations in the Conference on Disarmament in 1993", (1993) 21:2 *Journal of Space Law* 141, 141, where the author refers to a failed Venezuelan proposal to amend article IV of the Outer Space Treaty.

[45] In this regard, reference should be made to the numerous United Nations General Assembly Resolutions, beginning with Resolution 36/97C (1981), which have been directed towards the "Prevention of an arms race in outer space." The political dimensions of this issue in the early 1980s were indicated by a split, along ideological grounds, on the main thrust of these Resolutions: see Nandasiri Jasentuliyana, *International Space Law and the United Nations*, 1999, Kluwer Law, The Netherlands, 82.

[46] The United Nations Conference on Disarmament was established in 1979 as the single multilateral disarmament negotiating forum of the international community, following the first Special Session on Disarmament (SSOD I) of the United Nations General Assembly held in 1978. It succeeded other Geneva based negotiating forums, which include the 10 Nation Committee on Disarmament (1960), the 18 Nation Committee on Disarmament (1962-68), and the Conference of the Committee on Disarmament (1969-78): see The United Nations Office at Geneva (UNOG),'Disarmament", <http://www.unog.ch/80256EE600585943/(httpHomepages)/6A03113D1857348E80256F04006755F6?OpenDocument> (accessed 29 July 2008).

[47] In responding to this proposal, the United States Administration reiterated at the time that it opposed any treaty that seeks "to prohibit or limit access to or use of space", adding that, in any event, such a treaty would be impossible to enforce. However, the PPWT represents an important step on the path towards a more comprehensive legal regime to address the dangers posed by the "weaponization" of outer space. For an analysis of the PPWT, see Steven Freeland, "The 2008 Russia / China Proposal for a

Notwithstanding the lack of a more comprehensive prohibition on weapons in space under the current international legal regime, it is clear that States Parties to the Outer Space Treaty (which includes all of the major space powers) are obligated to comply in good faith with the restrictions regarding nuclear weapons or any other kinds of weapons of mass destruction in article IV, as limited as they are. Whilst there may be uncertainties as to precisely what a weapon of mass destruction is, at least for the purposes of the international legal regulation of outer space, one would expect to see this obligation incorporated in some way into national space law, particular as it pertains to non-governmental entities.

Hence, national space legislation would typically include a requirement that any non-governmental entity engaged in a space activity verify (perhaps under oath) to the appropriate authorizing (governmental) agency that there is no nuclear weapon or weapon of mass destruction involved in any way with the particular space object to be launched and/or space activity to be undertaken. Clearly, this is a matter of significant national interest and national security for all States involved in the peaceful use and exploration of outer space.

For example, Regulation 4.01 of the Australian Space Activities Regulations 2001 (Space Activities Regulations) – which were introduced shortly after the introduction of the Space Activities Act in order to expand upon the general provisions of the legislation – stipulates that, before an overseas launch certificate (which authorizes an Australian national to launch from overseas) can be granted, the authorizing agency must be satisfied that[48]:

'[n]o part of the space object or objects concerned, in which the person [seeking the certificate] has an ownership interest, must be or contain a nuclear weapon or a weapon of mass destruction of any other kind.'

Indeed, the Space Activities Regulations require that, as part of the application procedure for an overseas launch certificate, a statutory declaration (made under oath) by an appropriately authorized official of the relevant non-governmental entity applying for the certificate must be provided with the application, verifying that this is indeed the case[49]. Further, the Space Activities Regulations also provide that if any part of the space object to be launched in which the applicant has an ownership interest contains any "fissionable material", the relevant Minister's written approval must be presented with the application[50].

(d) *Establishment of a Licensing Regime for Non-Governmental Entities*

As noted above, article VI of the Outer Space Treaty requires "the appropriate State" to authorize and continually supervise national activities in outer space undertaken *inter alia* by non-governmental entities. There has been some debate as to what the *appropriate* State will be in a specific situation, but it is generally considered that this will *prima facie* apply to the State whose national activity it is. In practice, however, it may be difficult for that State(s) to continually supervise a particular space activity in circumstances where it is (part of) a cooperative venture between a number of States and their respective non-governmental entities, but where one State has overall control and management of the activity on a continuing basis. In other circumstances, the overall control and management of the activity

Treaty to Ban Weapons in Space: A Missed Opportunity or an Opening Gambit?", (2008) 51 *Proceedings of the Colloquium on the Law of Outer Space,* 261.

[48] Space Activities Regulations, regulation 4.01 (2).

[49] Space Activities Regulations, regulation 4.03 (4) (e).

[50] Space Activities Regulations, regulation 4.03 (4) (f).

may, in practice, change from time to time.

No doubt, however, in such circumstances, appropriate internal arrangements between the cooperating States (and their non-governmental entities) would be put into place to allow for each State to, in some way, exercise a degree of supervision, at least in relation to those aspects of the activity (and over its nationals who may be involved in its ongoing operation) in which it has a specific interest.

The obligation to "authorize" a space activity is perhaps more straightforward. Under most domestic legal systems, whenever a person or entity wishes to engage in a specific activity that may necessitate certain restrictions or involve issues of sensitivity – for example, opening and operating a casino or a liquor establishment – he/she/it would typically be required to apply for a licence to engage in that activity. This will increasingly be the norm with respect to proposed national space activities. To satisfy the authorization obligation specified under article VI of the Outer Space Treaty, a State would normally, through its domestic legal regime, establish a mandatory licensing system that applies to those of its (non-governmental) nationals who propose to undertake space activities and/or to foreign nationals seeking to undertake such an activity in the territory of the relevant State.

This can perhaps be achieved through the creation of a "one size fits all" licence regime, involving a "space licence" that covers all forms of proposed space activity. Alternately, it might be more appropriate to establish a regulatory regime that incorporates different forms of licence, depending upon the particular space activity for which authorization is being sought. The structure of the authorization regime will also be determined by the various safety requirements, environmental standards and security concerns that the relevant State considers as appropriate in the case of its national space activities[51].

In this regard, the Space Activities Act has adopted the latter approach, in that it creates a number of different licences that deal with specific space (launch-related) activities. These are:

Space Licence – required to "operate a launch facility in Australia, or do anything directly connected with operating a launch facility in Australia, using a particular kind of launch vehicle" or to use "particular flight paths"[52];

Launch Permit – required to launch "a particular space object" or "a particular series of launches of space objects that … having regard to the nature of any payloads to be carried, may appropriately be authorised by a single launch permit from a launch facility located in Australia"[53]. The permit may also "authorise particular space objects to be returned, in connection with the launch or launches, to a specified place or area in Australia"[54];

Overseas Launch Certificate – required for an Australian national to launch "a space object … from a launch facility located outside Australia"[55].

Authorization of Return – required for the return to a place anywhere in Australia of a space object that was not launched from a launch facility located within Australia[56].

[51] See also, European Space Policy Institute, Matxalen Sánchez Aranzamendi, "Economic and Policy Aspects of Space Regulations in Europe" (Part I), 21 September 2009, page 5.
[52] Space Activities Act, sections 15 and 18.
[53] Space Activities Act, sections 11 and 26 (1).
[54] Space Activities Act, section 26 (2).
[55] Space Activities Act, section 12 (a).
[56] Space Activities Act, sections 14 (a) and (b).

The legislation also provides for the possibility of an Exemption Certificate in relation to various space activities, to be issued in the circumstances set out in the Space Regulations, which could, for example, be in a situation requiring an emergency landing[57].

An obvious point – but one that, for the sake of clarity should also be expressly confirmed in national space law - is that one would normally expect that the State itself would not be required to apply for a licence under its own legislation in relation to a space activity that it itself (usually through its agencies) is undertaking, although this would not (necessarily) be the situation with regard to the proposed activities of other States.

Where the State is engaged in a joint venture with a non-governmental entity, however, it would be usual to expect that the non-governmental entity would still be required to apply for and obtain the relevant licence(s).

As an example, the Space Activities Act provides that[58]:

'This Division does not apply to:

(a) the Commonwealth; or

(b) a person acting as an employee or agent of the Commonwealth or as a member of the Defence Force.

Example: The Commonwealth and a private company are to carry out a launch as joint venturers. The Commonwealth would not need a space licence or launch permit etc. to do so, but the private company would (unless the company were acting as an agent of the Commonwealth, in which case it too would be exempt from this Division)."

(e) *Creation of (Criminal) Offences for Non-Compliance with Licence Requirements*

It follows from the establishment of a mandatory licensing regime that, in the (perhaps unlikely) event that a non-governmental entity conducts a space activity that falls within the ambit of the national legislation without the requisite authorization/licence(s), that would constitute an offence under that legislation, possibly constituting a criminal act. In addition, a failure to comply with the various conditions of any licence that has been granted would also constitute an offence under the legislation. Clearly, without such provisions designed to enforce obligations specified under the national law, the establishment of the licence regime would be significantly less effective.

Under the Space Activities Act, both criminal and civil offences are created. For example, a person who launches a space object from a launch facility in Australia without a launch permit (or exemption certificate) commits an offence punishable as follows[59]:

'(e) in the case of a body corporate - a fine not exceeding 100,000 penalty units; or

(f) in the case of an individual - imprisonment for a term not exceeding 10 years, or a fine not exceeding 600 penalty units, or both.'

In addition to this, the legislation creates a series of "civil penalty provisions", the

[57] Space Activities Act, section 46.

[58] Space Activities Act, section 16.

[59] Space Activities Act, sections 11 (e) and (f). See also sections 12 (d) and (e) in relation to an overseas launch certificate, sections 13 (f) and (g) in relation to a launch permit, and sections 14 (d) and (e) in relation to authorisation for return to Australia of an overseas-launched space object. By contrast, operating a launch facility in Australia without a space licence does not constitute an offence under the legislation, but does give rise to a civil penalty (section 15). The Australian Crimes Act 1914 (Cth) specifies the relevant value of a penalty unit as is applicable under the Space Activities Act from time to time.

contravention of which does not constitute an offence, but may result in a penalty calculated as follows[60]:

'(a) in the case of a body corporate - 5,000 penalty units; or

(b) in the case of an individual - 500 penalty units.'

It follows also that the scale of the penalty specified for violations must be of a sufficient magnitude so as to represent a strong incentive for non-governmental entities to ensure that they are in compliance with the various authorization requirements under the national space law.

(f) *Establishment of an Appropriate Government Body*

The creation of a licence regime brings with it the need to establish (if no such body already exists) an appropriately mandated Government agency with the responsibility to undertake such regulatory, administrative and/or supervisory functions as the following:

to liaise with, and be the point of contact for any national or overseas non-governmental entity that might be considering a relevant space activity that falls within the ambit of the legislation;

to provide appropriate information and details regarding the requirements under the national space law to any national or overseas non-governmental entity that might be considering such a space activity;

to accept any applications for authorization under the legislation to undertake such a space activity;

to assess such applications;

to make decisions in relation to such applications and issue the relevant licences where warranted;

to undertake any other matters of a regulatory, administrative and/or supervisory nature as are appropriate under the legislation; and

to advise the relevant Government Minister(s) on all matters relating to national space activities.

In the case of Australia, the Government has established the Space Licensing and Safety Office (SLASO) to "[a]ssist the development of Australian space activities through the efficient administration" of the Space Activities Act and the Space Activities Regulations[61]. Under the regime that has been established, SLASO must ensure that national space activities:

do not jeopardise public safety, property, the environment and Australia's national security, foreign policy or international obligations;

that there is adequate third-party insurance (or other appropriate financial comfort) in place to cover proposed and actual space activities; and

that any accidents that may occur are investigated[62].

The Australian Government initially sought to establish SLASO on a "cost-recovery" basis, anticipating that, as launch sites in Australia became commercially viable, its operating

[60] Space Activities Act, sections 81 (3) (a) and (b). See generally sections 80-83.

[61] Space Licensing and Safety Office Fact Sheet, <http://www.innovation.gov.au/Industry /Space/Pages/SpaceLicensingandSafetyOfficeFactSheet.aspx> (accessed 15 May 2010).

[62] Under the terms of the Space Activities Act, there is a differentiation between an "accident" and an "incident". Under the legislation, a "suitably experienced and qualified investigator" must be appointed in the case of an accident, but need not be in the case of an incident (sections 85, 86 and 88).

costs could be recovered from launch operators[63]. This expectation was predicated on the underlying assumption that Australia would eventually become the location for a significant commercial launch service industry, which would thus generate significant revenues. In reality, the development of a commercial space launch industry in Australia has not eventuated for a variety of reasons,[64] and is unlikely to do so in the foreseeable future[65].

(g) *Clarification of the "Geographical" Ambit of the Legislation ("what is outer space"?)*

From the perspective of administrative certainty, one might expect that national space legislation would clarify precisely the relevant scope of activities for which an appropriate licence must be sought. Although this has not proven, thus far at least, to be a major cause for concern in relation to those domestic space laws that do not define the geographical scope of the licensing regime (which would presumably be a specified altitude above the earth), it might be that, in certain circumstances, a lack of a precise definition could lead to uncertainties as to whether a particular (launch) activity falls within the ambit of the legislation.

This would require the legislation to specify the (geographical) circumstances as to when a non-governmental entity is required to apply for authorization to undertake a relevant *space* activity, even though its inclusion in national space legislation would not necessarily represent a determination by the drafters of the law as to what constitutes an appropriate demarcation between air space and outer space.

To address the issue for the purposes of the Space Activities Act, the legislation incorporates into the definitions of a "launch", a "launch vehicle", a "return" and a "space object" a reference to "the distance of 100 [kilometres] above mean sea level"[66]. At the time of introducing this specific point of reference, the relevant Australian Government Minister explained that its inclusion in the Space Activities Act was necessary in order to[67]:

"provide certainty to industry about the point where industry players become subject to the provisions [of the legislation since] the issue that there is uncertainty as to where „outer space" begins given that there is no definitive explanation of the term in either Australian or international law."

This was the first example (as far as this author is aware at least) of domestic space-related legislation that referred to a specific "demarcation point" for the purposes of regulating national space activities. It remains in place and applicable even though the still controversial question of where air space ends and outer space begins has not been definitively determined from an international legal viewpoint, and has not generally been followed in the

[63] Australian Ministry for Industry, Science and Resources, "Explanatory Memorandum to the Space Activities Bill 1998", December 1998, page 8, <www.aph.gov.au> (accessed 21 August 2004).

[64] For a description of the travails of the proposed Australian launch service industry, see Steven Freeland, "When Laws are Not Enough – the Stalled Development of an Australian Space Launch Industry", (2004) 8 *University of Western Sydney Law Journal* 79.

[65] In November 2008, an Australian Senate Standing Committee on Economics handed down its report entitled "Lost in Space? Setting a new direction for Australia's space science and industry sector", in which it concluded (at paragraph 4.16) that:
'While not opposed in principle to Australia regaining its role as a launch site if a commercial venture wishes to do so (whether for satellites or tourists), the committee does not see this as likely, nor as something the government should be supporting with taxpayers" money".

[66] Space Activities Act, section 8.

[67] Australian Ministry for Industry, Science and Resources, "Explanatory Memorandum to the Space Activities Amendment Bill 2002", February 2002 page 4, <www.aph.gov.au> (accessed 23 May 2005).

domestic space law of other countries – Australia was just the 6th country to pass national space law.[68] As such, besides being of some academic curiosity at the time, it was intended not to be regarded as being overly significant in the context of the development of the principles (and practice) of international space law.

However, a more recent and significantly more important development in this regard was the inclusion of an express definition of "outer space" in the PPWT referred to above[69], all the more so since that instrument was sponsored by a group of States, including at least two major space-faring nations. Should such developments in State practice eventually be extensively adopted and followed elsewhere, it may ultimately represent evidence tending towards the creation of a new customary international rule[70]. This possibility may become very important in relation not only to the broad principles of international space law, but also on a practical level - for example, to the regulation of commercial sub-orbital space tourism activities, which, at least under current technological constraints, involve paying passengers being taken to an altitude slightly in excess of 100 kilometres above the earth[71].

To accommodate this need for a precise point of authorization for the purposes of the Australian legislation, a consequential change requires that the definition of a "space object" in the Space Activities Act differs from the (somewhat unsatisfactory) definition that appears in a number of the United Nations Space Law Treaties[72].

Accordingly, the Space Activities Act defines a space object as follows[73]:

'"space object" means a thing consisting of:

(a) a launch vehicle; and

(b) a payload (if any) that the launch vehicle is to carry into or back from an area beyond the distance of 100 [kilometres] above mean sea level;

or any part of such a thing, even if:

(c) the part is to go only some of the way towards or back from an area beyond the

[68] The previous countries were the United States, Sweden, the United Kingdom, the Russian Federation and South Africa: see Frans G von der Dunk, "Launching from „Down Under": The New Australian Space Activities Act of 1998", (2000) 43 *Proceedings of the Colloquium on the Law of Outer Space* 132, 139.

[69] Article I (a) of the PPWT defines outer space as the:

"space beyond the elevation of approximately 100 km above ocean level of the Earth".

[70] See *North Sea Continental Shelf Cases (Germany v Denmark; Germany v The Netherlands)* [1969] ICJ Reports 3. It has long been accepted that customary international law represents one of the "sources" of space law: see Vladlen S Vereshchetin and Gennady M Danilenko, "Custom as a Source of International Law of Outer Space", (1985) 13:1 *Journal of Space Law* 22.

[71] In September and October 2004, the manned space vehicle SpaceShipOne twice reached an altitude of just over 100 kilometres and safely returned to earth to claim the US $10 million Ansari X Prize, a space competition modelled on contests at the time of the early development of aviation technology: see Steven Freeland, "Up, Up and …. Back: The Emergence of Space Tourism and its Impact on the International Law of Outer Space", (2005) 6(1) *Chicago Journal of International Law* 1. The most high-profile private industry entity currently seeking to develop a commercial space tourism business, Virgin Galactic, is basing its spacecraft on the same technology utilised by SpaceShipOne. For an analysis of recent developments in relation to the possible evolution of a commercial space tourism "industry", see Tanja Masson-Zwaan and Steven Freeland, "Between Heaven and Earth: The Legal Challenges of Human Space Travel", (2010) 66:11/12 *Acta Astronautica* 1597.

[72] Article I (d) of the Liability Convention defines a space object as follows:

"The term „space object" includes component parts of the space object as well as its launch vehicle and parts thereof."

[73] Space Activities Act, section 8.

distance of 100 [kilometres] above mean sea level; or

(d) the part results from the separation of a payload or payloads from a launch vehicle after launch."

Whilst other States may take a different approach as to how to establish the relevant authorization points applicable under their respective national space laws, the fact remains that, as the scope of space activities undertaken (particularly) by non-governmental entities continues to expand, it will become increasingly necessary to specify with certainty exactly what form of activities are to be regulated. It appears highly probable that this will involve the determination of some demarcation point, a fact that may further enhance the development of what is probably the most fundamental question relating to the international legal regulation of outer space, and one that has thus far eluded precise clarification for over five decades. In this way, the development of national space law may also be a driving force towards the further elaboration of international principles governing the use and exploration of outer space.

(h) *Establishment of a National Register and a Mechanism to furnish Information for the United Nations Register*

Under the terms of the Registration Convention, the State of registry is required both to maintain a national register[74] and to furnish certain information about the launch of space objects to the Secretary-General of the United Nations[75], who maintains an "international" register[76]. As noted earlier, the establishment of the national register is also relevant in relation to the "jurisdiction and control" of a space object (and the personnel thereof) pursuant to article VIII of the Outer Space Treaty.

A State's national space legislation should thus make provision for the establishment of a national register (assuming one was not already in existence) to be maintained by the relevant State agency. It should be noted that, under the terms of the Registration Convention[77]:

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[74] Article II (1) of the Registration Convention provides as follows:
"When a space object is launched into earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain. Each launching State shall inform the Secretary-General of the United Nations of the establishment of such a registry."

[75] Article IV (1) of the Registration Convention provides as follows:
"Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry:
(a) name of launching State or States;
(b) an appropriate designator of the space object or its registration number;
(c) date and territory or location of launch;
(d) basic orbital parameters, including:
(i) nodal period;
(ii) inclination;
(iii) apogee;
(iv) perigee;
(e) general function of the space object."

[76] Article III (1) of the Registration Convention provides as follows:
"The Secretary-General of the United Nations shall maintain a Register in which the information furnished in accordance with article IV shall be recorded."

[77] Registration Convention, article II (3).

'[t]he contents of each registry and the conditions under which it is maintained shall be determined by the State of registry concerned."

In addition, in order to comply with the requirement to transmit the requisite information to the United Nations (Secretary-General) pursuant to article IV of the Registration Convention, one would anticipate that the national space legislation would also formalize an appropriate mechanism by which this can be achieved. It should be noted in this regard that the obligation to provide information to the United Nations is an ongoing one, continuing on in certain circumstances even after the successful launch of a space object[78].

Part 5 of the Space Activities Act provides for the establishment of a Register of Space Objects to be maintained by the relevant Minister. However, perhaps as an oversight, there is no provision outlining a process by which the relevant information is to be sent to the Secretary-General of the United Nations. Presumably this task falls within the responsibility of SLASO, but it would be preferable if this were clarified by the Space Activities Regulations.

(i) A Requirement of "Direct Financial Responsibility" for Third Party Claims

It was previously noted that one of the most important elements that should be included in national space legislation stems from the general international liability provisions found in the Outer Space Treaty[79] and the more detailed liability regime specified in the Liability Convention, which imposes liability on a "launching State" for certain damage caused by a space object[80].

As also noted above, in the absence of specific indemnities in relation to claims by third parties, or where the various exceptions and exonerations contained in the Liability Convention do not apply, a launching State will continue to bear this (contingent) international obligation of liability in relation to all relevant space objects for the period that it is a State Party to the Liability Convention. There are no time limitations or caps on the amount of this liability specified under the Liability Convention, as long as it represents "damage"[81] by a "space object" as those terms are defined for the purposes of that Treaty. Even if it is not a State Party to the Liability Convention, a State would still be subject to the liability provisions in the Outer Space Treaty, as well as, of course, any other potential claims based on the general public international law principles of State responsibility.

As a consequence, the enactment of national laws enables space-faring States to formalise domestic legal processes that would allow them to pass on financial responsibility to, and recover from their national non-governmental entities the amount of the damages for which the State may be liable at the international level. Of course, as noted earlier, this does not remove the international obligation of liability of a launching State under the Liability Convention (or Outer Space Treaty), but does enable it to put in place a domestic mecha-

[78] See Registration Convention, articles IV (2) and IV (3).

[79] Article VII of the Outer Space Treaty prescribes the general terms giving rise to international liability for damage caused by an object launched into outer space. The scope of international liability is then elaborated in the subsequent Liability Convention.

[80] Article 1 (c) of the Liability Convention defines a launching State as follows:

"(i) A State which launches or procures the launching of a space object;

(ii) A State from whose territory or facility a space object is launched".

[81] Article I (a) of the Liability Convention defines "damage" as:

"… loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations".

nism by which it can transfer to non-governmental entities the financial "risk" associated with this potential international liability for third party claims.

Although there are no such limitations included in the Liability Convention, in order to meet the concerns of commercial enterprises considering a space activity, it is open to the relevant State to limit or cap this "indemnity" to a specific maximum amount and/or for a specific time period.

The Space Activities Act is quite specific in this regard. One of the express objects of the legislation is[82]:

"to provide for the payment of adequate compensation for damage caused to persons or property as a result of space activities regulated by [the legislation]".

The legislation establishes a liability regime with this goal in mind. It provides for either absolute liability[83] or fault liability[84] on the part of the launch operator in circumstances largely mirroring the terms of the articles II and III of the Liability Convention[85]. This domestic regime is applicable in circumstances where Australia is a launching State, but (unlike the Liability Convention) only during the "liability period", which is defined as follows[86]:

'(a) for the launch of a space object - the period of 30 days beginning when the launch takes place, or such other period as is specified in the regulations; and

(b) for the return of a space object - the period beginning when the relevant re-entry manoeuvre is begun and ending when the object has come to rest on Earth, or such other period as is specified in the regulations.'

Unless there has been a breach of the relevant licence, or the damage has been caused by an operator who has failed to obtain a required licence (in which case there is unlimited liability), the legislation also provides for a maximum amount of liability equal either to the "Maximum Probable Loss" or the statutory ceiling that was specified as A$750 million. At the time of introducing the legislation, this was considered as important, in order not to impose uncommercial and/or uncompetitive obligations upon launch operators[87].

At first glance, it may seem relatively straightforward to simply require commercial entities in all circumstances to take out appropriate commercial insurance against third party claims for the extent of the specified (maximum) damage, as a way of ensuring that the non-governmental entity undertaking the space activity would be capable of covering the amount of the damage. However, in practical terms, this would often be unworkable, given

[82] Space Activities Act, section 3 (b).

[83] Space Activities Act, section 67.

[84] Space Activities Act, section 68.

[85] Article II of the Liability Convention provides as follows:
"A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight."
Article III of the Liability Convention provides as follows:
"In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible."

[86] Space Activities Act, section 8.

[87] Australian Ministry for Industry, Science and Resources, "Explanatory Memorandum to the Space Activities Bill 1998", December 1998, page 9, <www.aph.gov.au> (accessed 21 August 2004).

the relative lack of depth of the international space insurance market, the lack of financial capacity of most insurers to meet the full extent of such damage, and the significant cost burdens (insurance premiums) this would impose on the non-governmental entity.

As a result, in addition to establishing a cap to the liability of the private operator through the utilization of the Maximum Probable Loss concept (or similar) and/or a capped maximum for liability, it might be preferable and appropriate for the national space legislation to also provide an element of flexibility as to how a non-governmental entity might satisfy this "indemnity" goal, whilst still remaining commercial in its terms and not representing an unreasonable barrier to entry for private operators. After all, it would be important that the national space law does not price appropriate non-governmental entities out of the space "market", given the increasing advantages - some would say imperatives - for many States to encourage the development by its nationals of a thriving space "industry", utilizing the knowledge, expertise, innovation and resources of private enterprise.

With this in mind, the Space Activities Act enables commercial entities applying for a licence to demonstrate "direct financial responsibility" as an alternative to taking out insurance (which, as noted above, may in any event not be available). Article 47 of the legislation provides that the holder of a specific licence satisfies the "insurance/financial requirements" for a launch or return if[88]:

'(a) throughout the liability period for the launch or return, the insurance requirements in section 48 are satisfied; or

(b) the holder has, in accordance with the regulations, shown direct financial responsibility for the launch or return for an amount not less than the amount that would otherwise have been applicable under subsection 48(3) for the launch or return.'

This aspect of national space legislation highlights the balance that must be borne in mind by the drafters of such laws, that being between the "public" needs of the State in imposing appropriate regulatory and administrative obligations on non-governmental entities seeking to engage in space activities, and the needs of the private sector, which is subject to the vicissitudes of the market place, including, of course, the financial constraints under which it must operate. Whilst the establishment of rigorous financial responsibility provisions in national space law will more likely satisfy the first of these, if those imposts are unacceptably high in the circumstances, it may have the effect of discouraging private space activities, which may ultimately be more costly to the ongoing economic (and political) development of the State in the longer term.

Naturally, this balancing exercise operates differently for each State, and will typically be determined based primarily upon domestic factors, although regional and international issues will also be relevant, particularly given the fact that many space activities are multinational projects involving the expertise and resources of entities from different national jurisdictions.

(j) *Other Elements*

In addition to what might be considered as the "standard" elements referred to above, there may be some other (possible) issues to be addressed in specific national space legislation. Once again, these will depend on the specific requirements of the relevant State

[88] Space Activities Act, sections 47 (2) (a) and (b).

and the particular space activities being envisaged, and may include such matters as:

- specific restrictions relating to the export of space-related technology;
- issues relating to safety, investigations and accidents;
- provisions facilitating the implementation of specific inter-Governmental cooperation agreements; and/or
- other obligations relating to particular concerns of national security.

IV. Concluding Remarks

It is now the case that virtually every international conference focusing on the law of outer space involves a discussion relating to "New Developments in National Space Legislation". This is also indicated by the breadth of countries that have already introduced national space laws, some of which are reproduced in this book. Very often, plans are unveiled regarding the imminent finalization of new domestic space law. At the time of writing this chapter, for example, the Austrian Government is currently considering a final draft of its proposed national space law, before introducing it to Parliament for approval. This is yet another clear demonstration of the growing importance of domestic law in the overall regulation of national space activities.

The development of national space law has escalated quite dramatically over recent years, but remains an ongoing process. There are still a significant number of space-faring countries without any meaningful domestic regulatory regime for their space activities. There may be others that consider that they do not need to enact national space law until they are, or are about to become actively engaged in activities involving the use and exploration of outer space. However, this "shortfall" of domestic law is likely to recede over time, and there is no doubt that the development of a significant body of domestic legislation represents one of the real "growth areas" of space law in the future.

What has become obvious, in response to the imperatives referred to above is that, whereas, with the exception of the United States and the Soviet Union/Russia, most States would in the past have regarded space activities as being regulated principally at the international level, this is no longer the case. Many other countries have enacted, or propose shortly to enact, domestic space laws to, at least partially, complement their international law obligations. Naturally, these existing and proposed forms of legislation do differ in accordance with the specific requirements and goals for each particular State, but generally provide not only for the domestic implementation of the broader obligations arising under the various space treaties, but also often serve to develop clearer liability regimes, establish national space agencies and regulate specific space activities.

These developments represent a very positive sign, not only for space lawyers and academics (who might become involved in well-paid consultancies to assist Governments in the drafting of these domestic laws), but also for the broader space community. This "legalization" of space activities reflects not just the practical result of the international legal obligations arising out of the Outer Space Treaty – to authorize and supervise national activities in outer space - but it is also a logical and commercial necessity, particularly given the burgeoning space technology industry and the increasing spectrum of space activities. A broader and more relevant set of regulations for space activities will provide increased certainty for all concerned with the peaceful use and exploration of outer space.

Moreover, this trend will continue. It appears self-evident that there will be a greater need for additional clearly defined legal regulation in the future for a number of reasons, including the following:

- as the method and mode of space activities becomes more complex;
- as the capital required for these activities leads to ever-increasing "private" participation;
- as more countries (and their private entities and other nationals) become involved in national activities in outer space; and/or
- as humankind develops an even broader understanding of the potential "benefits" to be derived from the peaceful use and exploration of outer space.

Not only does this involve the establishment of universally accepted international norms (at least among those States and international intergovernmental organizations with a current or future direct interest in engaging in outer space activities), but it also calls for appropriate and practical domestic regulatory provisions. The expanding inter-connectedness between public and private entities in the pursuit of space activities will mean that these norms must also be legally applicable at the domestic level. In many countries, these activities will, in fact, be increasingly driven by the private sector, which generally will have greater and more ready access to the necessary capital, expertise and innovation.

In addition, it will be increasingly necessary that these new international and national legal rules act so as to complement each other and encourage the widespread acceptance and implementation of standardized principles to deal with the challenges presented by the seemingly limitless desire of humankind to engage in new types of activities in outer space. One only has to consider the strains upon existing international space law posed by the possible future advent of commercial space tourism activities (to take but one example) to recognise the need for close harmonization between international and national legal standards to the greatest extent possible[89].

This in turn will serve to encourage participation by a larger number of interested parties in both the private and public spheres. In this way, the development of domestic legal space rules, complementing the broader international principles accepted by the international community, will allow humankind to continue its quest to (quite literally) broaden the frontiers of our universe.

Of course, this assumes that the terms of the domestic laws (and international principles) that are enacted provide the appropriate balance between a proper and accountable regulatory regime and the need to allow for flexibility and innovation in the uses of outer space, particularly as the advances in technology allow for this increasing range of space activities. It is to be hoped that these will, in most cases at least, be reconciled with the broader issues of international cooperation and collaboration, so as to enable the participants to maximise the benefits to be gained from space activities in the interests of all humankind.

All of these issues represent considerable challenges as to how the legal regulation of outer space will be able to cope with future activities in space. In this regard, not only inter-

[89] For a discussion of the implications on the international law of outer space arising from the future establishment of a viable commercial space tourism industry, see Steven Freeland, "Fly Me to the Moon: How Will International Law Cope with Commercial Space Tourism?, (2010) 11:1 *Melbourne Journal of International Law* 90.

national law, but also the corpus of national space legislation, will have a crucial role to play. The way in which these laws are developed and adapted to meet these challenges will be important not only for the use and exploration of outer space itself, but also for the lives and livelihood of future generations here on earth.

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Space Debris und Space Traffic Management: Two Contemporary Issues in International Space Law

Rada Popova*

Introduction

International space law is one of the newest fields of International law and has to be adapted to an environment that is steadily changing through technology and research progress. Since the 1960s, a number of international treaties, agreements and United Nations resolutions have come into being. Yet, the current balance is fragile because the rules are considered non-binding and not all countries are willing to abide by them. From the launching of the first space object – the artificial satellite Sputnik I in 1957 until today, human's technological capabilities in space have grown and developed while both the variety and the number of potential security risks to crew and technology in space, as well risks for life on earth have been increasing.

This paper discusses two of the current and most actual problems caused by human activities in space – the proliferation of space debris and the need to regulate space traffic. These two issues are related in terms of their technical aspects and causes and although they may be considered separately in details, they have to be investigated jointly when looking for the appropriate regulation of the problems they pose. One of the most discussed problems in space activities today is the so called space debris. The problem with space waste has a global dimension characteristic and a global impact, both in space and on the Earth.

Another problem that needs major consideration, especially with a view to the future, is space traffic management which has only recently become a point of a wider discussion. The lack of legal delimitation of air space, the need for rule to regulate maneuvers and ensuring collision avoidance are particularly significant to the smooth space exploitation, especially as the number of human-sent space objects is steadily increasing.

Ever since the start of the Cold War, the international community has been working on the regulation of human activities in space. In the beginning of the so called „space race" there were two major space powers – USA and USSR. Over the decades their scientific achievements and technical and economic potential triggered an international competition which led to today's state of space activities: at present nine countries have developed their own orbital launch capability (China, France, Japan, India, Iran, Israel, Russia, United Kingdom, and USA), with an average rate of about 800 catalogued space objects launched per year[1]. Statistics show that the number of launches has increased in comparison to the 1980s and more and more space actors are coming onto the space stage. Today it is not only the sovereign states which have the economic and technical feasibility to launch space objects. An increasing number of private entities and NGOs produce and finance space undertakings – especially in the field of telecommunication services and most lately, in space tourism.

The complexity of space activities exercised and the growing number of space actors along with the immense dependency of human activities on space technologies makes the

[1] George T. Hacket, Space Debris and the Corpus Iuris Spatialis, in: Benkö, de Graaff (Edts.), Form for Air and Space Law, Vol. 2 (1995) 9.

problems with space debris and space traffic management especially important. This paper will first focus on the problem of space waste.

1. Space debris - the problem

Currently, there is no strict distinction between space object and space debris – although some authors see „debris" as a term indicating a fragment and stress upon the difference between particles and larger objects[2]. According to the Space Debris Working Group of the European Space Agency (ESA), human-made space objects can be divided in two categories: 1) functionally active satellites under control, and 2) space debris that include deactivated satellites, rocket upper stages and/or parts thereof, such as paint flakes. Because of the speed with which they are moving and the physical forces acting in space environment, space debris is a huge threat to all space objects on orbit. Even the smallest particles not larger than dust can potentially destroy a satellite or cause irreversible damage to any space object, including the International Space Station. Also, an accident caused by space debris particle can threaten the life of astronauts both on mission in outer space or onboard a space object. In order to understand the spectrum of legal challenges in regulating space debris, we need first to explain some of the technical aspects of its production.

1.1. Facts and figures

One of the main issues is that space debris is being created constantly: through object launch, through collision of space objects including collision of space debris particles (the so-called "chain reaction")[3] or through ending of the lifetime of satellites. Currently, there is no technically (or financially) feasible way of reducing space debris population. Overtime, their numbers are growing: although only estimates can be made, it is known that about 600 000 objects larger than 1 cm[4] are orbiting around the Earth in an altitude between 500 and 1500 km[5]. Some 5500 tones of non-functional space objects are on orbit: after 53 years of space activities (starting point being the launch of Sputnik-I on Oct. 4th 1957), more than 4800 launches have taken place with some 6000 satellites launched into orbit. Today, the number of still operational satellites is only 800. Besides them, there is an estimate of 12 000 objects between 5 and 10 cm in Low Earth Orbit (LEO) and between 30 cm to 1 m in the Geostationary Orbit (GEO)[6]. This makes only 6 percent of the catalogued orbit population operational.

These figures are not only worrying in their scale. They provide evidence that some of the most used and most important orbits (such as LEO and GEO) are endangered - not only because objects already located there could be hit any time by a space debris particle, but also because future launches are facing a high risk of being hit on the way from the atmosphere into outer space. This means that with time, space traffic will face even a higher risk. When planning a launch, in addition to all other extremely complicated prognoses and plan-

[2] Hacket, *supra* note 1, 9.

[3] *Ibid*, see also: P. Eichler and D. Rex., Chain Reaction of Debris Generation by Collisonin Space – a Final Threat to Spaceflight?, paper IAA-80-628 prepared for presentation at the 40th Congress of the IAF, Malaga, October 1989, at 3.

[4] Figures according to ESA http://www.esa.int/esaMI/Space_Debris/SEMQQ8VPXPF_0.html

[5] Hacket, *supra* note 1, 27.

[6] *Ibid.*

ning that have to be done, the estimated risk of collision with debris must be assessed. This is not only technically challenging; because of Earth's gravitation, air drag or possible collision of debris with debris, some of the particles might change their trajectory and be dragged in to another orbit – through the „rain-down effect". This could cause objects, regardless of their mass and size, to loose altitude ultimately leading to a process by which space debris becomes self-generating and therefore uncontrollable.

Another problem is that some of the debris pieces are so small, that they can't be tracked from earth and are practically invisible for all radars. There are two categories of remote sensing of space debris from earth: radar measurements – mainly used for LEO objects, and optical measurements – mainly used for High Earth Orbit (HEO). For space debris in LEO, radars are considered more effective than telescopes[7].

An optical telescope of a modest size could give better results than most radars, especially for space debris at high altitudes. However, optical measurements can be used for space debris detection when the object is sunlit while the sky background is dark. These conditions pose some limitations to the measurement process: e.g. objects in LEO can be detected an hour or two before sunrise or after sunset while as objects in HEO may be seen during the entire night[8].

There is another option for space debris detection: using space-based measurements. This can be done after a space object has returned to Earth, through an analysis of surfaces that were exposed to space environment. Another option would be to use special space debris and dust detectors that are designed to catch a particle for further analysis. However, this method is financially viable only for particles in LEO[9].

However, even if all space debris could be tracked and catalogued, this would only provide some limited help – namely with launch planning and operating – making it possible (although only to a certain extent) to foresee the orbit and trajectory that a space debris particle would travel and thus avoid collisions through deliberate maneuvering of space objects.

One of the main threats is the potential risk of collisions with or between satellites using nuclear power sources (NPS). Although the public opinion was first alerted to the risks of space debris when an impact with the Soviet satellite „Cosmos 954" occurred over Canadian territory in 1978, the first accident involving NPS dates back to 1964 when „Plutonium-298" was dispersed over the Indian ocean after a US navigational satellite failed to reach orbit and its power source evaporated[10].

The first collision between two intact satellites took place when on February 10, 2009 two defunct satellites – the US „Iridium-33" and the Russian „Cosmos-2251" crashed at a speed of approximately 42 110 kilometers per hour above Siberia. The amount of space debris produced by this crash created a precedent in the history of space activities. As a result of the collision parts of the two large clouds of debris made up of hundreds of individual

[7] Technical Report on Space Debris, I.A., United Nations Publication A/AC.105/720, 1999 [herein „UN Technical Report on Space Debris"]
[8] *Ibid.* I.A.2
[9] *Ibid.* I.B.
[10] Hacket, *supra* note 1, 32

pieces created may remain in orbit for up to 10 000 years[11].

The hazards caused by space debris, both the predictable and the already occurring, cannot be easily avoided and are likely to happen more often with time as the number of functional and non-functional satellites on orbit growth and space technology develop. Not only highly expensive satellites and technology that are the result of years" of scientific research are threatened, but so are spaceflight and human life. According to some studies, spaceflight could become impossible in certain altitudes in the near future if the present tendencies continue[12].

1.2. Current legal situation

At the moment the only practical step forward is to try and at least reduce the number of debris produced. This would be possible only through creating space activity regulation. The rules should govern the activities of space actors so as to minimize the risk of producing new space debris.

In existing space law, there is no uniform definition of space debris. It usually refers to the non functional parts of space objects such as rocket upper stages or non functional satellites that are travelling in an orbit around the Earth without any useful purpose. The existing international legal framework does not say much about prohibiting the creation of space debris.

The basic legal principles related to outer space have been conceived and formalized through the five Treaties negotiated within the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS). Furthermore, five resolutions of the United Nations General Assembly (UNGA) related to space have provided supplementary recommendations or described a common understanding of previously established principles. Additionally, in June 2007, UNCOPUOS endorsed Debris Mitigation Guidelines that were based on those developed by the Inter-Agency Space Debris Coordination Committee (IADC).

One of the first and most discussed regulations in space law referring to space debris is Article IX of the Outer Space Treaty from 1967[13]. The Outer Space Treaty creates state liability for damage resulting from its space object[14], and prohibits the pollution of the pristine space environment[15]. Art. IX OST may be considered as the basis for environmental protection of outer space: in its second sentence, it states that „harmful contamination" and adverse changes in the environment of the Earth" should be avoided. Pollution in outer space is mostly resulting from human space activities – with debris production being the major issue[16].

The Moon Treaty in its Article VII also prohibits the harmful contamination and the adverse changes in space environment, but does not specifically mention space debris[17]. Also,

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[11] According to some Russian experts cited by the press following-up the accident

[12] Hacket, *supra* note 1, 31

[13] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 1967 [herein „Outer Space Treaty" or „OST"]

[14] *Ibid.*

[15] *Ibid*, Art. IX

[16] F. Lyall and P. B. Larsen, Space Law: A Treatise, (2009) [herein „Lyall and Larsen - Treatise"], 275

[17] Agreement Covering the Activities of States on the Moon and Other Celestial Bodies, 1979 [herein „Moon Treaty"]

the concept of compensation for damage on earth that is caused by space objects can be found the Liability Convention in its Article II[18]. Although the term „harmful contamination" is used as a rather broad concept, it implies that any contamination is to be avoided; in the context space debris is a form of harmful contamination[19].

Finally there is enough legal evidence to indicate that there is a relationship between the above mentioned norms and international environmental law. As stated in Art. III OST, space activities are to be carried „in accordance with international law"[20]. This means that in space not only space law rules are to be applicable, but also rules of international law in general[21].

1.2.1. IADC Guidelines

Once the threat of space debris became apparent, and the estimation of collision risks with debris in planning man missions became a common practice, states active in space established the Inter-Agency Space Debris Committee (IADC)[22]. The IADC is an international governmental forum whose membership is comprised of the national space agencies of the major states active in space. It includes China, France, Germany, India, Italy , Japan, the Russian Federation, Ukraine, the United Kingdom, the United States, and also the European Space Agency (ESA)[23]. With the exchange of information on space debris research activities and co-operation among the member states as its primary goals, in 2002, the IADC formulated a set of guidelines to mitigate the threat posed by space debris using reports by the Scientific and Technical Subcommittee of UN COPUOS, ESA, NASA, the International Academy of Astronautics (IAA), the Russian Aviation and Space Agency, Centre National d'Études Spatiales (CNES). The IADC guidelines are applicable both to mission planning and design and operation of space systems[24] and include 1) limiting the extent of debris created by normal operations through design measures, 2) minimization of on-orbit and post-mission break-ups and avoidance of intentional destruction, 3) post-mission removal of space objects from the geosynchronous region to a „graveyard" orbit and from LEO through re-entry, and 4) preventing on-orbit collisions through estimation and of collision probability and maneuvering. In order to preserve valuable orbits, spacecraft near the end of its mission in LEO (up to 2000 km above the Earth surface) should be de-orbited after a 25 years operational lifetime limit[25], and objects in GEO should be sent further out towards „graveyard" orbits. Thus, slots in those densely populated orbits considered as limited natural resources[26] will be made available for future spacecraft and the risks of collision to still-functioning satellites will be reduced. Additionally, after the completion of a mission operation, a "passivation" (elimination of stored spacecraft energy) should take place in order to minimize the risk

[18] Convention on International Liability for Damage Caused by Space Objects, 1972 [herein „Liability Covention"]
[19] Hobe, Schmidt-Tedd, Schrogl, Cologne Commentary on Space Law Vol.1, (2009), 177.
[20] Outer Space Treaty, *supra* note 13
[21] Hobe, Schmidt-Tedd, Schrogl, *supra* note 19
[22] Lyall and Larsen - Treatise, *supra* note 16, 301
[23] IADC Space Debris Mitigation Guidelines, Foreword [hereinafter referred to as IADC Guidelines]
[24] *Ibid*, 2. Application
[25] *Ibid,* 5.3.2.
[26] Article 44 of the International Telecommunications Union Constitution

of debris creation - e.g. propellants and pressurants are to be depleted, battery chargers are to be de-activated, vessel pressure has to be vented[27].

However, the IADC guidelines are to be applied voluntarily and the the nonobservance of them by a state does not incur that state's responsibility. At most, these guidelines may be seen as an evidence of a state's interpretation of their duties under the Outer Space Treaty[28].

1.2.2. UN COPUOS Guidelines

In 1999, the Scientific and Technical Subcommittee of UN COPUOS adopted a Technical Report on Space Debris. In 2007, the UN General Assembly adopted its Resolution 62/217, which contains a set of voluntary guidelines for the mitigation of space debris[29]. The UN guidelines are consistent with the IADC Guidelines and include 1) limiting debris released during normal operations, 2) minimizing the potential of break-up during operational phases, 3) limiting the probability of accidental collision in orbit, 4) avoiding intentional destruction and other harmful activities, 5) minimizing the potential of post-mission break-ups resulting from stored energy, 6) limiting the long-term presence of spacecraft in the low-Earth orbit region after the end of their mission, and 7) limiting the long-term interference of spacecraft and launcher orbital stages with the GEO protected region.

However, the guidelines state clearly in Section 3 that they are „not legally binding under international law." As such, the non-observance and violation of them would not give rise to a state's international responsibility. At most, as with the IADC guidelines, they may perhaps be considered as evidence of the state's interpretation of its obligations under the existing laws, namely the Outer Space Treaty which prohibits harmful contamination as stipulated in Article IX.

Some authors see the COPUOS guidelines along with the IADC guidelines as a promising basis for the shaping of a new international space treaty as a method to deal with space debris[30].

1.2.3. National legislation

Some countries have also invested national efforts into preventing the damage of space environment through human space activities. In Europe examples are the United Kingdom's Outer Space Act[31], the German „Procedures for the Registration of Satellite Systems before the International Telecommunications Union and the Assignment of German Rights for the Use of Orbits and Frequencies"[32], the French space agency measures which served as a basis

[27] IADC Guidelines, *supra* note 23, 5.2.1.

[28] Vienna Convention on the Law of Treaties, Art. 31 - General rule of interpretation, [herein „Vienna Convention"].

[29] COPUOS Report to the 2007 General Assembly (A/62/20); *See* UNGA Res. 62/217 (A/RES/62/217) ; *See*

[30] Lyall and Larsen - Treatise, *supra* note 16, 307

[31] An Act to confer licensing and other powers on the Secretary of State to secure compliance with the international obligations of the United Kingdom with respect to the launching and operation of space objects and the carrying on of other activities in outer space by persons connected with this country, 18th July 1986, text available in Chapter III of this book

[32] Verfahren zur Anmeldung von Statellitensystemen bei der Internationalen Fernmeldeunion und Übertragung Deutscher Orbit- und Frequenznutzungrechte, Amtsblatt Reg. TP Nr. 6/2005, 6 April 2005, p. 239

for the draft European Code of Conduct 2004, and the ESA Space Debris Mitigation Requirements for Agency Projects.

Although space debris is not specifically mentioned in the UK Outer Space Act of 1986, its section 5, it is required from private operators to conduct operations in such a manner that the space environment is prevented from contamination and adverse changes[33]. The prohibition of the contamination of the outer space is a requirement for getting a license from the State to conduct national activities as a non-governmental entity, consistent with a state's responsibility for national activities for non-governmental entities in outer space. Also, payloads are to be disposed according to the requirements of the license issuer - most probably, this requirement represents space debris concerns.

In Germany, re-orbiting of satellites in GEO is prescribed by national legislation that also implicates the IADC guidelines and may be used as an interpretation of the state's responsibility under OST Art. IX. The law „Procedures for the Registration of Satellite Systems before the International Telecommunications Union and the Assignment of German Rights for the Use of Orbits and Frequencies" requires that satellites are to be designed so that when they approach the end of their mission, enough stored energy or fuel is left so that they can be intentionally re-orbited to a „graveyard" orbit where they will not pose threats to functional GEO spacecraft.

1.2.4. European Code of Conduct for Space Debris Mitigation

The CNES rules for the mitigation of space debris mentioned above were adopted in 1999, and later became the basis for the European Code of Conduct for Space Debris Mitigation of 2004. The Code is adopted by some of the most relevant European space agencies[34] including ESA and recognizes that space debris poses a significant threat for man-made satellites and prescribes measures to be accomplished in order to ensure „the sustainable development of near Earth space"[35].

As with the UN COPUOS guidelines and German national legislation, the elements of the Code are consistent with the IADC guidelines, but provide more specific and detailed measures with respect to mitigation the effect of space debris. The measures to be taken are grouped into management measures in the planning of space activities, design measures in the planning of space activities, and operational measures during the operation and post-operation phases of a space object. The code is committed to the reduction of the future generation of debris and to the freedom of access to space[36]. It recognizes the following tasks as its primary objectives: 1) prevention of on-orbit break-ups and collisions, 2) removal and disposal of non-functional spacecraft of densely populated orbit regions, and 3) limiting debris created during normal operations.

More specifically, the guidelines state that each project should have a Space Debris

[33] Lyall and Larsen - Treatise, *supra* note 16

[34] Agenzia Spaziale Italiana (ASI), British National Space Centre (BNSC), CNES, Deutsches Zentrum für Luft- und Raumfahrt (DLR)

[35] *See* European Code of Conduct for Space Debris Mitigation,„foreword", Issue 1.0, 28 June 2004, [herein „EU Code for Space Debris"].

[36] *Ibid*, Introduction

Manager[37] and a Space Debris Mitigation Plan[38]. They give precise definitions of orbital spaces, and state that both LEO and GEO regions are protected regions with a unique nature[39]. Annex I provides a checklist for verifying the compliance of a project with the Code of Conduct, and a list of definitions clarifying the terms used in this and other legal documents.

However, the effectiveness of the Code of Conduct depends on voluntary application. Also, it is still in draft form and has not received wide adoption as only five space agencies in Europe and ESA have signed it. Part 2.2. of the Code states clearly that the „the Code of Conduct for Space Debris Mitigation is voluntary and should be applied by the European Space Agency, by national space agencies within Europe and their contractors."[40] However, its provisions can become legally binding „by means of legal instruments between contracting parties". Consequently, in the future the standards contained in these guidelines may eventually constitute state practice, at least within Europe.

1.2.5. ESA Space Debris Mitigation Guidelines

On April 1st 2008, a set of specific rules on Space Debris Mitigation for ESA projects[41] entered into force. Recognising the rapid growth of the number of non-functional man-made objects and following the endorsement of the EU Code of Conduct by ESA, the rules elaborate on some special requirements for Agency projects. These are applicable to all Agency projects and all ESA space vehicles[42] started after April 2, 2008. As for ongoing projects at the date of entry into force, the cases of non-compliance should be approved by the Director General. The ESA requirements are consistent with the existing international legal régime on the liability of the launching state as per Art. VII OST and define a „minimum set" of requirements for space debris limitation and risk reduction. Its guidelines are divided into 1) management requirements, 2) design requirements, and 3) requirements for the space project prime contractor. The prime contractor has to document the implementation actions in a „Space Debris Mitigation Document" proving compliance with the ESA requirements and listing potential malfunctions that can cause space debris in the case of a feared-event[43]. Apart from the detailed design requirements set out in Section 5 of the document, it contains a specific prohibition for intentional destruction of a space system or its parts while in orbit. LEO and GEO are regarded as „protected regions"[44] and different end-of-life measures are foreseen for spacecraft in them: according to the IADC Guidelines and the EU Code of Conduct, space systems in LEO should re-enter Earth's atmosphere within 25 years after the end of their mission, while as GEO spacecraft should permanently be sent out to another orbit. The ESA requirements mention also other orbits, stating that „where practicable and economically feasible, space systems outside LEO and GEO protected regions shall implement means of end-of life disposal to avoid long-term interference with operational orbit

[37] EU Code for Space Debris, supra note 35, 3.2. Space Debris Manager
[38] *Ibid*, 3.3 Space Debris Mitigation Plan
[39] *Ibid*, 5.2.2 Protected Regions
[40] *Ibid*, 2.2. Applicability.
[41] Requirements on Space Debris Mitigation for ESA Projects, ESA/ADMIN/IPOL(2008)2, [hereinafter referred to as „ESA Guidelines" or „ESA Requirements"]
[42] *Ibid*, Introduction
[43] *Ibid, 4.3. d)*
[44] *Ibid*, 6.1.

regions".

Consequently, the ESA requirements reaffirm the rules set out in the IADC guidelines and in the EU Code of Conduct and present binding obligations for the operators of all ESA projects.

1.3. Trends in the regulation of space debris production

Although a number of documents exist that set out rules for the mitigation of space debris, currently there is no legally binding international regime specifically for space debris. However, the voluntary UN COPUOS guidelines, the IADC guidelines, the EU Code of Conduct, and the ESA requirements may give rise to binding obligations using two approaches. First, the above mentioned sources of law can be used in the context of the treaty as subsequent state practice which interprets and gives meaning to treaty provisions, *as per* the Vienna Convention Art. 31 (3) b[45]. An alternative option to give those guidelines the quality of a binding law would be to couple state practice with opinio iuris (a belief that the observance of an action represents a legal obligation). Thus, the non-observance or violation of those rules would represent a violation of customary international law which incurs state responsibility. However, it is disputable whether this option will become viable in the foreseeable future.

2. Space Traffic Management – definition and background

Space debris can be considered within the context of the larger concept of „space traffic management" (STM), which has become a hot topic for debate in the relevant literature and may also lead to a proposal for a new legal regime (or regional regimes). As mentioned above, the constant growth in the number of space operations poses a number of issues both to future development of human activity in space, and to its regulation human activity in space and its regulation.

First, there are some existing regulations but as the 2009 Iridium-Cosmos accident showed, there was not enough basis to raise any claims of state liability under any applicable space treaties. This indicates that the current legal situation is subject to further development and amendment.

Second, the concept of STM is rather new and involves not only an environment with special characteristics, but also some yet unpredictable or hardly foreseeable circumstances arising in the process of introducing a system that may impose rules for space actors when using and exploring space. Space traffic and its management have only recently become part of the agenda of international space law fora and relevant literature[46].

Apart from the existing legal basis (the five Treaties, the UNGA resolutions relevant to space traffic and the IADC space debris mitigation guidelines), other international organizations such as IADC, and the International Telecommunication Union (ITU) which regulates radio frequencies, have provided avenues for addressing STM issues. International customary law remains applicable where the norms relevant to STM have been practiced conse-

[45] Vienna Convention, Art. 31, General rule on interpretation, 3 (b) „any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation"

[46] C. Contant, P. Lála, K. Schrogl in: Diederiks-Verschoor, Kopal (Edts.) An introduction to space law (2008) 241

quently over a period of time.

Some of the major fora that brought the matter to broader discussion were the 1999 and 2001 workshops of the American Institute of Aeronautics and Astronautics (AIAA). As a result, a study group is currently preparing a study on space traffic management in coordination with the efforts of the International Institute of Space Law (IISL)/European Center of Space Law (ECSL) alongside the 2002 session of the United Nations Committee on the Peaceful Uses of Outer Space legal subcommittee[47].

In order to understand the need for STM, it is important to analyse the practical, technical and scientific background that underpins its objectives and scope. Starting in 1957, space traffic has taken place mostly in orbits around Earth. Traffic participants include shuttles, rockets and space stations, and also satellites that are used for remote sensing, earth observation, communication, broadcasting, navigation, astronomical and weather observations, and other purposes. Figures show that at present there are more than 13 000 man-made larger than 10cm objects in space[48], out of which only 800 are operational spacecraft[49]. The United States Space Surveillance Network (SSN) has been tracking space objects since the launch of Sputnik I; more than 26,000 space objects orbiting Earth have been tracked so far. The SSN tracks space objects that are 10 centimeters in diameter or larger which leaves out the whole gamut of space debris either to optical and radar measurement that, again, as mentioned above, is restricted by the size of the objects.

Despite the fact that the number of operational space objects seems to be rather small, when compared to the thousands of non-functional spacecraft and parts thereof, it is evident that the space traffic management has become an urgent problem with further support lent by the increasing number of launches and launch sites, by new space actors entering the scene, and by the latest trends in satellite constellation positioning and in suborbital space tourism[50]. All these factors may restrict the freedom of using and exploring outer space by posing challenges for space programs and launches.

Similarly to the case with space debris, there is no uniform definition of space traffic management in the existing legal regulation A definition used in a study by the International Academy on Astronautics that is widely approved by the majority of authors describes STM as *„the set of technical and regulatory provisions for promoting safe access into outer space, operations in outer space and return from outer space to Earth free from physical or radio-frequency interference".* This definition states clearly that the purpose of STM is to ensure safe access to space without harmful interference – thus supporting the principle of freedom in the explorations and use of outer space as laid down in Article I of the Outer Space Treaty. In order to be able to create effective rules and ensure space actor compliance it is also necessary to define the physical and the practical boundaries within which the rules apply.

Space traffic encompasses space activities from their start to their end in two dimensions: the scientific and technical area and the regulatory field, during three phases: launch-

[47] Contant, Lála, Schrogl, *supra* note 46, 242

[48] „Orbital Debris Education Package". Lyndon B. Johnson Space Center, available at http://www.orbitaldebris.jsc.nasa.gov/library/EducationPackage.pdf

[49] Numbers according to ESA, http://www.esa.int/SPECIALS/ESOC/SEMU2CW4QWD_0.html

[50] Contant, Lála, Schrogl, *supra* note 46, 242

ing phase, in-orbit operation and re-entry[51]. Space debris mitigation during the first phase is particularly sensitive as reusable launch vehicles need to be taken into account. Currently, there are no national or international regulations restricting the use of certain launch vehicles and that is why the promotion of reusable ones in the future may play an important role both in the space debris mitigation and in space security.

The second phase takes into account the operation of space objects while in orbit. The use of certain orbits such as GEO presents a particularly complex case where management of orbit exploitation relies on the regulation provided by ITU. For example movements of satellites in certain altitudes or orbital planes are regulated by rules such as rules for maneuvers or right of way[52].

In the third, re-entry phase, the space debris issue can be addressed through proposing technically feasible options to minimize the risk of creating more space waste that would not burn into the atmosphere, and also a notification mechanism.

In order to have a functioning system of rules for space traffic management, information about the existence of space objects in orbit and their status is of vital importance. The register of space objects maintained by the United Nations Office for Outer Space Affairs that includes 1) name of launching state, 2) an appropriate designator of the space object or its registration number, 3) date and territory or location of launch, 4) basic orbital parameters (nodal period, inclination, apogee and perigee), and 5) general function of the space object[53] can play a significant role.

The different aspects described above involve other issues related to the development of space traffic in the upcoming decades. The number of launches and non-functional technology on orbit are not the only factors that need to be taken into account; for example, the often unpredictable distribution and positioning of space debris is a hazard to all types of space activities. There is a need for the prediction of positions in orbit, however such a method poses a challenge to the scientific community: measurements like these depend on a number of factors such as atmospheric density, and other forces that cannot be predicted precisely. Another major challenge to the reliability of the measurements is the fact that space objects maneuvering is quite often impossible, or extremely expensive even if technically feasible. In the case of a collision threat (and the probability of such an event is increasing) – strict rules about which satellite is to give way would have to be created.

2.1. Parallels with other domains

Although some parallels between air and space traffic can be drawn, space environment is in so many ways different, that a completely new way of thinking is needed in order to account for its complexity. Space objects are moving at a huge speed, there is no gravity in space and the possibilities of earth-based control are restricted. Also, the capacity of the existing space monitoring systems is not sufficient to cover small objects and provide for orbital avoidance service[54].

[51] Contant, Lála, Schrogl, *supra* note 46, 243.
[52] *Ibid*
[53] „Convention on Registration of Objects Launched into Outer Space", 1976 [herein „Registration Convention"]
[54] Contant, Lála, Schrogl, *supra* note 46, 245

On Earth's surface, the velocity of a vehicle is almost always controllable. In space, velocity is not a variable and depends on the altitude the satellite is to be sent to. For a shuttle orbiting at 300 km above the surface of the Earth, this is approximately 7.7 km/s and for an object in the GEO at 36,000 km altitude it is 3.07 km/s[55]. If an object moved faster or slower, that means it would move to a lower or higher orbit. If it stopped completely, it would be dragged down back to the atmosphere because of Earth's gravity. Another difference in scale is the much larger area that space traffic is spread on: while the surface of a sphere with the Earth's radius is 511 million sq km, traffic in the earth orbits occupies around 194 trillion cubic km[56].

The differences in the nature of physics laws that govern activities on earth and in space have a huge impact on any STM system - in terms of surveillance and maneuvering options and also in terms of ways to react on time if a risk is materialized. If an accident happened on earth, normally the accident scene would be cleaned up soon after the event and vehicles would be removed. In space, this is not the case: space debris will remain on orbit for hundreds or thousands of years after the impact, travelling at speeds varying from thousands to tens of thousands kilometers per hour.

2.2. STM regulatory problems

Some of the principles in the Outer Space Treaty are directly connected to space traffic, such as the principle of using outer space for the benefit of all mankind, the principle of free access to all celestial bodies, and the principle of freedom of scientific investigation in outer space[57]. Art VI. OST lays out the principle of international responsibility for national activities in outer space that is complemented by the absolute liability in the Liability convention[58]. Retaining state jurisdiction over a registered space object[59] as well as the principle of respecting international law, including the Charter of the United Nations[60] have a direct relevance to the topic of space traffic. Having in mind that both the Liability and Registration convention are complementing some of the basic régimes stated in the Outer Space Treaty, it can be seen that a starting framework for future space traffic management regulation already exists in international space law. The existing principles are formulated broadly enough to leave space for any further development needed to assure their effective application.

One major issue in space law that is especially relevant to space traffic management is the lack of delimitation between air and outer space. The discussion on the matter has been going on for years and it part of the agenda of the UN COPUOS Legal Subcommittee but has yet not lead to a definition of the altitude in which outer space begins and therefore space law regulations become applicable. The issue has not resulted yet in questioning the application of space law rules but may eventually cause difficulties with a rule that may be applicable to a particular event. The most discussed problems in relevant literature are the following: 1) at present only a post-launch, no pre-launch registration is required, 2) there

[55] Space Traffic Management final report, International Space University (2007) [herein „ISU STM report"]
[56] *Ibid*
[57] Art. I Outer Space Treaty
[58] Art. II Liability Convention
[59] Art. VII Outer Space Treaty
[60] Art. III Outer Space Treaty

is no categorization or hierarchical classification of space activities or in space exploration – except for the term „peaceful uses" as used in the Treaties, 3) there is no prioritization of maneuvering, 4) there are no zoning rules that restrict certain activities to reserved zones, 5) there is no legal distinction between functional active spacecraft and defunct valueless space debris, 6) there are no legally binding rules for space debris mitigation, enforcement mechanisms or dispute settlement systems[61].

The deficiencies highlighted previously provide evidence that a body of space traffic management rules would be extremely important in maintaining a predictable level of collision risks. No mitigation with respect to already created space debris is possible, but if some rules are introduced, at least the current trend of space transport getting more hazardous may be avoided.

2.2.1. Initiatives for the creation of STM standards

In recent years, a number of new initiatives such as the AIAA 1999 and 2001 workshops, the 2006 International Academy of Astronautics Cosmic Study on Space Traffic Management, the symposia organized by the IISL/ESCL and the above cited study by the International Space University (2007) took place. They all came to the conclusion that urgent regulation is needed for the double-faced issue about space around the Earth getting more and more polluted and the growing space traffic including new spacecraft types. The ISU report on Space Traffic Management uses the IAA study as a starting point, and tackles several of its key recommendations. As a basis for a long-term solution, a set of eleven technical traffic rules are recommended. They address orbit-specific and environmental problems, as well as rules for collision avoidance. The report focuses on five main topics: 1) Collision avoidance, 2) Human zone, 3) Sun-synchronous zoning, 4) Geosynchronous maneuvers, and 5) Legal management and implementation[62].

Because of their unique application, three key orbital zones were identified as near-term problem areas for space traffic: sun-synchronous orbits (SSOs), GEOs, and orbits used by human-rated spacecraft. The report foresees that existing organizations such as UN COPUOS, ITU, the International Civil Aviation Organization and IADC will be involved in STM and will introduce new regulatory mechanisms based on existing regulations. Taking into account the current trends in space debris and launch rates growth, the report lays out a path for the optimization of existing rules and proposes to create new organization charged with the management of space traffic operations: the International Space Traffic Management Organization (ISMO)[63].

2.2.2. The role of international organizations

In addition to international space law, some international organizations such as the ITU play a role in regulating space related issues that are relevant to space traffic even though their mandates are not limited to or are not explicitly addressing space activities. ITU acts as a regulatory body for satellite communication through the allocation of transmission frequencies and orbital slots in the geostationary orbital space. In order to avoid physical and

[61] Contant, Lála, Schrogl, *supra* note 46, 246-248
[62] ISU STM report, *supra* note 55
[63] *Ibid*, vi

radiofrequency interference in GEO, the international community, through the ITU, has set up a specific regime based on the principles of space law and on the criteria of equitable access to the limited resources that Earth's orbits and radio-frequencies represent. Based on the rule of „first come, first served," the ITU allocation system has shown that an international regime can succeed when the international community perceives an urgent and common necessity. This framework provides concrete regulations for space traffic management. Some other effective rules come from the World Trade Organization (WTO). Even if somewhat limited, they provide regulations for an open market and dispute settlement in the sector of space telecommunication where satellite communication have gained huge impact in trade services[64].

In general, such international fora cannot produce binding agreements. The recommendations they offer are normally of technical nature or aim at effort coordination and can support the work of UN COPUOS and the individual states in the area of regulating space activities. However, these recommendations are usually supported strongly by UN COPUOS members and can become a commonly accepted rule (soft-law).

The Inter-Agency Debris Coordination Committee is another body whose activity is related to space traffic management: Some of its Guidelines, e.g. preventing on-orbit breakups or minimizing the production of debris during launch produce positive indirect effects on space traffic in trying to reduce hazards in space. Some other elements of these Guidelines have direct implications on space traffic, e.g. removal of spacecraft at the end of operations, or moving them out of orbit regions intensively used[65]. For these purposes, they set specific standards aimed at freeing occupied orbits and establishing disposal zones and requirements for information in the case of controlled re-entry.

Although not binding, these guidelines can be are applied on a voluntary basis by endorsing organizations with respect to mission planning, spacecraft design and operations, and to launches into outer space. As soft law, they may lay down the basis for a future specific and internationally recognized space traffic management system.

2.2.3 National legislation

The existing national legislation in twenty countries (Argentina, Australia, Belgium, Brazil, Canada, Chile, China, France, Germany, Japan, Netherlands, Norway, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, United Kingdom, Ukraine, United States of America)[66] shows that as a follow-up to the emerging private actors in space activities, countries have felt the need to adopt national regulations. It is possible that countries may adopt IADC guidelines and thus make them binding[67] – which is a clear sign that national legislation may become an important step towards future regulation, also at bilateral and multilateral levels.

2.3. Further development

One of the main outcomes of the ISU report is the proposed set of rules for STM. There

[64] ISU ITM report, *supra* note 55, p. 13-14
[65] *See* national legislation in Germany, *supra* note 32
[66] Selected provisions available in Chapter III of this book
[67] ISU STM report, *supra* note 55, 1.6.3.

are rules that refer to collision avoidance; one rule addresses SSO zoning, while four rules are related specifically to GEO spacecraft. The rule about the LEO foresees that this orbit should be reserved for human spacecraft and includes safety measures for its protection[68]. Environmental protection of space is included in two other rules that provide for the adoption of the IADC guidelines (also endorsed by UN COPUOS as voluntary nonbinding guidelines). The first rule includes: 1) Minimizing space debris during normal operations, 2) Minimizing the potential for break-ups during operational phases, 3) Limiting the probability of accidental collision in orbit, 4) Avoiding intentional destruction and other harmful activities, 5) Minimizing the potential for post-mission break-ups resulting from stored energy, 6) Limiting the long-term presence of spacecraft and launch vehicle orbital stages in LEO after the end of their mission, 7) Limit the long-term interference of spacecraft and launch vehicle orbital stages within the GEO region after the end of their mission. The second environmental rule suggests that the UN COPUOS space debris mitigation guidelines should be amended through a limitation of the presence of spacecraft in LEO to 25 years[69].

Dispute settlement is a growing concern in STM, especially after the collision between „Iridium-33" and „Cosmos-2251" in 2009. Taking into account the existing dispute settlement avenues (International Court of Justice, ITU, dispute resolution in Air Law, compensation under the Liability Convention, WTO investment arbitration, commercial arbitration, national courts) the study by the International Space University proposes the creation of a new „Space Traffic Arbitration Commission". It is to be noted that the proposed commission should serve as a permanent body empowered to issue binding decisions, unlike the non-binding UNGA resolutions and soft law. It is also proposed that over time the commission would be empowered to impose sanctions. The last two proposals are particularly challenging but if adopted, they may become an effective means of tackling the complex STM issues.

Conclusion

The analysis of technical and scientific aspects related to space debris and space traffic management indicate that progress of humanity in space is threatened by its own development. The global trend of fast technological development has a number of consequences - one of them being the increasing dependency of mankind and society on automated systems and technology. This complicated dynamics is the basis of almost all activities carried out presently. Our lives today look almost impossible without mobile communications and telecommunications, power resource control systems, GPS, broadcasting etc. All these spheres – and thus our everyday lives - are not only related to space technologies: they completely depend on them.

Space activity in the last 50 years or so has reached a level where the reality of crowded near-earth orbits and space objects collisions no longer seem to belong to the domain of science-fiction movie plots only. Only one accident with intact satellites has happened so far, it is time for the international community to consider the ever growing probability of more collisions. Although no grave accidents caused by space debris have occurred onboard the International Space Station, relying on chance and luck is not going to change the current trend described by many as the danger around the Earth space traffic collapse in the next

[68] ISU STM report, *supra* note 55, Section 3.
[69] *Ibid*, 3.6.2.1. Rule II.

few decades.

Existing rules created by the international community such as the UN COPUOS and IADC provide space debris mitigation guidelines; the EU Code of Conduct and other relevant national laws have built basis for future amendments and development of effective binding obligations. Yet these guidelines are not obligatory neither do they include sanctions. Still these international efforts in regulating human activities in space through rules for space traffic may and probably will become the basis for introducing effective rules. The Iridium-Cosmos collision shows that for the moment existing space debris mitigation guidelines and initiatives in space traffic management are effective as sources of soft law – and perhaps, until binding rules come into effect, they might be the most effective means to regulate human activities in space.

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Main legal aspects of Space Tourism

Krassimir Bojanov*

Introduction

Space tourism is a new phenomenon that made its transition from science-fiction to reality within the last 15 years, but promises to become a high-profit private business sector. Although predictions proved wrong that space tourism would enjoy a rapid and spectacular development, it is undisputed that a sound legal environment for this new undertaking is much needed.

The purpose of this publication is simply to mark the main legal controversies, gaps and challenges related both to international and national legal framework of space tourism, without entering into an in-depth analysis of the issues raised.

1. The notion of „Space tourism"

Space tourism has been defined by some authors as „commercial activity offering customers direct or indirect experience with space travel".

From the point of view of the main international outer space law instrument - the Outer Space Treaty, space tourism falls in the scope of „use" within the formula „exploration and use of outer space"[1], the principle of freedom which is proclaimed by the Treaty. As long as no specific prohibition exists for space tourism, the freedom of use of outer space encompasses space tourism activities.

Departing from this uncontroversial point, however, the first difficulties related to the notion of space tourism arise. The different kinds of space tourism activities – orbital tourism and sub-orbital tourism, imply quite different legal questions. Taking into account the lack of definition of outer space, some forms of short sub-orbital private flights with the purpose of experiencing space travel may hardly be qualified at all as space flights.

2. Applicable legal regime to tourist space flights

Sub-orbital tourism may touch on both air law and space law due to the absence of a definition of outer space, but also of a definition of what is a suborbital engine. Different legal regimes may be applicable to space tourism also depending on the different stages of the flight.

Taking into account the differences in the fundamental legal principles at the base of the air law and the international outer space law, the right definition of applicable law seems crucial in future regulations[2].

Different criteria were suggested in this regard, among which - the purpose and function of the vehicle, its technical configuration and capabilities, and the medium where the flights predominantly takes place[3].

[1] Michael Wollersheim, „Considerations Towards the Legal Framework of Space Tourism", 2nd International Symposium on Space Tourism, Bremen, 1999

[2] Steven Freeland, „Fly me to the Moon: How will International Law cope with commercial space tourism?", Melbourne Journal of International Law, vol. 11 (2010)

[3] Wollersheim, *supra* note 1

Some authors propose to choose between the so-called „spatialist" approach and the „functionalist" approach[4]. The former is related to the location of the activity as leading criterion, while the latter is focused on the nature of the activity. The „spatialist" approach has a substantial disadvantage related to the lack of demarcation of the boundary between airspace and outer space. According to the „functionalist" approach, sub-orbital tourism is closer to air law, but is still somewhere between air and space activity. Respectively, the creation of a hybrid legal regime is suggested by some authors.

As to the aspects related to the different flight stages, preference has been expressed to the application of space law (with appropriate amendments and clarification) to the entire journey, based on the criteria „function of the spacecraft" and intention of the flight.

It is usually underlined that the main aspect of space tourism is transportation, but space activities are treated differently from other international transport forms, which are regulated by a comprehensive framework of national and international law. On the contrary, space law comprises inter-governmental treaties negotiated during the cold war[5], the focus being on the principles for the exercise of the attributes of State sovereignty[6].

3. The status of space tourists

The concept and, respectively, the status of space tourists is lacking in the international space law treaties, as it was not the intention of its makers to deal with this category of space actors.

Many different views can be found among experts and scholars on the issue of how to treat space tourists from a legal point of view and whether the particular legal status accorded to an astronaut under the Outer Space Treaty could apply to tourists.

The Rescue Agreement does not include passengers, so it has been argued that space tourists stay out of its scope. Nevertheless, the opinion prevails that it would be wrong to exclude passengers, taking into account the humanitarian objectives of the Rescue Agreement.

The exclusion is mainly justified by the fact that the Rescue Agreement links the rights of astronauts to the concept of „envoys of humankind", which seems incompatible with the pursuit of commercial profit and personally-driven objectives related to space tourism.

Others tend to look for whether space tourists could constitute "personnel of a spacecraft", thus bringing them within the rescue and return obligations of the Rescue Agreement. Eventually, the view prevails that the Rescue Agreement should be interpreted as applying to all persons involved in a space tourism flight.

4. Main legal issues to be addressed by a future regulatory framework

4.1. Liability issues

The Outer Space Treaty provides that responsibility for space activities rests with states.

[4] Julie Abou Yehia, „In need of a European regulation for private human spaceflight", European Space Policy Institute, ESPI Perspectives No 8, June 2008

[5] Patrick Collins, Koichi Yonemoto, „Legal and Regulatory Issues for Passenger Space Travel", 49th IAF Congress, 1998, Melbourne, Australia

[6] André Farand, „Space Tourism: legal considerations", www.scpol.unige.it

States are required by the Outer Space Treaty to authorize and supervise all national activities in outer space, including those undertaken by non-governmental entities.

This situation pushes states to adopt national legislation in order to pass on financial responsibility to private entities, and to recover the cost of the damages for which they are liable at the international level. This will apply on even stronger grounds to space tourism private activities, one main feature of which is that they involve non-professionals as clients.

The limitation on compensations to a maximum amount, as can be found in the air law (the Warsaw Convention), is a precondition to achieve a favorable legal medium for private investments in space tourism industry.

4.2. Insurance

Obviously, any national legislation dealing with space tourism should provide for a mandatory life, medical care or accident insurance. It should cover not only individual damage to the tourist, but also third party liability insurance[7].

The main setback here is the need for insurance companies to operate with statistical data[8] that would allow calculating the risks and the corresponding premiums.

4.3. Other

Having in mind the private character of space tourism, a domestic legal framework governing safety of passenger launch vehicles seems necessary, because no international space law rules exist in this regard. The certification of space objects is not an obligation in space law. The Outer Space Treaty only deals with the authorization of space activities for nongovernmental organizations. Maybe, international aviation rules could serve as a useful prototype when considering how to regulate this area.

A mandatory and effective system for dispute settlement does not exist in space law, but space tourism needs appropriate procedures to deal with conflicts that may touch both the public and private international law level.

Among other fields to be covered by future rules and procedures could be emphasized the following: selection procedure of tourists, pre-flight training standards, licensing of space tourist operators; traffic management, etc.

5. The solutions – what future legal framework?

Opinions largely differ on what should be the most adequate approach to achieve a sound and comprehensive regulatory system for space tourism.

Some share the view that a variety of national regulations will lead to different standards, which will not be in the interest of the international community and states. Consequently, this position implies that the most appropriate solution is to set up an international treaty providing an equal standardization[9].

Others defend the position that a coordinated effort is needed on the international law and domestic law level. A third layer is even mentioned – contract law. It has been suggested

[7] Lesley Jane Smith, Kay-Uwe Hörl, „Legal parameters of space tourism", publ. American Institute of Aeronautics and Astronautics, 2003

[8] Collins, Yonemoto, *supra* note 5

[9] Wollersheim, *supra* note 1

that a model contract should be elaborated in order to standardize the rights and obligations of the flight operator and the tourist, thus providing the latter with a higher degree of legal certainty.

As to the question of what legal base to use for the development of legal rules in the area of space tourism, it is now commonly accepted that civil aviation is the appropriate model for a future passenger space travel industry, especially in the field of the safety-standard, certification and operation of passenger space vehicles.

Still, views are expressed that neither air law solely nor space law could solve the existing problems with space tourism. The best approach could be „a differentiating stage-to-stage system, that makes e.g. air law applicable in air space and space law for outer space, or a strictly purpose oriented system, or a completely new legislation that combines all these elements in an especially for the needs of commercial use designed legal code"[10].

Another source that could be useful for this future legal framework is the International Space Station experience on the legal issues that could arise of orbital space tourism. Some suggest also that elaboration of European regulation would be a good solution for harmonizing the laws of European countries at an international level[11].

6. The role of States

The approach that States would adopt is crucial for the pace of space tourism development. Taking into account the fact that States are liable for damage caused by a private enterprise, it is possible that states would refuse to allow private enterprises to perform space tourism, being able to block these activities under the Registration Convention. A different approach with same end would be to set up exaggerated requirements that would push away investors[12].

A passive approach, consisting in abstaining from the elaboration of the necessary legal framework, is also discouraging to the private sector. Long term investments need a firm legal framework to realize the project in safe conditions.

An important argument in favor of a pro-active State approach is that by setting up an advantageous economical, financial and legal framework, foreign investments can be attracted in this high-tech and high-profit sector[13].

Conclusions

Space tourism is a new type of space activity involving actors whose legal status is still to be clarified. Moreover, the rules of the game need to be set up for this new endeavour to flourish. An effort is needed on the international and the national level to create the favorable conditions for that.

With the imminent elaboration of Reusable Launch Vehicle technology, a vital element for the development of space tourism industry[14], the quick evolution of space tourism seems inevitable. This is a sound basis for predictions that States will increasingly try to gain control

[10] Wollersheim, *supra* note 1
[11] Yehia, *supra* note 4
[12] Wollersheim, *supra* note 1
[13] Yehia, *supra* note 4
[14] Freeland, *supra* note 2

over activities carried out in outer space by entities or individuals under their jurisdiction by adopting legislation in this field[15].

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[15] Farand, *supra* note 6

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

Adopted by the General Assembly in its resolution 2222 (XXI) of 19 December 1966

The States Parties to this Treaty,

Inspired by the great prospects opening up before mankind as a result of man's entry into outer space, Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development,

Desiring to contribute to broad international cooperation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes,

Believing that such cooperation will contribute to the development of mutual understanding and to the strengthening of friendly relations between States and peoples,

Recalling resolution 1962 (XVIII), entitled „Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space", which was adopted unanimously by the United Nations General Assembly on 13 December 1963,

Recalling resolution 1884 (XVIII), calling upon States to refrain from placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction or from installing such weapons on celestial bodies, which was adopted unanimously by the United Nations General Assembly on 17 October 1963,

Taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space,

Convinced that a Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, will further the purposes and principles of the Charter of the United Nations,

Have agreed on the following:

Article I

The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

There shall be freedom of scientific investigation in outer space, including the Moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation.

Article II

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

Article III

States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

Article IV

States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

Article V

States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas. When astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle.

In carrying on activities in outer space and on celestial bodies, the astronauts of one State Party shall render all possible assistance to the astronauts of other States Parties.

States Parties to the Treaty shall immediately inform the other States Parties to the Treaty or the Secretary-General of the United Nations of any phenomena they discover in outer space, including the Moon and other celestial bodies, which could constitute a danger to the life or health of astronauts.

Article VI

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.

Article VII

Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such

object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies.

Article VIII

A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return.

Article IX

In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.

Article X

In order to promote international cooperation in the exploration and use of outer space, including the Moon and other celestial bodies, in conformity with the purposes of this Treaty, the States Parties to the Treaty shall consider on a basis of equality any requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States. The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned.

Article XI

In order to promote international cooperation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the Moon and other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable,

of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.

Article XII

All stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity. Such representatives shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited.

Article XIII

The provisions of this Treaty shall apply to the activities of States Parties to the Treaty in the exploration and use of outer space, including the Moon and other celestial bodies, whether such activities are carried on by a single State Party to the Treaty or jointly with other States, including cases where they are carried on within the framework of international intergovernmental organizations.

Any practical questions arising in connection with activities carried on by international intergovernmental organizations in the exploration and use of outer space, including the Moon and other celestial bodies, shall be resolved by the States Parties to the Treaty either with the appropriate international organization or with one or more States members of that international organization, which are Parties to this Treaty.

Article XIV

1. This Treaty shall be open to all States for signature. Any State which does not sign this Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Treaty.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Treaty, the date of its entry into force and other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XV

Any State Party to the Treaty may propose amendments to this Treaty. Amendments shall enter into force for each State Party to the Treaty accepting the amendments upon their acceptance by a majority of the States Parties to the Treaty and thereafter for each remaining State Party to the Treaty on the date of acceptance by it.

Article XVI

Any State Party to the Treaty may give

notice of its withdrawal from the Treaty one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XVII

This Treaty, of which the Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate, at the cities of London, Moscow and Washington, D.C., the twenty-seventh day of January, one thousand nine hundred and sixty-seven.

Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space

Adopted by the General Assembly in its resolution 2345 (XXII) of 19 December 1967

The Contracting Parties,

Noting the great importance 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,1 which calls for the rendering of all possible assistance to astronauts in the event of accident, distress or emergency landing, the prompt and safe return of astronauts, and the return of objects launched into outer space,

Desiring to develop and give further concrete expression to these duties,

Wishing to promote international co-operation in the peaceful exploration and use of outer space,

Prompted by sentiments of humanity,

Have agreed on the following:

Article 1

Each Contracting Party which receives information or discovers that the personnel of a spacecraft have suffered accident or are experiencing conditions of distress or have made an emergency or unintended landing in territory under its jurisdiction or on the high seas or in any other place not under the jurisdiction of any State shall immediately:

(a) Notify the launching authority or, if it cannot identify and immediately communicate with the launching authority, immediately make a public announcement by all appropriate means of communication at its disposal;

(b) Notify the Secretary-General of the

United Nations, who should disseminate the information without delay by all appropriate means of communication at his disposal.

Article 2

If, owing to accident, distress, emergency or unintended landing, the personnel of a spacecraft land in territory under the jurisdiction of a Contracting Party, it shall immediately take all possible steps to rescue them and render them all necessary assistance. It shall inform the launching authority and also the Secretary-General of the United Nations of the steps it is taking and of their progress. If assistance by the launching authority would help to effect a prompt rescue or would contribute substantially to the effectiveness of search and rescue operations, the launching authority shall cooperate with the Contracting Party with a view to the effective conduct of search and rescue operations. Such operations shall be subject to the direction and control of the Contracting Party, which shall act in close and continuing consultation with the launching authority.

Article 3

If information is received or it is discovered that the personnel of a spacecraft have alighted on the high seas or in any other place not under the jurisdiction of any State, those Contracting Parties which are in a position to do so shall, if necessary, extend assistance in search and rescue operations for such personnel to assure their speedy rescue. They shall inform the launching authority and the Secretary-General of the United Nations of the steps they are taking and of their progress.

Article 4

If, owing to accident, distress, emergency or unintended landing, the personnel of a spacecraft land in territory under the jurisdiction of a Contracting Party or have been found on the high seas or in any other place not under the jurisdiction of any State, they shall be safely and promptly returned to representatives of the launching authority.

Article 5

1. Each Contracting Party which receives information or discovers that a space object or its component parts has returned to Earth in territory under its jurisdiction or on the high seas or in any other place not under the jurisdiction of any State, shall notify the launching authority and the Secretary-General of the United Nations.

2. Each Contracting Party having jurisdiction over the territory on which a space object or its component parts has been discovered shall, upon the request of the launching authority and with assistance from that authority if requested, take such steps as it finds practicable to recover the object or component parts.

3. Upon request of the launching authority, objects launched into outer space or their component parts found beyond the territorial limits of the launching authority shall be returned to or held at the disposal of representatives of the launching authority, which shall, upon request, furnish identifying data prior to their return.

4. Notwithstanding paragraphs 2 and 3 of this article, a Contracting Party which has reason to believe that a space object or its component parts discovered in territory under its jurisdiction, or recovered by it elsewhere, is of a hazardous or deleterious nature may so notify the launching authority, which shall immediately take effective steps, under the direction and control of the said Contracting Party, to eliminate

possible danger of harm.

5. Expenses incurred in fulfilling obligations to recover and return a space object or its component parts under paragraphs 2 and 3 of this article shall be borne by the launching authority.

Article 6

For the purposes of this Agreement, the term „launching authority" shall refer to the State responsible for launching, or, where an international intergovernmental organization is responsible for launching, that organization, provided that that organization declares its acceptance of the rights and obligations provided for in this Agreement and a majority of the States members of that organization are Contracting Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article 7

1. This Agreement shall be open to all States for signature. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Agreement shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Agreement shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Agreement.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Agreement, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Agreement, the date of its entry into force and other notices.

6. This Agreement shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article 8

Any State Party to the Agreement may propose amendments to this Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article 9

Any State Party to the Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article 10

This Agreement, of which the Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Agree-

ment shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Agreement.

DONE in triplicate, at the cities of London, Moscow and Washington, D.C., the twenty-second day of April, one thousand nine hundred and sixty-eight.

Convention on International Liability for Damage Caused by Space Objects

Adopted by the General Assembly in its resolution 2777 (XXVI) of 29 November 1971

The States Parties to this Convention,

Recognizing the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,

Taking into consideration that, notwithstanding the precautionary measures to be taken by States and international intergovernmental organizations involved in the launching of space objects, damage may on occasion be caused by such objects,

Recognizing the need to elaborate effective international rules and procedures concerning liability for damage caused by space objects and to ensure, in particular, the prompt payment under the terms of this Convention of a full and equitable measure of compensation to victims of such damage,

Believing that the establishment of such rules and procedures will contribute to the strengthening of international cooperation in the field of the exploration and use of outer space for peaceful purposes,

Have agreed on the following:

Article I

For the purposes of this Convention:

(a) The term „damage" means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations;

(b) The term „launching" includes at-

tempted launching;

(c) The term „launching State" means:

(i) A State which launches or procures the launching of a space object;

(ii) A State from whose territory or facility a space object is launched;

(d) The term „space object" includes component parts of a space object as well as its launch vehicle and parts thereof.

Article II

A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight.

Article III

In the event of damage being caused elsewhere than on the surface of the Earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible.

Article IV

1. In the event of damage being caused elsewhere than on the surface of the Earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, and of damage thereby being caused to a third State or to its natural or juridical persons, the first two States shall be jointly and severally liable to the third State, to the extent indicated by the following:

(a) If the damage has been caused to the third State on the surface of the Earth or to aircraft in flight, their liability to the third State shall be absolute;

(b) If the damage has been caused to a space object of the third State or to persons or property on board that space object elsewhere than on the surface of the Earth, their liability to the third State shall be based on the fault of either of the first two States or on the fault of persons for whom either is responsible.

2. In all cases of joint and several liability referred to in paragraph 1 of this article, the burden of compensation for the damage shall be apportioned between the first two States in accordance with the extent to which they were at fault; if the extent of the fault of each of these States cannot be established, the burden of compensation shall be apportioned equally between them. Such apportionment shall be without prejudice to the right of the third State to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

Article V

1. Whenever two or more States jointly launch a space object, they shall be jointly and severally liable for any damage caused.

2. A launching State which has paid compensation for damage shall have the right to present a claim for indemnification to other participants in the joint launching. The participants in a joint launching may conclude agreements regarding the apportioning among themselves of the financial obligation in respect of which they are jointly and severally liable. Such agreements shall be without prejudice to the right of a State sustaining damage to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

3. A State from whose territory or facility a space object is launched shall be regarded as a participant in a joint launching.

Article VI

1. Subject to the provisions of para-

graph 2 of this article, exoneration from absolute liability shall be granted to the extent that a launching State establishes that the damage has resulted either wholly or partially from gross negligence or from an act or omission done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents.

2. No exoneration whatever shall be granted in cases where the damage has resulted from activities conducted by a launching State which are not in conformity with international law including, in particular, the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article VII

The provisions of this Convention shall not apply to damage caused by a space object of a launching State to:

(a) Nationals of that launching State;

(b) Foreign nationals during such time as they are participating in the operation of that space object from the time of its launching or at any stage thereafter until its descent, or during such time as they are in the immediate vicinity of a planned launching or recovery area as the result of an invitation by that launching State.

Article VIII

1. A State which suffers damage, or whose natural or juridical persons suffer damage, may present to a launching State a claim for compensation for such damage.

2. If the State of nationality has not presented a claim, another State may, in respect of damage sustained in its territory by any natural or juridical person, present a claim to a launching State.

3. If neither the State of nationality nor the State in whose territory the damage was sustained has presented a claim or notified its intention of presenting a claim, another State may, in respect of damage sustained by its permanent residents, present a claim to a launching State.

Article IX

A claim for compensation for damage shall be presented to a launching State through diplomatic channels. If a State does not maintain diplomatic relations with the launching State concerned, it may request another State to present its claim to that launching State or otherwise represent its interests under this Convention. It may also present its claim through the Secretary-General of the United Nations, provided the claimant State and the launching State are both Members of the United Nations.

Article X

1. A claim for compensation for damage may be presented to a launching State not later than one year following the date of the occurrence of the damage or the identification of the launching State which is liable.

2. If, however, a State does not know of the occurrence of the damage or has not been able to identify the launching State which is liable, it may present a claim within one year following the date on which it learned of the aforementioned facts; however, this period shall in no event exceed one year following the date on which the State could reasonably be expected to have learned of the facts through the exercise of due diligence.

3. The time limits specified in paragraphs 1 and 2 of this article shall apply even if the full extent of the damage may not be known. In this event, however, the claimant State shall be entitled to revise the

claim and submit additional documentation after the expiration of such time limits until one year after the full extent of the damage is known.

Article XI

1. Presentation of a claim to a launching State for compensation for damage under this Convention shall not require the prior exhaustion of any local remedies which may be available to a claimant State or to natural or juridical persons it represents.

2. Nothing in this Convention shall prevent a State, or natural or juridical persons it might represent, from pursuing a claim in the courts or administrative tribunals or agencies of a launching State. A State shall not, however, be entitled to present a claim under this Convention in respect of the same damage for which a claim is being pursued in the courts or administrative tribunals or agencies of a launching State or under another international agreement which is binding on the States concerned.

Article XII

The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined 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.

Article XIII

Unless the claimant State and the State from which compensation is due under this Convention agree on another form of compensation, the compensation shall be paid in the currency of the claimant State or, if that State so requests, in the currency of the State from which compensation is due.

Article XIV

If no settlement of a claim is arrived at through diplomatic negotiations as provided for in article IX, within one year from the date on which the claimant State notifies the launching State that it has submitted the documentation of its claim, the parties concerned shall establish a Claims Commission at the request of either party.

Article XV

1. The Claims Commission shall be composed of three members: one appointed by the claimant State, one appointed by the launching State and the third member, the Chairman, to be chosen by both parties jointly. Each party shall make its appointment within two months of the request for the establishment of the Claims Commission.

2. If no agreement is reached on the choice of the Chairman within four months of the request for the establishment of the Commission, either party may request the Secretary-General of the United Nations to appoint the Chairman within a further period of two months.

Article XVI

1. If one of the parties does not make its appointment within the stipulated period, the Chairman shall, at the request of the other party, constitute a single-member Claims Commission.

2. Any vacancy which may arise in the Commission for whatever reason shall be filled by the same procedure adopted for the original appointment.

3. The Commission shall determine its own procedure.

4. The Commission shall determine the

place or places where it shall sit and all other administrative matters.

5. Except in the case of decisions and awards by a single-member Commission, all decisions and awards of the Commission shall be by majority vote.

Article XVII

No increase in the membership of the Claims Commission shall take place by reason of two or more claimant States or launching States being joined in any one proceeding before the Commission. The claimant States so joined shall collectively appoint one member of the Commission in the same manner and subject to the same conditions as would be the case for a single claimant State. When two or more launching States are so joined, they shall collectively appoint one member of the Commission in the same way. If the claimant States or the launching States do not make the appointment within the stipulated period, the Chairman shall constitute a single-member Commission.

Article XVIII

The Claims Commission shall decide the merits of the claim for compensation and determine the amount of compensation payable, if any.

Article XIX

1. The Claims Commission shall act in accordance with the provisions of article XII.

2. The decision of the Commission shall be final and binding if the parties have so agreed; otherwise the Commission shall render a final and recommendatory award, which the parties shall consider in good faith. The Commission shall state the reasons for its decision or award.

3. The Commission shall give its decision or award as promptly as possible and no later than one year from the date of its establishment, unless an extension of this period is found necessary by the Commission.

4. The Commission shall make its decision or award public. It shall deliver a certified copy of its decision or award to each of the parties and to the Secretary-General of the United Nations.

Article XX

The expenses in regard to the Claims Commission shall be borne equally by the parties, unless otherwise decided by the Commission.

Article XXI

If the damage caused by a space object presents a large-scale danger to human life or seriously interferes with the living conditions of the population or the functioning of vital centres, the States Parties, and in particular the launching State, shall examine the possibility of rendering appropriate and rapid assistance to the State which has suffered the damage, when it so requests. However, nothing in this article shall affect the rights or obligations of the States Parties under this Convention.

Article XXII

1. In this Convention, with the exception of articles XXIV to XXVII, references to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Convention and if a majority of the States members of the organization are States Parties to this Convention and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

2. States members of any such organization which are States Parties to this Convention shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the preceding paragraph.

3. If an international intergovernmental organization is liable for damage by virtue of the provisions of this Convention, that organization and those of its members which are States Parties to this Convention shall be jointly and severally liable; provided, however, that:

(a) Any claim for compensation in respect of such damage shall be first presented to the organization;

(b) Only where the organization has not paid, within a period of six months, any sum agreed or determined to be due as compensation for such damage, may the claimant State invoke the liability of the members which are States Parties to this Convention for the payment of that sum.

4. Any claim, pursuant to the provisions of this Convention, for compensation in respect of damage caused to an organization which has made a declaration in accordance with paragraph 1 of this article shall be presented by a State member of the organization which is a State Party to this Convention.

Article XXIII

1. The provisions of this Convention shall not affect other international agreements in force insofar as relations between the States Parties to such agreements are concerned.

2. No provision of this Convention shall prevent States from concluding international agreements reaffirming, supplementing or extending its provisions.

Article XXIV

1. This Convention shall be open to all States for signature. Any State which does not sign this Convention before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Convention shall enter into force on the deposit of the fifth instrument of ratification.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Convention, the date of its entry into force and other notices.

6. This Convention shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XXV

Any State Party to this Convention may propose amendments to this Convention. Amendments shall enter into force for each State Party to the Convention accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party to the Convention on the date of ac-

ceptance by it.

Article XXVI

Ten years after the entry into force of this Convention, the question of the review of this Convention shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Convention, whether it requires revision. However, at any time after the Convention has been in force for five years, and at the request of one third of the States Parties to the Convention, and with the concurrence of the majority of the States Parties, a conference of the States Parties shall be convened to review this Convention.

Article XXVII

Any State Party to this Convention may give notice of its withdrawal from the Convention one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XXVIII

This Convention, of which the Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Convention shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized thereto, have signed this Convention.

DONE in triplicate, at the cities of London, Moscow and Washington, D.C., this twenty-ninth day of March, one thousand nine hundred and seventy-two.

Convention on Registration of Objects Launched into Outer Space

Adopted by the General Assembly in its resolution 3235 (XXIX) of 12 November 1974

The States Parties to this Convention,

Recognizing the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

Recalling that the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,1 of 27 January 1967 affirms that States shall bear international responsibility for their national activities in outer space and refers to the State on whose registry an object launched into outer space is carried,

Recalling also that the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space2 of 22 April 1968 provides that a launching authority shall, upon request, furnish identifying data prior to the return of an object it has launched into outer space found beyond the territorial limits of the launching authority,

Recalling further that the Convention on International Liability for Damage Caused by Space Objects3 of 29 March 1972 establishes international rules and procedures concerning the liability of launching States for damage caused by their space objects,

Desiring, in the light 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, to make provision for the national registration by launching States of space objects launched into outer space,

Desiring further that a central register of objects launched into outer space be established and maintained, on a mandatory

basis, by the Secretary-General of the United Nations,

Desiring also to provide for States Parties additional means and procedures to assist in the identification of space objects,

Believing that a mandatory system of registering objects launched into outer space would, in particular, assist in their identification and would contribute to the application and development of international law governing the exploration and use of outer space,

Have agreed on the following:

Article I

For the purposes of this Convention:

(a) The term „launching State" means:

(i) A State which launches or procures the launching of a space object;

(ii) A State from whose territory or facility a space object is launched;

(b) The term „space object" includes component parts of a space object as well as its launch vehicle and parts thereof;

(c) The term „State of registry" means a launching State on whose registry a space object is carried in accordance with article II.

Article II

1. When a space object is launched into Earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain. Each launching State shall inform the Secretary-General of the United Nations of the establishment of such a registry.

2. Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with paragraph 1 of this article, bearing in mind the provisions of article VIII 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, and without prejudice to appropriate agreements concluded or to be concluded among the launching States on jurisdiction and control over the space object and over any personnel thereof.

3. The contents of each registry and the conditions under which it is maintained shall be determined by the State of registry concerned.

Article III

1. The Secretary-General of the United Nations shall maintain a Register in which the information furnished in accordance with article IV shall be recorded.

2. There shall be full and open access to the information in this Register.

Article IV

1. Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry:

(a) Name of launching State or States;

(b) An appropriate designator of the space object or its registration number;

(c) Date and territory or location of launch;

(d) Basic orbital parameters, including:

(i) Nodal period;

(ii) Inclination;

(iii) Apogee;

(iv) Perigee;

(e) General function of the space object.

2. Each State of registry may, from time to time, provide the Secretary-General of the United Nations with additional information concerning a space object carried on its registry.

3. Each State of registry shall notify the Secretary-General of the United Nations, to the greatest extent feasible and as soon as practicable, of space objects concerning which it has previously transmitted information, and which have been but no longer are in Earth orbit.

Article V

Whenever a space object launched into Earth orbit or beyond is marked with the designator or registration number referred to in article IV, paragraph 1 (b), or both, the State of registry shall notify the Secretary-General of this fact when submitting the information regarding the space object in accordance with article IV. In such case, the Secretary-General of the United Nations shall record this notification in the Register.

Article VI

Where the application of the provisions of this Convention has not enabled a State Party to identify a space object which has caused damage to it or to any of its natural or juridical persons, or which may be of a hazardous or deleterious nature, other States Parties, including in particular States possessing space monitoring and tracking facilities, shall respond to the greatest extent feasible to a request by that State Party, or transmitted through the Secretary-General on its behalf, for assistance under equitable and reasonable conditions in the identification of the object. A State Party making such a request shall, to the greatest extent feasible, submit information as to the time, nature and circumstances of the events giving rise to the request. Arrangements under which such assistance shall be rendered shall be the subject of agreement between the parties concerned.

Article VII

1. In this Convention, with the exception of articles VIII to XII inclusive, references to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Convention and if a majority of the States members of the organization are States Parties to this Convention and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

2. States members of any such organization which are States Parties to this Convention shall take all appropriate steps to ensure that the organization makes a declaration in accordance with paragraph 1 of this article.

Article VIII

1. This Convention shall be open for signature by all States at United Nations Headquarters in New York. Any State which does not sign this Convention before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Secretary-General of the United Nations.

3. This Convention shall enter into force among the States which have deposited instruments of ratification on the deposit of the fifth such instrument with the Secretary-General of the United Nations.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Convention, the date of its entry into force and other notices.

Article IX

Any State Party to this Convention may propose amendments to the Convention. Amendments shall enter into force for each State Party to the Convention accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party to the Convention on the date of acceptance by it.

Article X

Ten years after the entry into force of this Convention, the question of the review of the Convention shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Convention, whether it requires revision. However, at any time after the Convention has been in force for five years, at the request of one third of the States Parties to the Convention and with the concurrence of the majority of the States Parties, a conference of the States Parties shall be convened to review this Convention. Such review shall take into account in particular any relevant technological developments, including those relating to the identification of space objects.

Article XI

Any State Party to this Convention may give notice of its withdrawal from the Convention one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XII

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Convention, opened for signature at New York on the fourteenth day of January, one thousand nine hundred and seventy-five.

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

Adopted by the General Assembly in its resolution 34/68
of 5 December 1979

The States Parties to this Agreement,

Noting the achievements of States in the exploration and use of the Moon and other celestial bodies,

Recognizing that the Moon, as a natural satellite of the Earth, has an important role to play in the exploration of outer space,

Determined to promote on the basis of equality the further development of cooperation among States in the exploration and use of the Moon and other celestial bodies,

Desiring to prevent the Moon from becoming an area of international conflict,

Bearing in mind the benefits which may be derived from the exploitation of the natural resources of the Moon and other celestial bodies,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,1 the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space,2 the Convention on International Liability for Damage Caused by Space Objects,3 and the Convention on Registration of Objects Launched into Outer Space,

Taking into account the need to define and develop the provisions of these international instruments in relation to the Moon and other celestial bodies, having regard to further progress in the exploration and use of outer space,

Have agreed on the following:

Article 1

1. The provisions of this Agreement relating to the Moon shall also apply to other celestial bodies within the solar system, other than the Earth, except insofar as specific legal norms enter into force with respect to any of these celestial bodies.

2. For the purposes of this Agreement reference to the Moon shall include orbits around or other trajectories to or around it.

3. This Agreement does not apply to extraterrestrial materials which reach the surface of the Earth by natural means.

Article 2

All activities on the Moon, including its exploration and use, shall be carried out in accordance with international law, in particular the Charter of the United Nations, and taking into account the Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations,5 adopted by the General Assembly on 24 October 1970, in the interest of maintaining international peace and security and promoting international cooperation and mutual understanding, and with due regard to the corresponding interests of all other States Parties.

Article 3

1. The Moon shall be used by all States Parties exclusively for peaceful purposes.

2. Any threat or use of force or any other hostile act or threat of hostile act on the Moon is prohibited. It is likewise prohibited to use the Moon in order to commit any such act or to engage in any such threat in relation to the Earth, the Moon, spacecraft, the personnel of spacecraft or manmade space objects.

3. States Parties shall not place in orbit around or other trajectory to or around the

Moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the Moon.

4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the Moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the Moon shall also not be prohibited.

Article 4

1. The exploration and use of the Moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.

2. States Parties shall be guided by the principle of cooperation and mutual assistance in all their activities concerning the exploration and use of the Moon. International cooperation in pursuance of this Agreement should be as wide as possible and may take place on a multilateral basis, on a bilateral basis or through international intergovernmental organizations.

Article 5

1. States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of their activities concerned with the exploration and use of the Moon. Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the Moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be furnished upon completion of the mission. In the case of a mission lasting more than sixty days, information on conduct of the mission, including any scientific results, shall be given periodically, at thirty-day intervals.

For missions lasting more than six months, only significant additions to such information need be reported thereafter.

2. If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the Moon, it shall promptly inform the other State of the timing of and plans for its own operations.

3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the Moon, which could endanger human life or health, as well as of any indication of organic life.

Article 6

1. There shall be freedom of scientific investigation on the Moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law.

2. In carrying out scientific investigations and in furtherance of the provisions of this Agreement, the States Parties shall have the right to collect on and remove from the Moon samples of its mineral and other substances.

Such samples shall remain at the disposal of those States Parties which caused

them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the Moon in quantities appropriate for the support of their missions.

3. States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the Moon to the greatest extent feasible and practicable.

Article 7

1. In exploring and using the Moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to avoid harmfully affecting the environment of the Earth through the introduction of extraterrestrial matter or otherwise.

2. States Parties shall inform the Secretary-General of the United Nations of the measures being adopted by them in accordance with paragraph 1 of this article and shall also, to the maximum extent feasible, notify him in advance of all placements by them of radioactive materials on the Moon and of the purposes of such placements.

3. States Parties shall report to other States Parties and to the Secretary-General concerning areas of the Moon having special scientific interest in order that, without prejudice to the rights of other States Parties, consideration may be given to the designation of such areas as international scientific preserves for which special protective arrangements are to be agreed upon in consultation with the competent bodies of the United Nations.

Article 8

1. States Parties may pursue their activities in the exploration and use of the Moon anywhere on or below its surface, subject to the provisions of this Agreement.

2. For these purposes States Parties may, in particular:

(a) Land their space objects on the Moon and launch them from the Moon;

(b) Place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the Moon. Personnel, space vehicles, equipment, facilities, stations and installations may move or be moved freely over or below the surface of the Moon.

3. Activities of States Parties in accordance with paragraphs 1 and 2 of this article shall not interfere with the activities of other States Parties on the Moon. Where such interference may occur, the States Parties concerned shall undertake consultations in accordance with article 15, paragraphs 2 and 3, of this Agreement.

Article 9

1. States Parties may establish manned and unmanned stations on the Moon.

A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that State shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed.

2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the Moon of personnel, vehicles and equipment of other States Parties conducting activities on the Moon in accordance with the provisions of this Agreement or of article I 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.

Article 10

1. States Parties shall adopt all practicable measures to safeguard the life and health of persons on the Moon. For this purpose they shall regard any person on the Moon as an astronaut within the meaning of article V 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 and as part of the personnel of a spacecraft within the meaning of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

2. States Parties shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the Moon.

Article 11

1. The Moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement, in particular in paragraph 5 of this article.

2. The Moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.

3. Neither the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person. The placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the Moon, including structures connected with its surface or subsurface, shall not create a right of ownership over the surface or the subsurface of the Moon or any areas thereof.

The foregoing provisions are without prejudice to the international regime referred to in paragraph 5 of this article.

4. States Parties have the right to exploration and use of the Moon without discrimination of any kind, on the basis of equality and in accordance with international law and the terms of this Agreement.

5. States Parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with article 18 of this Agreement.

6. In order to facilitate the establishment of the international regime referred to in paragraph 5 of this article, States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of any natural resources they may discover on the Moon.

7. The main purposes of the international regime to be established shall include:

(a) The orderly and safe development of the natural resources of the Moon;

(b) The rational management of those resources;

(c) The expansion of opportunities in the use of those resources;

(d) An equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration.

8. All the activities with respect to the natural resources of the Moon shall be carried out in a manner compatible with the purposes specified in paragraph 7 of this article and the provisions of article 6, paragraph 2, of this Agreement.

Article 12

1. States Parties shall retain jurisdiction and control over their personnel, vehicles, equipment, facilities, stations and installations on the Moon. The ownership of space vehicles, equipment, facilities, stations and installations shall not be affected by their presence on the Moon.

2. Vehicles, installations and equipment or their component parts found in places other than their intended location shall be dealt with in accordance with article 5 of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

3. In the event of an emergency involving a threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the Moon. Prompt notification of such use shall be made to the Secretary-General of the United Nations or the State Party concerned.

Article 13

A State Party which learns of the crash landing, forced landing or other unintended landing on the Moon of a space object, or its component parts, that were not launched by it, shall promptly inform the launching State Party and the Secretary-General of the United Nations.

Article 14

1. States Parties to this Agreement shall bear international responsibility for national activities on the Moon, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in this Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities on the Moon only under the authority and continuing supervision of the appropriate State Party.

2. States Parties recognize that detailed arrangements concerning liability for damage caused on the Moon, in addition to the provisions 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 and the Convention on International Liability for Damage Caused by Space Objects, may become necessary as a result of more extensive activities on the Moon. Any such arrangements shall be elaborated in accordance with the procedure provided for in article 18 of this Agreement.

Article 15

1. Each State Party may assure itself that the activities of other States Parties in the exploration and use of the Moon are compatible with the provisions of this Agreement. To this end, all space vehicles, equipment, facilities, stations and installations on the Moon shall be open to other States Parties. Such States Parties shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be

held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited. In pursuance of this article, any State Party may act on its own behalf or with the full or partial assistance of any other State Party or through appropriate international procedures within the framework of the United Nations and in accordance with the Charter.

2. A State Party which has reason to believe that another State Party is not fulfilling the obligations incumbent upon it pursuant to this Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that State Party. A State Party receiving such a request shall enter into such consultations without delay. Any other State Party which requests to do so shall be entitled to take part in the consultations. Each State Party participating in such consultations shall seek a mutually acceptable resolution of any controversy and shall bear in mind the rights and interests of all States Parties. The Secretary-General of the United Nations shall be informed of the results of the consultations and shall transmit the information received to all States Parties concerned.

3. If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interests of all States Parties, the parties concerned shall take all measures to settle the dispute by other peaceful means of their choice appropriate to the circumstances and the nature of the dispute. If difficulties arise in connection with the opening of consultations or if consultations do not lead to a mutually acceptable settlement, any State Party may seek the assistance of the Secretary-General, without seeking the consent of any other State Party concerned, in order to resolve the controversy. A State Party which does not maintain diplomatic relations with another State Party concerned shall participate in such consultations, at its choice, either itself or through another State Party or the Secretary-General as intermediary.

Article 16

With the exception of articles 17 to 21, references in this Agreement to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. States members of any such organization which are States Parties to this Agreement shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the foregoing.

Article 17

Any State Party to this Agreement may propose amendments to the Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article 18

Ten years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the General Assembly of the United Nations in order to consider,

in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General of the United Nations, as depositary, shall, at the request of one third of the States Parties to the Agreement and with the concurrence of the majority of the States Parties, convene a conference of the States Parties to review this Agreement. A review conference shall also consider the question of the implementation of the provisions of article 11, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments.

Article 19

1. This Agreement shall be open for signature by all States at United Nations Headquarters in New York.

2. This Agreement shall be subject to ratification by signatory States. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations.

3. This Agreement shall enter into force on the thirtieth day following the date of deposit of the fifth instrument of ratification.

4. For each State depositing its instrument of ratification or accession after the entry into force of this Agreement, it shall enter into force on the thirtieth day following the date of deposit of any such instrument.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession to this Agreement, the date of its entry into force and other notices.

Article 20

Any State Party to this Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article 21

The original of this Agreement, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement, opened for signature at New York on the eighteenth day of December, one thousand nine hundred and seventy-nine.

Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space

Adopted by the General Assembly in its resolution 1962 (XVIII) of 13 December 1963

The General Assembly,

Inspired by the great prospects opening up before mankind as a result of man's entry into outer space,

Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the betterment of mankind and for the benefit of States irrespective of their degree of economic or scientific development,

Desiring to contribute to broad international cooperation in the scientific as well as in the legal aspects of exploration and use of outer space for peaceful purposes,

Believing that such cooperation will contribute to the development of mutual understanding and to the strengthening of friendly relations between nations and peoples,

Recalling its resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace, or act of aggression, and considering that the aforementioned resolution is applicable to outer space,

Taking into consideration its resolutions 1721 (XVI) of 20 December 1961 and 1802 (XVII) of 14 December 1962, adopted unanimously by the States Members of the United Nations,

Solemnly declares that in the exploration and use of outer space States should be guided by the following principles:

1. The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind.

2. Outer space and celestial bodies are free for exploration and use by all States on a basis of equality and in accordance with international law.

3. Outer space and celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

4. The activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

5. States bear international responsibility for national activities in outer space, whether carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried on in conformity with the principles set forth in the present Declaration. The activities of non-governmental entities in outer space shall require authorization and continuing supervision by the State concerned. When activities are carried on in outer space by an international organization, responsibility for compliance with the principles set forth in this Declaration shall be borne by the international organization and by the States participating in it.

6. In the exploration and use of outer space, States shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space with due regard for the corresponding interests of other States. If a State has reason to believe that an outer space activity or experiment planned by it or its nationals would cause potentially harmful inter-

ference with activities of other States in the peaceful exploration and use of outer space, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State which has reason to believe that an outer space activity or experiment planned by another State would cause potentially harmful interference with activities in the peaceful exploration and use of outer space may request consultation concerning the activity or experiment.

7. The State on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and any personnel thereon, while in outer space. Ownership of objects launched into outer space, and of their component parts, is not affected by their passage through outer space or by their return to the Earth. Such objects or component parts found beyond the limits of the State of registry shall be returned to that State, which shall furnish identifying data upon request prior to return.

8. Each State which launches or procures the launching of an object into outer space, and each State from whose territory or facility an object is launched, is internationally liable for damage to a foreign State or to its natural or juridical persons by such object or its component parts on the Earth, in air space, or in outer space.

9. States shall regard astronauts as envoys of mankind in outer space, and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of a foreign State or on the high seas. Astronauts who make such a landing shall be safely and promptly returned to the State of registry of their space vehicle.

Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting

Adopted by the General Assembly in its resolution 37/92 of 10 December 1982

The General Assembly,

Recalling its resolution 2916 (XXVII) of 9 November 1972, in which it stressed the necessity of elaborating principles governing the use by States of artificial Earth satellites for international direct television broadcasting, and mindful of the importance of concluding an international agreement or agreements,

Recalling further its resolutions 3182 (XXVIII) of 18 December 1973, 3234 (XXIX) of 12 November 1974, 3388 (XXX) of 18 November 1975, 31/8 of 8 November 1976, 32/196 of 20 December 1977, 33/16 of 10 November 1978, 34/66 of 5 December 1979 and 35/14 of 3 November 1980, and its resolution 36/35 of 18 November 1981 in which it decided to consider at its thirty-seventh session the adoption of a draft set of principles governing the use by States of artificial Earth satellites for international direct television broadcasting,

Noting with appreciation the efforts made in the Committee on the Peaceful Uses of Outer Space and its Legal Subcommittee to comply with the directives issued in the above-mentioned resolutions,

Considering that several experiments of direct broadcasting by satellite have been carried out and that a number of direct broadcasting satellite systems are operational in some countries and may be commercialized in the very near future,

Taking into consideration that the operation of international direct broadcasting satellites will have significant international

political, economic, social and cultural implications,

Believing that the establishment of principles for international direct television broadcasting will contribute to the strengthening of international cooperation in this field and further the purposes and principles of the Charter of the United Nations,

Adopts the Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting set forth in the annex to the present resolution.

Annex.
Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting

A. Purposes and objectives

1. Activities in the field of international direct television broadcasting by satellite should be carried out in a manner compatible with the sovereign rights of States, including the principle of non-intervention, as well as with the right of everyone to seek, receive and impart information and ideas as enshrined in the relevant United Nations instruments.

2. Such activities should promote the free dissemination and mutual exchange of information and knowledge in cultural and scientific fields, assist in educational, social and economic development, particularly in the developing countries, enhance the qualities of life of all peoples and provide recreation with due respect to the political and cultural integrity of States.

3. These activities should accordingly be carried out in a manner compatible with the development of mutual understanding and the strengthening of friendly relations and cooperation among all States and peoples in the interest of maintaining international peace and security.

B. Applicability of international law

4. Activities in the field of international direct television broadcasting by satellite should be conducted in accordance with international law, including the Charter of the United Nations, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,1 of 27 January 1967, the relevant provisions of the International Telecommunication Convention and its Radio Regulations and of international instruments relating to friendly relations and cooperation among States and to human rights.

C. Rights and benefits

5. Every State has an equal right to conduct activities in the field of international direct television broadcasting by satellite and to authorize such activities by persons and entities under its jurisdiction. All States and peoples are entitled to and should enjoy the benefits from such activities. Access to the technology in this field should be available to all States without discrimination on terms mutually agreed by all concerned.

D. International cooperation

6. Activities in the field of international direct television broadcasting by satellite should be based upon and encourage international cooperation. Such cooperation should be the subject of appropriate arrangements. Special consideration should be given to the needs of the developing countries in the use of international direct television broadcasting by satellite for the purpose of accelerating their national development.

E. Peaceful settlement of disputes

7. Any international dispute that may arise from activities covered by these principles should be settled through established

procedures for the peaceful settlement of disputes agreed upon by the parties to the dispute in accordance with the provisions of the Charter of the United Nations.

F. State responsibility

8. States should bear international responsibility for activities in the field of international direct television broadcasting by satellite carried out by them or under their jurisdiction and for the conformity of any such activities with the principles set forth in this document.

9. When international direct television broadcasting by satellite is carried out by an international intergovernmental organization, the responsibility referred to in paragraph 8 above should be borne both by that organization and by the States participating in it.

G. Duty and right to consult

10. Any broadcasting or receiving State within an international direct television broadcasting satellite service established between them requested to do so by any other broadcasting or receiving State within the same service should promptly enter into consultations with the requesting State regarding its activities in the field of international direct television broadcasting by satellite, without prejudice to other consultations which these States may undertake with any other State on that subject.

H. Copyright and neighbouring rights

11. Without prejudice to the relevant provisions of international law, States should cooperate on a bilateral and multilateral basis for protection of copyright and neighbouring rights by means of appropriate agreements between the interested States or the competent legal entities acting under their jurisdiction. In such cooperation they should give special consideration to the interests of developing countries in the use of direct television broadcasting for the purpose of accelerating their national development.

I. Notification to the United Nations

12. In order to promote international cooperation in the peaceful exploration and use of outer space, States conducting or authorizing activities in the field of international direct television broadcasting by satellite should inform the Secretary-General of the United Nations, to the greatest extent possible, of the nature of such activities. On receiving this information, the Secretary-General should disseminate it immediately and effectively to the relevant specialized agencies, as well as to the public and the international scientific community.

J. Consultations and agreements between States

13. A State which intends to establish or authorize the establishment of an international direct television broadcasting satellite service shall without delay notify the proposed receiving State or States of such intention and shall promptly enter into consultation with any of those States which so requests.

14. An international direct television broadcasting satellite service shall only be established after the conditions set forth in paragraph 13 above have been met and on the basis of agreements and/or arrangements in conformity with the relevant instruments of the International Telecommunication Union and in accordance with these principles.

15. With respect to the unavoidable overspill of the radiation of the satellite signal, the relevant instruments of the International Telecommunication Union shall be exclusively applicable.

Principles Relating to Remote Sensing of the Earth from Outer Space

Adopted by the General Assembly in its resolution 41/65 of 3 December 1986

The General Assembly,

Recalling its resolution 3234 (XXIX) of 12 November 1974, in which it recommended that the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space should consider the question of the legal implications of remote sensing of the Earth from space, as well as its resolutions 3388 (XXX) of 18 November 1975, 31/8 of 8 November 1976, 32/196 A of 20 December 1977, 33/16 of 10 November 1978, 34/66 of 5 December 1979, 35/14 of 3 November 1980, 36/35 of 18 November 1981, 37/89 of 10 December 1982, 38/80 of 15 December 1983, 39/96 of 14 December 1984 and 40/162 of 16 December 1985, in which it called for a detailed consideration of the legal implications of remote sensing of the Earth from space, with the aim of formulating draft principles relating to remote sensing,

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its twenty-ninth session 6 and the text of the draft principles relating to remote sensing of the Earth from space, annexed thereto,

Noting with satisfaction that the Committee on the Peaceful Uses of Outer Space, on the basis of the deliberations of its Legal Subcommittee, has endorsed the text of the draft principles relating to remote sensing of the Earth from space,

Believing that the adoption of the principles relating to remote sensing of the Earth from space will contribute to the strengthening of international cooperation in this field,

Adopts the principles relating to remote sensing of the Earth from space set forth in the annex to the present resolution.

Annex. Principles Relating to Remote Sensing of the Earth from Outer Space

Principle I

For the purposes of these principles with respect to remote sensing activities:

(a) The term „remote sensing" means the sensing of the Earth's surface from space by making use of the properties of electromagnetic waves emitted, reflected or diffracted by the sensed objects, for the purpose of improving natural resources management, land use and the protection of the environment;

(b) The term „primary data" means those raw data that are acquired by remote sensors borne by a space object and that are transmitted or delivered to the ground from space by telemetry in the form of electromagnetic signals, by photographic film, magnetic tape or any other means;

(c) The term „processed data" means the products resulting from the processing of the primary data, needed to make such data usable;

(d) The term „analysed information" means the information resulting from the interpretation of processed data, inputs of data and knowledge from other sources;

(e) The term „remote sensing activities" means the operation of remote sensing space systems, primary data collection and storage stations, and activities in processing, interpreting and disseminating the processed data.

Principle II

Remote sensing activities shall be carried out for the benefit and in the interests

of all countries, irrespective of their degree of economic, social or scientific and technological development, and taking into particular consideration the needs of the developing countries.

Principle III

Remote sensing activities shall be conducted in accordance with international law, including the Charter of the United Nations, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,1 and the relevant instruments of the International Telecommunication Union.

Principle IV

Remote sensing activities shall be conducted in accordance with the principles contained in article I 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, which, in particular, provides that the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and stipulates the principle of freedom of exploration and use of outer space on the basis of equality. These activities shall be conducted on the basis of respect for the principle of full and permanent sovereignty of all States and peoples over their own wealth and natural resources, with due regard to the rights and interests, in accordance with international law, of other States and entities under their jurisdiction. Such activities shall not be conducted in a manner detrimental to the legitimate rights and interests of the sensed State.

Principle V

States carrying out remote sensing activities shall promote international cooperation in these activities. To this end, they shall make available to other States opportunities for participation therein. Such participation shall be based in each case on equitable and mutually acceptable terms.

Principle VI

In order to maximize the availability of benefits from remote sensing activities, States are encouraged, through agreements or other arrangements, to provide for the establishment and operation of data collecting and storage stations and processing and interpretation facilities, in particular within the framework of regional agreements or arrangements wherever feasible.

Principle VII

States participating in remote sensing activities shall make available technical assistance to other interested States on mutually agreed terms.

Principle VIII

The United Nations and the relevant agencies within the United Nations system shall promote international cooperation, including technical assistance and coordination in the area of remote sensing.

Principle IX

In accordance with article IV of the Convention on Registration of Objects Launched into Outer Space4 and article XI 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, a State carrying out a programme of remote sensing shall inform the Secretary-General of the United Nations. It shall, moreover, make available any other

relevant information to the greatest extent feasible and practicable to any other State, particularly any developing country that is affected by the programme, at its request.

Principle X

Remote sensing shall promote the protection of the Earth's natural environment. To this end, States participating in remote sensing activities that have identified information in their possession that is capable of averting any phenomenon harmful to the Earth's natural environment shall disclose such information to States concerned.

Principle XI

Remote sensing shall promote the protection of mankind from natural disasters. To this end, States participating in remote sensing activities that have identified processed data and analysed information in their possession that may be useful to States affected by natural disasters, or likely to be affected by impending natural disasters, shall transmit such data and information to States concerned as promptly as possible.

Principle XII

As soon as the primary data and the processed data concerning the territory under its jurisdiction are produced, the sensed State shall have access to them on a non-discriminatory basis and on reasonable cost terms. The sensed State shall also have access to the available analysed information concerning the territory under its jurisdiction in the possession of any State participating in remote sensing activities on the same basis and terms, taking particularly into account the needs and interests of the developing countries.

Principle XIII

To promote and intensify international cooperation, especially with regard to the needs of developing countries, a State carrying out remote sensing of the Earth from space shall, upon request, enter into consultations with a State whose territory is sensed in order to make available opportunities for participation and enhance the mutual benefits to be derived therefrom.

Principle XIV

In compliance with 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, States operating remote sensing satellites shall bear international responsibility for their activities and assure that such activities are conducted in accordance with these principles and the norms of international law, irrespective of whether such activities are carried out by governmental or non-governmental entities or through international organizations to which such States are parties. This principle is without prejudice to the applicability of the norms of international law on State responsibility for remote sensing activities.

Principle XV

Any dispute resulting from the application of these principles shall be resolved through the established procedures for the peaceful settlement of disputes.

Principles Relevant to the Use of Nuclear Power Sources in Outer Space

Adopted by the General Assembly in its resolution 47/68 of 14 December 1992

The General Assembly,

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its thirty-fifth session 7 and the text of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as approved by the Committee and annexed to its report,8

Recognizing that for some missions in outer space nuclear power sources are particularly suited or even essential owing to their compactness, long life and other attributes,

Recognizing also that the use of nuclear power sources in outer space should focus on those applications which take advantage of the particular properties of nuclear power sources,

Recognizing further that the use of nuclear power sources in outer space should be based on a thorough safety assessment, including probabilistic risk analysis, with particular emphasis on reducing the risk of accidental exposure of the public to harmful radiation or radioactive material,

Recognizing the need, in this respect, for a set of principles containing goals and guidelines to ensure the safe use of nuclear power sources in outer space,

Affirming that this set of Principles applies to nuclear power sources in outer space devoted to the generation of electric power on board space objects for nonpropulsive purposes, which have characteristics generally comparable to those of systems used and missions performed at the time of the adoption of the Principles,

Recognizing that this set of Principles will require future revision in view of emerging nuclear power applications and of evolving international recommendations on radiological protection,

Adopts the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as set forth below.

Principle 1. Applicability of international law

Activities involving the use of nuclear power sources in outer space shall be carried out in accordance with international law, including in particular the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Principle 2. Use of terms

1. For the purpose of these Principles, the terms „launching State" and „State launching" mean the State which exercises jurisdiction and control over a space object with nuclear power sources on board at a given point in time relevant to the principle concerned.

2. For the purpose of principle 9, the definition of the term „launching State" as contained in that principle is applicable.

3. For the purposes of principle 3, the terms „foreseeable" and „all possible" describe a class of events or circumstances whose overall probability of occurrence is such that it is considered to encompass only credible possibilities for purposes of safety analysis. The term „general concept of defence-in-depth" when applied to nuclear power sources in outer space refers to the use of design features and mission operations in place of or in addition to active systems, to prevent or mitigate the consequences of system malfunctions. Re-

dundant safety systems are not necessarily required for each individual component to achieve this purpose. Given the special requirements of space use and of varied missions, no particular set of systems or features can be specified as essential to achieve this objective.

For the purposes of paragraph 2 (d) of principle 3, the term „made critical" does not include actions such as zero-power testing which are fundamental to ensuring system safety.

Principle 3. Guidelines and criteria for safe use

In order to minimize the quantity of radioactive material in space and the risks involved, the use of nuclear power sources in outer space shall be restricted to those space missions which cannot be operated by non-nuclear energy sources in a reasonable way.

1. General goals for radiation protection and nuclear safety

(a) States launching space objects with nuclear power sources on board shall endeavour to protect individuals, populations and the biosphere against radiological hazards. The design and use of space objects with nuclear power sources on board shall ensure, with a high degree of confidence, that the hazards, in foreseeable operational or accidental circumstances, are kept below acceptable levels as defined in paragraphs 1 (b) and (c).

Such design and use shall also ensure with high reliability that radioactive material does not cause a significant contamination of outer space;

(b) During the normal operation of space objects with nuclear power sources on board, including re-entry from the sufficiently high orbit as defined in paragraph 2 (c), the appropriate radiation protection objective for the public recommended by the International Commission on Radiological Protection shall be observed. During such normal operation there shall be no significant radiation exposure;

(d) To limit exposure in accidents, the design and construction of the nuclear power source systems shall take into account relevant and generally accepted international radiological protection guidelines.

Except in cases of low-probability accidents with potentially serious radiological consequences, the design for the nuclear power source systems shall, with a high degree of confidence, restrict radiation exposure to a limited geographical region and to individuals to the principal limit of 1 mSv in a year. It is permissible to use a subsidiary dose limit of 5 mSv in a year for some years, provided that the average annual effective dose equivalent over a lifetime does not exceed the principal limit of 1 mSv in a year.

The probability of accidents with potentially serious radiological consequences referred to above shall be kept extremely small by virtue of the design of the system. Future modifications of the guidelines referred to in this paragraph shall be applied as soon as practicable;

(e) Systems important for safety shall be designed, constructed and operated in accordance with the general concept of defence-in-depth. Pursuant to this concept, foreseeable safety-related failures or malfunctions must be capable of being corrected or counteracted by an action or a procedure, possibly automatic.

The reliability of systems important for safety shall be ensured, inter alia, by redundancy, physical separation, functional isolation and adequate independence of their components.

Other measures shall also be taken to raise the level of safety.

2. Nuclear reactors

(a) Nuclear reactors may be operated:

(i) On interplanetary missions;

(ii) In sufficiently high orbits as defined in paragraph 2 (b);

(iii) In low-Earth orbits if they are stored in sufficiently high orbits after the operational part of their mission.

(b) The sufficiently high orbit is one in which the orbital lifetime is long enough to allow for a sufficient decay of the fission products to approximately the activity of the actinides. The sufficiently high orbit must be such that the risks to existing and future outer space missions and of collision with other space objects are kept to a minimum. The necessity for the parts of a destroyed reactor also to attain the required decay time before re-entering the Earth's atmosphere shall be considered in determining the sufficiently high orbit altitude;

(c) Nuclear reactors shall use only highly enriched uranium 235 as fuel. The design shall take into account the radioactive decay of the fission and activation products;

(d) Nuclear reactors shall not be made critical before they have reached their operating orbit or interplanetary trajectory;

(e) The design and construction of the nuclear reactor shall ensure that it cannot become critical before reaching the operating orbit during all possible events, including rocket explosion, re-entry, impact on ground or water, submersion in water or water intruding into the core;

(f) In order to reduce significantly the possibility of failures in satellites with nuclear reactors on board during operations in an orbit with a lifetime less than in the sufficiently high orbit (including operations for transfer into the sufficiently high orbit), there shall be a highly reliable operational system to ensure an effective and controlled disposal of the reactor.

3. Radioisotope generators

(a) Radioisotope generators may be used for interplanetary missions and other missions leaving the gravity field of the Earth. They may also be used in Earth orbit if, after conclusion of the operational part of their mission, they are stored in a high orbit. In any case ultimate disposal is necessary;

(b) Radioisotope generators shall be protected by a containment system that is designed and constructed to withstand the heat and aerodynamic forces of re-entry in the upper atmosphere under foreseeable orbital conditions, including highly elliptical or hyperbolic orbits where relevant. Upon impact, the containment system and the physical form of the isotope shall ensure that no radioactive material is scattered into the environment so that the impact area can be completely cleared of radioactivity by a recovery operation.

Principle 4. Safety assessment

1. A launching State as defined in principle 2, paragraph 1, at the time of launch shall, prior to the launch, through cooperative arrangements, where relevant, with those which have designed, constructed or manufactured the nuclear power sources, or will operate the space object, or from whose territory or facility such an object will be launched, ensure that a thorough and comprehensive safety assessment is conducted. This assessment shall cover as well all relevant phases of the mission and shall deal with all systems involved, including the means of launching, the space platform, the nuclear power source and its equipment and the means of control and communication between ground and space.

2. This assessment shall respect the guidelines and criteria for safe use contained in principle 3.

3. Pursuant to article XI 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, the results of this safety assessment, together with, to the extent feasible, an indication of the approximate intended timeframe of the launch, shall be made publicly available prior to each launch, and the Secretary-General of the United Nations shall be informed on how States may obtain such results of the safety assessment as soon as possible prior to each launch.

Principle 5. Notification of re-entry

1. Any State launching a space object with nuclear power sources on board shall in a timely fashion inform States concerned in the event this space object is malfunctioning with a risk of re-entry of radioactive materials to the Earth. The information shall be in accordance with the following format:

(a) System parameters:

(i) Name of launching State or States, including the address of the authority which may be contacted for additional information or assistance in case of accident;

(ii) International designation;

(iii) Date and territory or location of launch;

(iv) Information required for best prediction of orbit lifetime, trajectory and impact region;

(v) General function of spacecraft;

(b) Information on the radiological risk of nuclear power source(s):

(i) Type of nuclear power source: radioisotopic/reactor;

(ii) The probable physical form, amount and general radiological characteristics of the fuel and contaminated and/or activated components likely to reach the ground. The term „fuel" refers to the nuclear material used as the source of heat or power. This information shall also be transmitted to the Secretary-General of the United Nations.

2. The information, in accordance with the format above, shall be provided by the launching State as soon as the malfunction has become known. It shall be updated as frequently as practicable and the frequency of dissemination of the updated information shall increase as the anticipated time of re-entry into the dense layers of the Earth's atmosphere approaches so that the international community will be informed of the situation and will have sufficient time to plan for any national response activities deemed necessary.

3. The updated information shall also be transmitted to the Secretary-General of the United Nations with the same frequency.

Principle 6. Consultations

States providing information in accordance with principle 5 shall, as far as reasonably practicable, respond promptly to requests for further information or consultations sought by other States.

Principle 7. Assistance to States

1. Upon the notification of an expected re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components, all States possessing space monitoring and tracking facilities, in the spirit of international cooperation, shall communicate the relevant information that they may have available on the malfunctioning space object with a nuclear power source on board to the Secretary-General of the United Nations and the State concerned as promptly as possible to allow States that might be affected to assess the situation and take any precautionary measures deemed necessary.

2. After re-entry into the Earth's atmosphere of a space object containing a

nuclear power source on board and its components:

(a) The launching State shall promptly offer and, if requested by the affected State, provide promptly the necessary assistance to eliminate actual and possible harmful effects, including assistance to identify the location of the area of impact of the nuclear power source on the Earth's surface, to detect the re-entered material and to carry out retrieval or clean-up operations;

(b) All States, other than the launching State, with relevant technical capabilities and international organizations with such technical capabilities shall, to the extent possible, provide necessary assistance upon request by an affected State.

In providing the assistance in accordance with subparagraphs (a) and (b) above, the special needs of developing countries shall be taken into account.

Principle 8. Responsibility

In accordance with 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, States shall bear international responsibility for national activities involving the use of nuclear power sources in outer space, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that such national activities are carried out in conformity with that Treaty and the recommendations contained in these Principles. When activities in outer space involving the use of nuclear power sources are carried on by an international organization, responsibility for compliance with the aforesaid Treaty and the recommendations contained in these Principles shall be borne both by the international organization and by the States participating in it.

Principle 9. Liability and compensation

1. In accordance with article VII 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, and the provisions of the Convention on International Liability for Damage Caused by Space Objects,3 each State which launches or procures the launching of a space object and each State from whose territory or facility a space object is launched shall be internationally liable for damage caused by such space objects or their component parts. This fully applies to the case of such a space object carrying a nuclear power source on board. Whenever two or more States jointly launch such a space object, they shall be jointly and severally liable for any damage caused, in accordance with article V of the above-mentioned Convention.

2. The compensation that such States shall be liable to pay under the aforesaid Convention for damage shall be determined 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 a claim is presented to the condition which would have existed if the damage had not occurred.

3. For the purposes of this principle, compensation shall include reimbursement of the duly substantiated expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties.

Principle 10. Settlement of disputes

Any dispute resulting from the application of these Principles shall be resolved through negotiations or other established procedures for the peaceful settlement of

disputes, in accordance with the Charter of the United Nations.

Principle 11. Review and revision

These Principles shall be reopened for revision by the Committee on the Peaceful Uses of Outer Space no later than two years after their adoption.

Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries

Adopted by the General Assembly in its resolution 51/122 of 13 December 1996

The General Assembly,

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its thirty-ninth session9 and the text of the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, as approved by the Committee and annexed to its report,

Bearing in mind the relevant provisions of the Charter of the United Nations,

Recalling notably the provisions of the Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,1

Recalling also its relevant resolutions relating to activities in outer space,

Bearing in mind the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space,11 and of other international conferences relevant in this field,

Recognizing the growing scope and significance of international cooperation among States and between States and international organizations in the exploration and use of outer space for peaceful purposes,

Considering experiences gained in international cooperative ventures,

Convinced of the necessity and the sig-

nificance of further strengthening international cooperation in order to reach a broad and efficient collaboration in this field for the mutual benefit and in the interest of all parties involved,

Desirous of facilitating the application of the principle that the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind,

Adopts the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, set forth in the annex to the present resolution.

Annex. Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of all States, Taking into Particular Account the Needs of Developing Countries

1. International cooperation in the exploration and use of outer space for peaceful purposes (hereafter „international cooperation") shall be conducted in accordance with the provisions of international law, including the Charter of the United Nations and the Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. It shall be carried out for the benefit and in the interest of all States, irrespective of their degree of economic, social or scientific and technological development, and shall be the province of all mankind. Particular account should be taken of the needs of developing countries.

2. States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis. Contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interests of the parties concerned as, for example, with intellectual property rights.

3. All States, particularly those with relevant space capabilities and with programmes for the exploration and use of outer space, should contribute to promoting and fostering international cooperation on an equitable and mutually acceptable basis. In this context, particular attention should be given to the benefit for and the interests of developing countries and countries with incipient space programmes stemming from such international cooperation conducted with countries with more advanced space capabilities.

4. International cooperation should be conducted in the modes that are considered most effective and appropriate by the countries concerned, including, inter alia, governmental and non-governmental; commercial and non-commercial; global, multilateral, regional or bilateral; and international cooperation among countries in all levels of development.

5. International cooperation, while taking into particular account the needs of developing countries, should aim, inter alia, at the following goals, considering their need for technical assistance and rational and efficient allocation of financial and technical resources:

(a) Promoting the development of space science and technology and of its applications;

(b) Fostering the development of relevant and appropriate space capabilities in

interested States;

(c) Facilitating the exchange of expertise and technology among States on a mutually acceptable basis.

6. National and international agencies, research institutions, organizations for development aid, and developed and developing countries alike should consider the appropriate use of space applications and the potential of international cooperation for reaching their development goals.

7. The Committee on the Peaceful Uses of Outer Space should be strengthened in its role, among others, as a forum for the exchange of information on national and international activities in the field of international cooperation in the exploration and use of outer space.

8. All States should be encouraged to contribute to the United Nations Programme on Space Applications and to other initiatives in the field of international cooperation in accordance with their space capabilities and their participation in the exploration and use of outer space.

ESTABLISHMENT OF NATIONAL COMMISSION ON SPACE ACTIVITIES NATIONAL DECREE 995/91

BUENOS AIRES, 28 May 1991

OFFICIAL GAZETTE - 3 June 1991

HAVING REGARD TO AND BEING CONSIDERED

THAT The progress of space sciences and technology is of great importance for the State because of the many and various public policy considerations raised by their practical applications;

That our country maintains its right to technological and scientific development for peaceful purposes;

That it is necessary to make practical use of the experience gained by Argentina in the field of space researches;

That the technical complexity of space activities necessitates proper organization and coordination of all the national bodies concerned, whether private or public, in order to prevent the dissipation and duplication of efforts;

That it is necessary to establish a national authority to centralize, organize, administer and implement the global policy on space matters;

That the Argentine Republic rejects all offensive military use of space activities and acknowledges its intention to work in this field with a high sense of responsibility and transparency and for the purposes of peace protection.

That it is recommended the participation of the parliament in compiling the program and controlling the national politics, related to the space matters to be increased.

ARTICLE 1

The National Commission on Space Activities (CONAE) is hereby created with the capacity to act as a public and private entity in the scientific, technical, industrial, commercial, administrative and financial spheres, with full administrative and financial autonomy, and accountable directly and exclusively to the President of the Nation.

ARTICLE 2

THE NATIONAL COMMISSION ON SPACE ACTIVITIES shall be the only national State body competent to take charge of, formulate, implement, monitor, manage and administer projects and undertakings in the field of space, in which regard its functions shall be the following:

To propose the National Space Development Plan for the use and development of space sciences and technology for peaceful purposes, as well as arrangements for its funding, for approval by the executive branch of the National Government;

To centralize, organize, administer and implement the National Space Plan.

ARTICLE 3

The functions of the NATIONAL COMMISSION ON SPACE ACTIVITIES shall be to:

Conduct research activities aimed at the establishment of groups possessing the necessary disciplines and techniques for access to be gained to space technology and its applications;

Undertake development work in the area of advanced engineering, encompassing the fields necessary for the assimilation of appropriate national space technology;

Ensure and assist the integrated development of national space projects;

Provide for the basic and ongoing training of research, professional, technical and other appropriate personnel through courses, fellowships and reciprocal arrangements with universities, State authorities and other national or foreign institutions;

Assign space technology transfer to applications in agronomy, cartography, mineral prospecting, meteorology, geology, environmental science, medicine, communications, defence, industrial sectors and other areas, to government authorities and especially, under license, to the private sector, providing technical assistance for the purpose of attaining the quality standards which it establishes;

Draw up agreements with other authorities or private entities in the country with a view to transfer or cooperation in the development of space activities;

Provide technical assistance to the State for the purposes of national representation at congresses, conventions, conferences and meetings and at events organized by international organizations concerned with outer space;

Coordinate all the activities of the National Space System, including all the public and private institutions engaged in space activities, whether directly or indirectly;

Obtain the financial resources necessary to perform its activities; and

Promote and implement cooperation agreements with public and private entities from other countries, in conformity with the foreign policy of the Argentine Republic and with due intervention by the Ministry of Foreign Affairs and Religion.

ARTICLE 4

Without prejudice to the provisions of the foregoing articles, the National Commission on Space Activities (CONAE), in the exercise of its public and private powers, may:

(a) Appoint and relocate scientific, technical and administrative personnel, whether temporarily or permanently;

(b) Issue its internal regulations and establish its organizational structure;

(c) Formulate agreements with public or private entities and conclude the necessary contracts for the achievement of its aims;

(d) Undertake commercial transactions on the basis of the contracts concluded, in line with the aims established in this Decree;

(e) Take any legal steps necessary for its proper functioning;

(f) Propose a control regime for all transfers abroad of space technology and equipment and for arms, in conformity with the criteria and standards of non-proliferation; such regime shall be subject to prior authorization by a committee to be established, which shall be composed of representatives of the Ministries of Defence, of the Economy and Public Works and of Foreign Affairs and Religion.

ARTICLE 5

The National Commission on Space Activities (CONAE) shall have the following organizational structure:

a. A Board of Directors composed of eleven (11) members

The board of directors shall have the following structure:

– A president, the incumbent of this office being the Minister for Foreign Affairs, International Trade and Religion. This official shall present to the President of the Nation an annual report on the activities undertaken by CONAE;

– A vice-president, the incumbent of this office being the Secretary for External Relations and Latin American Affairs of the Ministry of Foreign Affairs, International

Trade and Religion;

– A representative appointed by the national executive at the proposal of each of the following departments of the national public service:

– The Ministry of Foreign Affairs, International Trade and Religion;

– The Ministry of Culture and Education;

– The Ministry of Defense;

– The Ministry of the Economy and Public Works and Services;

– The Secretariat for Science and Technology under the Ministry of Culture and Education;

– The Secretariat for Communications;

– The Secretariat for Natural Resources and Sustainable Development;

The said officials shall serve for a term of four (4) years, renewable in the case of half of the Board every two (2) years, members being re-electable in perpetuity;

- Two specialists; they shall be appointed by the members of the Board of Directors to discharge the functions of Executive and Technical Director and Scientific Director.

The Executive and Technical Director and the Scientific Director may be removed from office with sufficiently strong grounds;

b). The legal representation shall be implemented by the President of the Board of Directors, who shall have the right to delegate it either to the Vice-President of the Board of Directors or to the Executive and Technical Director.

c). The executive and administrative activities of the National Commission on Space Activities within the provisions of Decree no. 995/91 and Decree 765/91, shall be performed by the Executive and Technical Director, excluding those which the President of the Board of Directors decides to do himself.

d).The Executive and Technical Director shall be obliged to draw up the project for the annual report (report and balance sheet) to be presented to the Board of Directors for analysis.

e). The functions of the Board of Directors shall be the following:

I.- Appointment and control over the annual tasks for implementation of the National plan for space development.

II.- Evaluation of the activities, performed by National Commission on Space Development.

III.- Project and annual report analysis (report and balance sheet).

IV.- Approval of the project for the annual budget in conformity with the foreseen in the National Plan for Space Development. The Board of Directors shall organise monthly meetings, which shall be presided by the President of the Board of Directors, or, if he is absent, by the Vice-president or by the Executive and Technical Director. Extra meetings can be made upon request of the President, the Vice-president or the Executive and Technical Director.

ARTICLE 6

The resources intended for the National Commission on Space Activities shall be the following:

a). The appropriations allocated to it in the national budget, whose parliamentary approval shall be administered through the national executive in conformity with the following procedure:

I.- Prior to each financial year, the Committee shall draw up an annual programme setting forth a detailed analysis of all the projects foreseen for that period, together with an annual report on its activities;

II.- The request seeking approval of the budgetary appropriations shall be formulated in respect of each of the specific projects and also in respect of the annual

programme in general.

b). Income from the economic and commercial operation of patents, licences, consultation, advisory services, etc. deriving from the activities undertaken;

c). Assets deriving from assigned through the application of special laws;

d). Income allocated for the purpose of research and study projects;

e). Donations and legacies.

ARTICLE 7

The assets of the National Commission on Space Activities shall be constituted by the following:

a). The immovable property and installations belonging to the National Space Research Commission (CNIE), located at 4010 Dorrego Street in the province of Federal Capital *(avda.Dorego, No.401; Capital Federal)*, the industrial plant of Falda del Carmen in the province of Córdoba *(Falda del Carmen, Provincia Córdoba)* and the San Miguel Space Research Laboratory in the province of Buenos Aires *(San Miguel, Provincia Buenos Aires)*, such property and installations to be transferred to CONAE as its administrative and technical headquarters;

b). Those assets which have to date been largely allocated by the Armed Forces and other State authorities for the purposes of space activities; to this end, the Ministry of Defence shall carry out within a period of thirty days a survey and corresponding inventory for their transfer;

c). All such shares, titles and obligations as may have been held by the National Space Research Commission (CNIE) in or in respect of the enterprises D.E.A., I.A.S.A. *(International Air Safety Association)*, IFAT Corporation *(International Federation of Traffic Controllers Associations)*, Consultec, Desintec and Consen, and in respect of any other corporate entity, such shares, titles and obligations to be maintained and exercised to the extent that their purpose is compatible with the objective and aims of the National Commission on Space Activities (CONAE);

d). Any assets which it might acquire subsequently in conformity with the provisions of this Decree or other relevant legislation.

ARTICLE 8

Decree No. 1164 of 28 January 1960 is hereby revoked and the National Space Research Commission (CNIE) hereby dissolved, it being provided that all elements, parts and components of the Condor II missile, in all its versions and stages of development existing to date, shall be deactivated, dismantled, reconverted and/or disabled in accordance with its possibilities for use for peaceful applications and purposes, in such a manner as to reliably and finally bring about the complete and irreversible termination of the project in question, its scientific staff, installations and equipment being transferred to the new National Commission on Space Activities (CONAE).

ARTICLE 9

This document to be communicated, published and submitted to the National Department of Official Registration, and filed.

SIGNED BY: Menem Gonzalez Di Tella Cavallo.

NATIONAL DECREE 125/95 (Official Gazette 25/7/95) SPACE ACTIVITIES (Official Gazette 25/7/95)

SPACE ACTIVITIES

1. TO ESTABLISH National Registry of Objects Launched into Outer Space established under the authority of the National Commission on Space Activities.

2. THE REGISTRATION of space objects shall be effected in the Registry by their owners and operators, together with particulars of any rights, resolutions, contracts and other legal acts or deeds relating thereto.

3. THE REGISTRATION of space objects in the Registry shall be mandatory and shall, in conformity with the international regulations in force, confer national jurisdiction and control over the registered space object, wherever it may be located.

4. PROCEDURES conducted with the Registry shall be in writing. The National Commission on Space Activities shall, as the implementing authority, regulate the functioning of the Registry and the system of fees payable.

5. THE FOLLOWING INFORMATION shall be entered in the Registry:

1.- When the object was launched and whether the object was launched jointly with one or more other launching States, the international conventions concluded with such State or States;

2. An appropriate designator of the space object;

3. Anticipated date and territory or location of launch;

4. Anticipated basic orbital parameters, including:

a) Nodal period,

b) Inclination,

c) Apogee and

d) Perigee;

5. Anticipated general function of the space object;

6. Name and address of the owners and/or operators of the space object;

7. Identification of the companies participating in the construction of the space object and of its launch vehicle;

8. Identification of the launch service provider;

9. Information on the insurances arranged;

10. Identification of the party responsible for exercising control over the space object;

11. Location and characteristics of the satellite tracking, telemetry and command (TTC) station and of the master or tracking station, if applicable;

12. On-board transmission power and frequencies of the space station;

13. Mass of the space object;

14. Anticipated useful life of the space object;

15. Precautions taken with regard to non-pollution of outer space, including celestial bodies, in particular whether mechanisms have been provided for placement in a transfer orbit at the end of the useful life of the space object;

16. Anticipated date of disintegration, recovery or loss of contact with the space object;

17. Identifying mark located on non-disintegrable parts.

6. ON COMPLETION OF THE SPACE OBJECT'S MISSION or at the end of its useful life or on the occurrence of any accident or incident which renders it unfit to meet its objective, the Registry shall be notified with a view to recording such events.

7. THE REGISTRY shall furnish to the Secretary-General of the United Nations, through the Ministry of Foreign Affairs, International Trade and Religion, General Direc-

torate for International Safety and Nuclear and Space Affairs, the information specified in article 4 of the Convention on Registration of Objects Launched into Outer Space.

8. THE REGISTRY SHALL BE PUBLIC. Any interested party may obtain a certified copy of the entries in it by submitting a request to that effect to the authority responsible for the Registry.

9. THE MINISTRY OF FOREIGN AFFAIRS, International Trade and Religion, General Directorate for International Safety and Nuclear and Space Affairs, shall inform the Secretary-General of the United Nations of the establishment of the Registry, in accordance with the provisions contained in article 2 of the Convention on Registration of Objects Launched into Outer Space.

10. ACCORDING TO THE TEMPLATE.

An Act about space activities, and for related purposes

[*Assented to 21 December 1998*]

The Parliament of Australia enacts:

• • •

3 Objects of Act

The objects of this Act are:

(a) to establish a system for the regulation of space activities carried on either from Australia or by Australian nationals outside Australia; and

(b) to provide for the payment of adequate compensation for damage caused to persons or property as a result of space activities regulated by this Act; and

(c) to implement certain of Australia's obligations under the UN Space Treaties.

• • •

Part 2 Definitions

8 Definitions

In this Act, unless the contrary intention appears:

accident has the meaning given by section 85.

accident site has the meaning given by section 98.

accident site premises has the meaning given by section 98.

Australia, when used in a geographical sense, includes the external Territories.

Australian national means:

(a) an Australian citizen; or

(b) a body incorporated by or under a law of the Commonwealth, of a State or of a Territory; or

(c) the Commonwealth, a State or a Territory.

civil penalty provision has the meaning given by section 80.

damage has the same meaning as in the Liability Convention.

exemption certificate means a certificate issued under section 46.

fault has the same meaning as in the Liability Convention.

gross negligence has the meaning given by the regulations. But if the regulations do not give the term a meaning, it has the same meaning as in the Liability Convention.

incident has the meaning given by section 86.

insured amount, for a launch permit, overseas launch certificate or section 43 authorisation, means the amount for which the holder of the permit, certificate or authorisation is required to be insured under Division 7 of Part 3 in respect of the launch or launches, and any return, covered by the permit, certificate or authorisation. In determining this amount, disregard paragraph 47(2)(b) (which deals with direct financial responsibility).

Investigator means a person appointed under section 88.

launch a space object means launch the object into outer space, or attempt to do so.

launch facility means a facility (whether fixed or mobile) or place specifically designed or constructed as a facility or place from which space objects can be launched, and includes all other facilities at the facility or place that are necessary to conduct a launch.

launching State has the same meaning as in the Liability Convention.

launch permit means a permit granted under section 26.

Launch Safety Officer, for a licensed launch facility, means the person appointed by the Minister under section 50 for the facility.

launch vehicle means a vehicle that can carry a payload into or back from outer space.

Liability Convention means the Convention on International Liability for Damage Caused by Space Objects done at London, Moscow and Washington on 29 March 1972 and whose English text is set out in Schedule 1.

liability period means:

(a) for the launch of a space object the period of 30 days beginning when the launch takes place, or such other period as is specified in the regulations; and

(b) for the return of a space object the period beginning when the relevant re-entry manoeuvre is begun and ending when the object has come to rest on Earth, or such other period as is specified in the regulations.

licensed launch facility means a launch facility for which a person holds a space licence: see section 18.

occupier of premises includes a person present at the premises who apparently represents the occupier.

overseas launch certificate means a certificate granted under section 35.

payload includes a load to be carried for testing purposes or otherwise on a non-profit basis.

premises includes a place and a conveyance.

Register means the Register of Space Objects kept under section 76.

Registration Convention means the Convention on Registration of Objects Launched into Outer Space done at New York on 14 January 1975 and whose English text is set out in Schedule 2.

related party has the meaning given by section 9.

responsible party, for the launch or return of a space object, means:

(a) in the case of a launch or return authorised by a launch permit the holder of the permit; or

(b) in the case of a return authorised by a permission under subsection 43(1) the holder of the permission; or

(c) in the case of a return authorised by an agreement between the Minister and another person under subsection 43(2) that other person; or

(d) in the case of a launch or return that:

(i) is not authorised as mentioned in paragraph (a), (b) or (c); but

(ii) is covered by an exemption certificate (see section 46) the holder of the exemption certificate; or

(e) in the case of a launch authorised by an overseas launch certificate the holder of the certificate; or

(f) in any other case each of the following persons:

(i) the person or persons who carried out the launch or return of the space object;

(ii) any person who, at any time during the liability period for the launch or return, owned all or some of any payload forming part of the space object concerned;

(iii) any other person specified in regulations made for the purposes of this definition.

But, in relation to a launch to which paragraph (f) applies, if the space object was launched from a launch facility outside Australia, a person is only a ***responsible party*** if the person is also an Australian national.

return a space object means return the space object from outer space to Earth, or attempt to do so.

space licence means a licence granted under section 18.

space object means a thing consisting of:

(a) a launch vehicle; and

(b) a payload (if any) that the launch vehicle is to carry into or back from outer space;

or any part of such a thing, even if:

(c) the part is to go only some of the way towards or back from outer space; or

(d) the part results from the separation of a payload or payloads from a launch vehicle after launch.

standard launch permit condition means a condition to which a launch permit is subject because of section 29.

third party, for the launch or return of a space object, means a person who is not a responsible party for the launch or return and who is not a related party (see section 9) of any responsible party for the launch or return.

UN space treaties means the following:

(a) the Liability Convention;

(b) the Registration Convention;

(c) the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies done at London, Moscow and Washington on 27 January 1967 and whose English text is set out in Schedule 3;

(d) the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies done at New York on 18 December 1979 and whose English text is set out in Schedule 4;

(e) the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space done at London, Moscow and Washington on 22 April 1968 and whose English text is set out in Schedule 5.

9 Related party

(1) A person (the ***first person***) is a ***related party*** of a responsible party for the launch or return of a space object if:

(a) the first person has a financial or ownership interest in all or part of the space object; or

(b) the first person was involved in preparing all or part of the space object for the launch or return; or

(c) the first person is a contractor, subcontractor or supplier involved in the launch or return or the preparation of all or part of the space object for the launch or return; or

(d) the first person is a director, officer, employee or agent of the responsible party.

(2) However, the regulations may provide that specified persons are, or are not, ***related parties*** of a responsible party.

• • •

Division 1 Certain space activities require approvals etc.

11 Launch in Australia requires a launch permit or exemption certificate

If:

(a) a person launches a space object from a launch facility located in Australia; and

(b) the launch is not authorised by a launch permit held by any person; and

(c) no exemption certificate (see section 46) covering the launch is held by any person; and

(d) the launch is not conducted in accordance with any agreement of the kind mentioned in subsection 109(1);

• • •

12 Overseas launch requires an overseas launch certificate

If:

(a) a space object is launched from a launch facility located outside Australia; and

(b) the launch is not authorised by an overseas launch certificate held by any person; and

(c) an Australian national is a responsible party for the launch;

• • •

13 Return to Australia of Australian-launched space object requires a launch permit or exemption certificate

If:

(a) a person returns a space object to a place anywhere in Australia; and

(b) the object, or any part of it, was launched from a launch facility located in Australia; and

(c) the return is not authorised by a launch permit held by any person; and

(d) no exemption certificate (see section 46) covering the return is held by any person; and

(e) the return is not conducted in accordance with any agreement of the kind mentioned in subsection 109(1);

• • •

14 Return to Australia of overseas-launched space object requires authorisation

If:

(a) a person returns a space object to a place anywhere in Australia; and

(b) neither the object, nor any part of it, was launched from a launch facility located within Australia; and

(c) the return of the object to that place is not authorised under section 43;

• • •

15 Space licence required to operate a launch facility in Australia

A person must not operate a launch facility in Australia, or do anything directly connected with operating a launch facility in Australia, using a particular kind of launch vehicle, unless:

(a) the person holds a space licence (see Division 2) for the facility and the kind of launch vehicle; or

(b) the person is a related party (see section 9), for any launches conducted from the facility, of a person who holds such a licence; or

(c) the person is acting as an employee, contractor or agent of a person who holds such a licence; or

(d) an exemption certificate (see section 46) covering:

(i) the operation of the facility, or the things connected with the operation; and

(ii) the kind of launch vehicle;

is held by any person; or

(e) the operation of the facility, or the things connected with the operation, are done in accordance with an agreement of the kind mentioned in subsection 109(1).

16 Commonwealth not bound

This Division does not apply to:

(a) the Commonwealth; or

(b) a person acting as an employee or agent of the Commonwealth or as a member of the Defence Force.

Example: The Commonwealth and a private company are to carry out a launch as joint venturers. The Commonwealth would not need a space licence or launch permit etc. to do so, but the private company would (unless the company were acting as an agent of the Commonwealth, in which case it too would be exempt from this Division).

17 Activities of international space organisations

(1) If an agreement between Australia and another country or countries provides for the establishment of an international organisation whose sole or principal function is to carry on activities in outer space, this Division does not apply in relation to anything done in accordance with the agreement.

(2) This section applies whether the agreement was made before or after the commencement of this Act.

Division 2 Space licences

18 Granting a space licence

The Minister may grant to a person a space licence covering a particular launch facility in Australia, and a particular kind of launch vehicle, if:

(a) the Minister is satisfied that the per-

son is competent to operate the launch facility and launch vehicles of that kind; and

(b) the Minister is satisfied that all necessary environmental approvals under Australian law have been obtained, and that an adequate environmental plan has been made, for the construction and operation of the launch facility; and

(c) the Minister is satisfied that the person has sufficient funding to construct and operate the launch facility; and

(d) the Minister is satisfied that the probability of the construction and operation of the launch facility causing substantial harm to public health or public safety or causing substantial damage to property is sufficiently low; and

(e) the Minister does not consider that, for reasons relevant to Australia's national security, foreign policy or international obligations, the space licence should not be granted; and

(f) the criteria (if any) prescribed by the regulations are satisfied in relation to the launch facility; and

(g) the criteria (if any) prescribed by the regulations are satisfied in relation to that kind of launch vehicle.

Example: For the purposes of paragraph (g), the regulations could prescribe criteria dealing with matters such as the design of the launch vehicle and technical aspects of the way in which such vehicles are to be operated.

19 Terms of space licence

A space licence:

(a) must specify the day on which it comes into force; and

(b) remains in force for the period specified in the licence, which must be no longer than 20 years; and

(c) is granted subject to the standard space licence conditions in section 20 and any other conditions specified in the licence.

20 Standard space licence conditions

The following are conditions of each space licence granted to a person, except to the extent that the licence otherwise specifies:

(a) the holder of the licence must give the Minister any information that the Minister asks for under section 60 about the licence;

(b) the holder must:

(i) allow the Launch Safety Officer for the facility (see Division 8) reasonable access to the facility and to any space object at the facility; and

(ii) ensure that the Launch Safety Officer is given any information or assistance that the Launch Safety Officer reasonably requests for the proper performance of a function;

(c) any other condition specified in the regulations.

21 Breaching a space licence condition

The holder of a space licence must not contravene a condition of the licence.

22 Transfer of space licence

(1) The Minister may, by written notice, transfer a space licence to another person if the Minister could grant the space licence to the other person under section 18.

(2) The transfer takes effect at the time specified in the notice.

(3) The licence continues to cover the same launch facility and the same kind of launch vehicle.

(4) The licence has effect subject to the same conditions as the original licence (unless the Minister varies the conditions).

(5) The period for which the licence remains in force continues to run despite the transfer.

23 Applying for the grant or transfer of a space licence

An application for the grant or transfer

of a space licence must be made in accordance with the regulations.

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Division 3 Launch permits

26 Granting a launch permit

(1) The Minister may grant a launch permit to a person authorising:

(a) the launch of a particular space object; or

(b) a particular series of launches of space objects that, in the Minister's opinion, having regard to the nature of any payloads to be carried, may appropriately be authorised by a single launch permit;

(c) from a specified launch facility in Australia using a specified kind of launch vehicle.

(2) The launch permit may also authorise particular space objects to be returned, in connection with the launch or launches, to a specified place or area in Australia.

Note: A returning space object need not be the same as the space object launched. For example, a launch vehicle could carry a payload into outer space and return without it, or even collect a different payload from outer space and return that to Earth.

(3) The Minister may grant the launch permit to the person only if all of the following criteria are satisfied:

(a) the person holds a space licence (see Division 2) covering the launch facility and the kind of launch vehicle concerned;

(b) the person is a corporation to which paragraph 51(xx) of the Constitution applies;

(c) the Minister is satisfied that the person who is to carry out the launch or launches, and any connected return, is competent to do so;

(d) the Minister is satisfied that the insurance/financial requirements in Division 7 will be satisfied for the launch or launches, and any connected return;

(e) the Minister is satisfied that the probability of the launch or launches, or any connected return, causing substantial harm to public health or public safety or causing substantial damage to property is sufficiently low;

(f) the space object or objects concerned are not and do not contain a nuclear weapon or a weapon of mass destruction of any other kind;

(g) the Minister does not consider that, for reasons relevant to Australia's national security, foreign policy or international obligations, the launch permit should not be granted;

(h) any other criteria prescribed by the regulations.

(4) If a country other than Australia is also a launching State for the space object or any of the space objects, the Minister may, in deciding whether to grant the launch permit, have regard to:

(a) whether there is an agreement between Australia and that other country under which that country assumes any liability, and indemnifies Australia, for any damage that the space object or objects may cause; and

(b) the terms of that agreement.

Note: This subsection does not, by implication, limit the matters to which the Minister may have regard.

27 Australian launches: continuing requirement for space licence

If the launch facility specified in a launch permit is in Australia, the permit has no effect during any period when the holder of the permit does not also hold a space licence (see Division 2) covering the facility and the kind of launch vehicle concerned.

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29 Standard launch permit conditions

The following are conditions of each

launch permit (called ***standard launch permit conditions***), except to the extent that the permit otherwise specifies:

(a) the launch or launches, and any connected return, must not be conducted in a way that is likely to cause substantial harm to public health or public safety or to cause substantial damage to property;

(b) the space object or objects must not be or contain a nuclear weapon or a weapon of mass destruction of any other kind;

(c) the space object or objects must not contain any fissionable material unless the Minister's written approval has first been obtained;

(d) the holder of the permit must satisfy the insurance/financial requirements in Division 7 for each launch, and each return, conducted under the permit.

30 Breaching a launch permit condition

(1) The holder of a launch permit must not contravene a condition of the launch permit (whether or not the condition is a standard launch permit condition).

(2) If the holder of a launch permit:

(a) by any intentional act or omission, contravenes a standard launch permit condition (see section 29) of the permit; and

(b) is reckless as to whether the act or omission contravenes the condition.

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(3) The Minister may take civil proceedings under Part 6 against a person who is alleged to have breached a standard launch permit condition of a launch permit, as an alternative to prosecution for an offence against subsection (2).

31 Transfer of launch permit

(1) The Minister may, by written notice, transfer a launch permit to another person if the Minister could grant the launch permit to the other person under section 26.

(2) The transfer takes effect at the time specified in the notice.

(3) The permit continues to cover the same launch facility and the same kind of launch vehicle.

(4) The permit has effect subject to the same conditions as the original permit (unless the Minister varies the conditions).

(5) The period for which the permit remains in force continues to run despite the transfer.

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Division 5 Authorisation of return of overseas-launched space objects

42 Scope of Division

This Division applies if:

(a) a space object is launched, or is proposed to be launched, from a launch facility outside Australia; and

(b) in connection with that launch, a space object is proposed to be returned to an area or place within Australia.

Note: The returning space object need not be the same as the space object launched. For example, a launch vehicle could carry a payload into outer space and return without it, or even collect a different payload from outer space and return that to Earth.

43 Returns may be authorised by permission or by agreement

(1) The Minister may give a person written permission authorising:

(a) the return of the space object concerned to a specified place or area in Australia; or

(b) a particular series of such returns that, in the Minister's opinion, having regard to the nature of the space objects to be returned, may appropriately be authorised by a single permission.

(2) Alternatively, the Minister may, on behalf of the Commonwealth, enter into an agreement with a person under which such a return or such a series of returns is author-

ised.

(3) The return or returns may be authorised under this section only if all of the following criteria are satisfied:

(a) the Minister is satisfied that the person who is to carry out the return or returns is competent to do so;

(b) the Minister is satisfied that the insurance/financial requirements in Division 7 will be satisfied for the return or returns;

(c) the Minister is satisfied that the probability of the return or returns causing substantial harm to public health or public safety or causing substantial damage to property is sufficiently low;

(d) the space object or objects concerned are not and do not contain a nuclear weapon or a weapon of mass destruction of any other kind;

(e) the Minister does not consider that, for reasons relevant to Australia's national security, foreign policy or international obligations, the authorisation should not be given;

(f) any other criteria prescribed by the regulations.

(4) The Minister may, in deciding whether to give an authorisation under this section, have regard to:

(a) whether there is an agreement between Australia and any country that is a launching State for any space object concerned under which that country assumes any liability, and indemnifies Australia, for any damage that the space object may cause; and

(b) the terms of that agreement.

(5) An authorisation under this section may be given subject to any conditions that the Minister determines.

44 Offences relating to returns

(1) If a person returns a space object purportedly in accordance with an authorisation of the kind mentioned in section 43 and:

(a) the return is conducted in a way that is likely to cause substantial harm to public health or public safety or to cause substantial damage to property; or

(b) the space object is or contains a nuclear weapon or a weapon of mass destruction of any other kind; or

(c) the space object contains any fissionable material and the Minister's written approval for this has not first been obtained; or

(d) the insurance/financial requirements in Division 7 are not satisfied for the return.

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(2) The Minister may take civil proceedings under Part 6 against a person who is alleged to have committed an offence against subsection (1), as an alternative to prosecution.

45 Breaching a condition

A person who is authorised under section 43 to return a space object must not contravene a condition of the authorisation.

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Part 4 Liability for damage by space objects

Division 1 Scope of Part

63 Damage covered

(1) This Part applies to damage a space object causes if:

(a) either:

(i) the object is launched from a launch facility in Australia; or

(ii) Australia is a launching State in relation to the object; and

(b) the damage is caused during the liability period for the launch.

(2) This Part also applies to damage a space object causes if:

(a) the object is returned to a place in Australia; and

(b) the damage is caused during the li-

ability period for the return.

(3) This Part applies to damage mentioned in subsection (1) or (2):

(a) whether the damage happens on Earth, in the air or in space; and

(b) whether the damage happens in Australia or outside it; and

(c) whether or not the launch or return was authorised under this Act; and

(d) whether or not the launch or return was covered by an exemption certificate.

64 Compensation for third party damage by space objects to be determined solely under this Part

(1) Compensation for damage to which this Part applies caused to third parties is only payable in accordance with this Part.

(2) However, this section does not prevent Australia from complying with any obligation to pay compensation under the Liability Convention, or otherwise under international law, for such damage.

65 Regulations about waivers

The regulations may make provision in relation to the waiver of some or all of the rights of persons connected with a launch or return, and of their employees, contractors and subcontractors, to seek compensation for damage to which this Part applies.

Division 2 Liability for third party damage

Subdivision A Rules for damage caused by launches and most returns

66 Scope of Subdivision

This Subdivision applies to all damage to which this Part applies, except for damage a space object causes in connection with the return of the space object where:

(a) neither the object, nor any part of it, was launched from a launch facility located within Australia; and

(b) the responsible party for the return is not an Australian national.

Note: Subdivision B deals with that other kind of damage.

67 Damage on Earth or in the air

(1) The responsible party for the launch or return of a space object is liable to pay compensation for any damage the space object causes to a third party:

(a) on Earth; or

(b) as a result of damage to aircraft in flight.

(2) However, the responsible party is not liable to the extent that the responsible party establishes that the damage resulted from:

(a) the gross negligence of the third party; or

(b) any conduct (whether by act or omission) that the third party engaged in with intent to cause the damage.

68 Damage to other space objects

The responsible party for the launch or return of a space object is liable to pay compensation for any damage the space object causes, otherwise than on Earth or as a result of damage to aircraft in flight:

(a) to a space object launched or operated by a third party; or

(b) to a third party, or the property of a third party, on board such a space object;

(c) to the extent that the damage is due to the fault of the responsible party or of a related party.

69 Limit on amount of permit or certificate holder's liability

(1) This section applies if:

(a) the launch or return of a space object that causes damage covered by this Subdivision was authorised by a launch permit; and

(b) the damage did not result from a breach of any of the conditions of the permit or of the relevant space licence, from any conduct (whether by act or omission) that the responsible party or a related party

engaged in with intent to cause the damage or from the gross negligence of the responsible party or a related party.

(2) This section also applies if:

(a) the launch of a space object that causes damage covered by this Subdivision was authorised by an overseas launch certificate; and

(b) the damage did not result from a breach of any of the conditions of the certificate, any conduct (whether by act or omission) that the responsible party or a related party engaged in with intent to cause the damage or from the gross negligence of the responsible party or a related party.

The responsible party is not liable to pay compensation for the damage to the extent that the amount of the compensation would exceed the insured amount for the launch permit or overseas launch certificate.

Subdivision B Rules for certain returns conducted by overseas nationals

70 Scope of Subdivision

This Subdivision applies to damage to which this Part applies that a space object causes in connection with the return of the space object where:

(a) neither the object, nor any part of it, was launched from a launch facility located within Australia; and

(b) the responsible party for the return is not an Australian national.

Note: Subdivision A deals with the other kinds of damage to which this Part applies.

71 Liability

The responsible party for the return is liable to pay compensation for any damage the space object causes to a third party.

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Division 4 Compensation claims by foreign countries

74 Responsible party's liability to the Commonwealth

(1) This section applies if, in accordance with the Liability Convention or otherwise under international law:

(a) a foreign country has presented a claim against Australia for compensation for damage covered by this Part; and

(b) Australia becomes liable to any extent to pay compensation for the damage.

(2) The responsible party for the relevant launch or return is liable to pay the Commonwealth an amount equal to the lesser of the following amounts:

(a) the amount of that compensation;

(b) if the launch or return of the space object concerned was authorised by a launch permit or overseas launch certificate, and section 69 applies the insured amount for the permit or certificate.

Note: A foreign country could not present a claim against Australia under the Liability Convention if proceedings under this Part were already in progress in respect of the same damage: see Article XI.2 of the Convention.

75 Claims Commission

If, in accordance with the Liability Convention, it is necessary to establish a Claims Commission to settle a claim presented to the Commonwealth, the Commonwealth may do anything that it is required to do under the Convention to establish the Commission and enable it to give a decision or award as provided under the Convention.

Part 5 Register of space objects

76 Minister to keep Register

(1) The Minister must keep a Register of Space Objects.

(2) The Minister must enter in the Register the following particulars for a space

object that is launched into Earth orbit or beyond under an authorisation provided under this Act:

(a) the registration number given to the space object under section 77;

(b) the launch facility;

(c) the date of the launch;

(d) the space objects basic orbital parameters, including:

(i) the nodal period; and

(ii) its inclination; and

(iii) its apogee and perigee;

(e) the space objects general functions;

(f) if a country other than Australia is also a launching State for the space object the name of that country;

(g) any other prescribed particulars.

(3) In keeping the Register, the Minister must have regard to the Registration Convention and any other international agreement or arrangement relating to the registration of space objects to which Australia is a party.

(4) The Minister may vary or remove an entry on the register as needed.

77 Registration number

(1) When the Minister grants a launch permit authorising the launch of a space object from a launch facility, the Minister must allocate to the space object a registration number by which it can be identified.

(2) The Minister may allocate a registration number to a space object at any other time.

78 Register may be kept on computer

The Minister may keep the Register in whole or in part by using a computer.

79 Inspection of Register

(1) The Minister must make the Register available for any person to inspect it at the times and places published in the Gazette.

(2) The Minister may do so by allowing a person who wants to inspect the Register reasonable access to a computer terminal from which he or she can read on a screen, or get a printed copy of, an entry in the Register.

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Part 7 Investigation of accidents

Division 1 Scope of Part

84 Scope of Part

This Part applies if an accident (see section 85) or an incident (see section 86) involving a space object occurs during:

(a) the liability period for the launch of the space object from a launch facility located in Australia; or

(b) the liability period for the return of the space object to a place in Australia.

85 Meaning of *accident*

An ***accident*** involving a space object occurs if:

(a) a person dies or suffers serious injury as a result of the operation of the space object; or

(b) the space object is destroyed or seriously damaged or causes damage to property.

86 Meaning of *incident*

An ***incident*** is an occurrence associated with the operation of a space object that affects or could affect the safety of the operation of the space object or that involves circumstances indicating that an accident nearly occurred.

LAW ON THE ACTIVITIES OF LAUNCHING, FLIGHT OPERATIONS OR GUIDANCE OF SPACE OBJECTS

Chapter I
General Provisions

Article I. This law governs a subject referred to in Article 78 of the Constitution.

Art. 2. §1. This law covers the activities of launching, flight operations and guidance of space objects carried out by natural or legal persons in the zones placed under the jurisdiction or control of the Belgian State or using installations, personal or real property, owned by the Belgian State or which are under its jurisdiction or its control.

§2. When provided for under an international agreement, this law may apply to the activities referred to under indent 1 and carried out by natural or legal persons of Belgian nationality, irrespective of the location where such activities are carried out.

Art.3. For the application of this law, the following definitions shall apply:

1° „space object" means any object launched or intended to be launched into outer space, including the material elements composing that object;

2° „operator" means the person that carries out or undertakes to carry out the activities referred to in this law, by ensuring, alone or jointly, the effective control of the space object. The activity carried out by an operator may be carried out pursuant to a specific contract for that purpose;

3° „effective control" means control of the means of control or remote control and the related means of supervision, necessary for the implementation of the activities of launching, the flight operations and guidance of one or more space objects;

4° „manufacturer" means any person participating or having participated in the development, manufacture or assembling of all or part of a space object;

5° „flight operation" and „guidance" mean any operation relating to the flying conditions, navigation or evolution in outer space of the space object, such as the control and correction of its orbit or its trajectory;

6° „Minister" means the Minister with responsibility for space research and its applications in the framework of international cooperation;

7° „Outer Space Treaty" means the Treaty on the Principles governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, signed on 27 January 1967 and ratified by Belgium on 30 March 1973;

8° „Convention on International Space Liability" means the Convention on International Liability for damage caused by Space Objects, signed on 29 March 1972 and ratified by Belgium on 13 August 1976;

9° „Convention on Registration of Space Objects" means the Convention on Registration of Objects launched into Outer Space, signed on 14 January 1975 and ratified by Belgium on 24 February 1977;

10° „Agreement on the Rescue of Astronauts and the Return of Space Objects" means the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects launched into Outer Space, signed on 22 April 1968 and ratified by Belgium on 15 April 1977;

11° „Launching State" means any State referred to under Article VII of the Outer Space Treaty, the first article of the Convention on International Space Liability or the first article of the Convention on Registration of Space Objects;

12° „Damage" means any damage as defined by the first Article of the Convention on International Space Liability. Pursuant to this law, the liability of the Belgian State in

respect of such damage extends in addition to Belgian citizens, whether they are natural or legal persons, except for those participating in the activities in question.

Chapter II

Authorisation and Supervision of the Activities

Art. 4. §1. Any person wanting to carry out the activities referred to in this law must obtain the prior authorisation of the Minister, in accordance with the following provisions.

§2. Authorisation is granted on a personal basis to the operator submitting the application and is non-transferable.

§3. The activities must be carried out in accordance with international law and, in particular, with the principles laid down in the Outer Space Treaty and the other treaties and agreements to which Belgium is a party.

Art. 5. §1. The King may determine the conditions for granting authorisations with a view to ensuring the safety of people and property, protecting the environment, ensuring the optimal use of air space and outer space, protecting the strategic, economic and financial interests of the Belgian State, as well as in order to satisfy the Belgian State's obligations under international law.

The King shall determine to what extent the conditions set by him shall apply to the activities covered by a current authorisation.

§2. The Minister may attach to any authorisation such specific conditions that he may deem useful for the accomplishment of the same objectives, on a case-by-case basis.

He may in particular impose the technical assistance of a third party, lay down conditions relating to the location of the activities or the location of the main establishment of the operator or create an obligation for insurance to be taken out in favour of third parties to cover the damage that may result from the activities authorised by him.

The Minister may grant the authorisation for a specific period, having regard to the activities covered by the authorisation.

§3. The Minister may modify the specific conditions applying to an authorised activity. In such cases, he shall determine the period after which the new conditions must be respected.

Art. 6. The King shall lay down the conditions applying to the control and supervision of the activities covered by this law.

Chapter III

Content of the Dossier and Procedure

Art. 7. §1. The application for authorisation shall be submitted by the operator to the Minister who shall acknowledge receipt.

§2. The following information shall be attached to the application:

1° the precise identification of the operator, a presentation of its past, current and future activities, and the technical, financial and legal guarantees provided by the operator;

2° the precise description of the activities for which the authorisation is sought;

3° the precise identification of the space object or the series of space objects for which the authorisation is sought;

4° the identification of the manufacturer(s) of the space object;

5° the study of the impact on the environment referred to in article 8, §2;

6° the precise identification of the persons on whose behalf the activities will be carried out;

7° the precise as possible identification of the persons who will collaborate in the activities;

8° any other element of information of which the operator is aware and which may be relevant with regard to the Minister's decision to grant the authorisation.

§3. The King may add to the list of information set out under §2.

The communication of this information shall in no event exempt the operator from providing any information required under other legal or regulatory provisions, applying in the case in question.

§4. The Minister may request the operator to provide any additional information that he may deem necessary in connection with the application. The refusal or failure to communicate such information within the time allotted by the Minister, having regard to the nature of the information requested, may be deemed sufficient grounds for rejecting the application.

§5. The King shall establish a standard form including, among other things, the information set out under §2 and the information stipulated in article 8, §9. This form must be completed by the operator and attached to the application.

§6. The Minister may call for a reasoned opinion, to be provided by experts to be designated by him for that purpose, on the basis of legal, technical and economic criteria, concerning in particular the reliability, know-how and experience of the operator, the reliability of the manufacturer in the areas concerned and their capacity to comply with the rules applying to the activities carried out, as well as the operator's solvency and the legal and financial guarantees that he provides.

The administrative employees, as well as the experts designated by the Minister in accordance with the first indent, shall have access to the installations, buildings and the material which will be used by the operator for the purpose of carrying out the activities concerned.

If such access is refused by the operator, the Minister may reject the application.

§7. The Minister's decision shall be notified to the operator by registered letter.

Art. 8. §1. The impact on the environment of all activities covered by this law shall be assessed by one or more experts designated for that purpose by the Minister. Such an assessment may be carried out at different stages of the activities.

§2. An initial study shall be carried out before an authorisation is granted pursuant to this law. The aim of this study is to assess the potential impact on the environment on earth or in outer space of launching or operating the space object.

§3. The King shall determine the content of the study referred to under §2.

§4. An intermediate study shall be carried out at the request of the Minister after the launch of the space object or during its operations. This study shall assess the real consequences on the environment on earth or in outer space of the activities in question.

§5. A final study may be carried out at the request of the Minister when the space object returns to the earth's atmosphere.

§6. The Minister shall determine the content of the studies referred to under §§4 and 5.

§7. The operator shall attach to his application for authorisation the impact study referred to under §2.

§8. The cost of the impact studies referred to under §§2, 3 and 4 shall be borne by the operator.

§9. When the space launch or operations include the use of sources of nuclear energy, the operator shall mention such in his application for authorisation.

The Minister shall only grant the authorisation subject to specific conditions

taking into consideration, in particular, the danger that the use of such sources of energy may represent, elementary precautions to be taken with regard to public health and safety, protection of the environment and standards of national and international law applying in the case in question.

Art. 9. §1. The authorisation or refusal to grant an authorisation by the Minister shall be notified within ninety days after the submission of the application in accordance with article 7.

§2. When the Minister requires the operator to provide additional information, in accordance with article 7, § 4, the above time limit shall be increased to one hundred and twenty days.

§3. If no decision is taken by the Minister within the time allotted, the application shall be deemed to have been rejected.

Art. 10. §1. The Minister may also designate experts charged with controlling the activities carried out by the operator. The latter must do everything possible to facilitate any inspections and checks, at all times, with regard to the activities that he carries out pursuant to this law.

§2. For the purpose of any such inspections and checks with regard to the activities in question, the said experts shall have access to all documents in the possession of the operator relating to the activities covered by the authorisation, to updated information and data resulting from the activities, as well as to the premises allocated, directly or indirectly, to the activities.

§3. All the information gathered during inspections or controls by the administrative employees or experts designated for that purpose, shall be treated as confidential.

§4. In the event that the operator refuses to grant access to the administrative employees or experts designated for that purpose, the Minister may suspend or withdraw the authorisation in accordance with article 11.

Art. 11. §1. The authorisation may be withdrawn or suspended by the Minister:

1° either when one of the general or specific conditions attached to the authorisation is not respected;

2° or in the event of an infringement of a provision of this law;

3° or for imperative reasons relating to public order, the safety of people or property.

§2. When the Minister is considering withdrawing or suspending the authorisation for the reasons set out under §1,

1° or 2°, before taking such action he shall give the operator the opportunity to justify his actions or make observations and regularise his situation within a specific period of time. In the case of an emergency, on specially justified grounds, the authorisation may be withdrawn or suspended without delay and without the authorisation holder being heard.

§3. When the Minister is considering withdrawing or suspending the authorisation on the grounds set out under §1,

3° and provided that such does not undermine the effectiveness of the withdrawal or suspension, he shall give the operator the opportunity beforehand to put forward his observations of proposals.

§4. The Minister may, in the event of the withdrawal or suspension of the authorisation, and at the written request of the operator, approve provisional management measures with regard to current activities in order, notably, to enable the operator to fulfil his contractual obligations. Any such request by the operator must be formulated as soon as he receives notification of the decision to withdraw or suspend the authorisation.

§5. When the authorisation is with-

drawn or suspended after the space object has been launched into outer space, the Minister shall take all necessary measures in order to guarantee the safety of the operations, both with regard to the operator and his employees and third parties, as well as to ensure the protection of property and the environment. To that end, he may call upon the services of third parties or transfer the activities to another operator to ensure the continuity of flight and guidance operations and, if necessary, take action to deorbit or destroy the space object.

Art. 12. Decisions to grant, withdraw or suspend the authorisation are published in the Belgian Official Journal.

Chapter IV

Transfer of Activities

Art. 13. §1. The transfer to a third party of authorised activities or real or personal rights, including guarantee rights, which transfers the effective control of the space object may not be carried out without the Minister's prior authorisation.

§2. Any such application for authorisation shall be submitted by the transferee operator.

§3. All the provisions applying to the authorisation referred to under article 4 shall apply mutatis mutandis to the transfer authorisation.

§4. The Minister may attach to the transfer authorisation conditions which are binding on either the transferee operator, or the transferor operator, or both.

§5. When the transferee operator is not established in Belgium, the Minister may refuse the authorisation in the absence of a specific agreement with the home State of the third party in question and which indemnifies the Belgian State against any recourse against it under its international liabilities or claims for damages.

Chapter V

The National Register of Space Objects

Art. 14. §1. A National Register of Space Objects shall be created and all space objects for which Belgium is the launching State shall be entered, except when the registration is made by another State or an international organisation, in accordance with the Convention on Registration of Space Objects.

The conditions regarding the form and publication of the Register and the way it is kept shall be determined by the King.

§2. The information entered in the Register shall be subject to the following rules;

1° entries in the Register are made at the Minister's request;

2° the information contained in the Register is that referred to in article IV of the Convention on Registration of Space Objects, namely:

(a) if applicable, the name of the other launching States;

(b) the registration number of the space object as described below under 3;

(c) the date and territory or location of launch;

(d) the main orbital parameters, including the nodal period, inclination, apogee and the perigee;

(e) the general function of the space object;

3° a national registration number is attributed to each object. It is composed of the elements determined by the King;

4° in addition to the information referred to under 2°, the Register shall identify manufacturer of the space object, as well as the operator, and also list the main constituent elements and instruments on board the space object;

5° the operator shall communicate to

the Minister the information under 2° and 4°;

6° as soon as the relevant entry has been made in the Register, the Minister shall communicate to the Secretary General of the United Nations the information referred to under 2° and any updates, as well as all information relating to the loss, deorbiting or end of the space object's flight operations;

7° registration must be effective at the time of the launch of the space object;

8° a supplementary entry must be made in the Register in the event of any data modifications, at the responsibility and cost of the operator within thirty days after the date when the operator became aware of the said modification. If the operator fails to notify such modifications within the time allotted, the Minister may suspend the authorisation, in accordance with article 11.

§3. The Minister shall keep an up-to-date register of authorisations issued pursuant to articles 4 and 13. This register shall indicate the terms and conditions attached to each authorisation.

In addition, for each space object concerned, the register shall indicate the launching State(s) and the State(s) of registry.

This register shall be public. The Minister is responsible for keeping and publishing the said register in accordance with the conditions set by the King.

Chapter VI

Liabilities, Counterclaims and Measures in the Event of Falling Space Objects

Art. 15. §1. When the Belgian State is liable, pursuant to Article VII of the Outer Space Treaty, the provisions of the Convention on International Space Liability or the provisions of this law, for reparation, it shall have the right to institute a counterclaim against the operator(s) involved up to the amount of the compensation determined in accordance with §2 and §3.

§2. The damages between the State and the Operator shall be determined as follows:

1° in the case referred to under §1, when the damage is caused to a third party State or foreign nationals, the damage shall be assessed between the Belgian State and the State representing the victim, in accordance with the Convention on International Space Liability or any other clause that may apply. The operator, or the person designated by the latter for that purpose, may participate in the discussions or be a party to the damage assessment procedures between the representatives of the States involved, so as to defend his own interests;

2° in the case referred to under §1, when the damage is caused to Belgian nationals, the damage shall be assessed by a college of three experts, two of whom shall be designated by each of the parties and the third by mutual agreement between the parties. The Minister may make the prior designation of experts one of the conditions for granting the authorisation. The procedural arrangements shall be determined by the King.

§3. Except in the cases of loss of rights referred to under §4 and in articles 16, §2, and 19, §3, the amount determined in accordance with §2 may be limited by the King, on conditions that he may determine. In such an event, the State's right of recourse against the operator may not exceed that limit.

§4. An operator who fails to comply with the conditions attached to his authorisation shall not benefit from the limit on liability referred to under §3 and shall be liable for the full amount of the damage caused.

§5. Pending the definitive payment of compensation, the Belgian State may claim provisionally from the operator half of the

amount determined in accordance with §§ 2 and 3.

The balance shall become due as soon as the Belgian State has paid the compensation due to the victim or the State representing the victim.

§6. The right of recourse of the Belgian State against another launching State, in accordance with Article V.2 of the Convention on International Space Liability, shall not be an obstacle to the application of this article and shall in no event be a preliminary condition of the Belgian State's action against the operator.

§7. The Belgian State has a right of direct recourse against the operator's insurer, up to the amount determined in accordance with §§ 2 and 3.

§8. This law shall not be an obstacle to other actions invoking the operator's liability.

Art. 16. §1. The operator must inform immediately the crisis centre designated by the King of any manoeuvre, any malfunctioning or any anomaly of the space object, likely to result in a danger for persons on the ground, aircraft in flight or other space objects, or to cause any damage.

§2. In the event of non-compliance with the information obligation, and without prejudice to other sanctions or liability to pay compensation, the operator must guarantee the Belgian state for the total of the compensation due by it pursuant to its international liability or pursuant to this law.

Art. 17. §1. Without prejudice to measures concerning the safety and protection of goods and persons, any space object which is found on the Belgian territory or in a place subject to Belgian jurisdiction, shall be returned without delay to the competent authorities which shall inform the Minister immediately so that he may arrange for the said object to be returned to its State of registry, in accordance with the Agreement on the Rescue of Astronauts and the Return of Space Objects.

§2. When an investigation is necessary in order to identify the State of registry or the launching State, all necessary measures to safeguard the object or objects found shall be taken by the Minister, if applicable in coordination with the competent services for civil protection and the crisis centre referred to in article 16, §1.

§3. When the object is returned to the competent authority or, if necessary, prior to its return, as well as at the time of the identification of the State of registry or the launching State(s), all the necessary measures shall be taken in order to protect the rights of the victims of any damage caused by the space object.

Chapter VII
Final Provisions

Art. 18. §1. The King shall fix the amount of the duties covering the administrative costs that must be paid by the operator when submitting the application for authorisation.

§2. When, pursuant to this law, the Minister calls on the services of technical experts, the cost of such services shall be borne by the operator.

Art. 19. §1. Any person carrying out the activities referred to in article 2 without authorisation, shall be liable to a period of imprisonment of between eight days and one year and a fine of between 25 and 25,000 euros, or to one of these sanctions.

§2. The same sanctions as those referred to under §1 shall apply to anyone who, having submitted an application for authorisation, communicates intentionally false or incomplete information concerning the activities in question.

§3. In addition, the operator in breach of his obligations shall be deprived of the benefit of the limit on liability provided for in article 15, §3.

Art. 20. This law shall enter into force on the first day of the second month following that in which it is published in the Belgian Official Journal.

Art. 21. §1. Activities covered by this law and which are already being carried out on the date of its entry into force, may nevertheless be pursued during a period of twelve months running from that date, without any authorisation being required. No transfer, as referred to in article 13, may be made during that period.

§2. The operator shall inform the Minister of activities that he carries out and which are likely to fall within the scope of this law. Such notification must be given within six months after the date of entry into force referred to in article 20.

WARNING: non-official translation for information purpose only.

Act № 8.854 of 10 February 1994 Establishing the civil institution Brazilian Space Agency (BSA*) and other measures

**in Portuguese- Agência Espacial Brasileira (AEB)*

The President of the Republic

I announce that the National Congress enacts and I ratify the following act:

Section 1. The civil institution Brazilian Space Agency (BSA) is established as a federal administrative division subordinate to the President of the Republic and aiming to promote the development of space activities related to the national interest.

Sole paragraph. BSA is responsible directly to the President of the Republic.

Section 2. BSA, which is an independent administrative division with its own assets and personnel, has its physical and legal residence in the Federal District.

Section 3. BSA has to:

I. implement and enforce the National Policy for Development of the Space Activities and to prepare the guidelines and the application of the actions arising from them;

II. offer update for the National Policy for Development of the Space Activities and the guidelines for its implementation;

III. to prepare and update the Space Activities National Programs and the relative budget offers;

IV. promote the relations with related institutions in the Republic and abroad;

V. analyze offers and sign international agreements and conventions, together with the Ministry of Foreign Affairs and the Ministry of Science and Technologies, cooperating in the area of space activities and monitoring their implementation;

VI. present its position on issues related to the space activities that are objects of analysis and discussion in international forums, at which it takes part together with the Ministry of Foreign Affairs and the Ministry of Science and Technologies.

VII. promote the participation of universities and other educational, research and development institutions in the activities related to the outer space they are interested in;

VIII. promote the private participation in the space activities;

IX. promote the scientific research and the technological development of the activities related to the outer space it is interested in;

X. promote the access of State institutions to the data received in the process of the space activities, aiming their technological improvement;

XI. cooperate for the joint use of technological space facilities, aiming for integration of the available resources and their rational use;

XII. identify the business opportunities for technologies and space appliances use, aiming to promote business initiatives for providing services and production;

XIII. set standards and issue licences and permits related to the space activities;

XIV. comply with the production and quality standards of the space activities;

Sole paragraph. In the process of carrying out its activities, BSA may act directly or indirectly, by means of contracts, conventions and agreements in the state and abroad, complying with the provisions of article V of this section and the competences of National Treasury Prosecution Office.

Section 4. The Brazilian space activi-

ties shall be organized in a systematic way established by the executive authority;

Sole paragraph. BSA will act as central authority in the system referring to this section;

Section 5. BSA has the following main structure:

I. Presidency;

II. Higher Council;

III. General administration;

IV. Department „Administration";

V. Department „Planning and coordination";

VI. Department „Space programs";

VII. Department „Scientific-technical development";

VIII. Department „Space cooperation".

Section 6. The Higher Council is an authority taking decisions with members as follows:

I. President of BSA and General Director as permanent members;

II. Ministries representatives and representatives for the Secretary Offices by the President of the Republic, acting in the outer space area;

III. one representative for the science community and one for the industrial sector, in connection with the outer space, who shall serve for the period of two years.

§1. The members of the Higher Council referring to article II, who are more than 10 but less than 18, shall be appointed by the President of the Republic.

§ 2. The President of BSA shall be also the President of the Higher Council and for the cases this is not possible, the General Director acts as such.

§3. The President of BSA, taking into consideration the positions of the ministries and the Secretary Offices referring to article II, submits for approval and designation to the President of the Republic the names of the representatives appointed.

§4. The Higher Council approves the regulations that provide for the authorizations and functioning.

Section 7. BSA is headed by a President, a General Director and five Heads of Departments, appointed by the President of the Republic and chosen among the Brazilian citizens according their pure moral reputation and recognized technical and administrative abilities.

Section 8. The executive authority has the right to redistribute and transfer to the Brazilian Space Agency the budgetary funds of the General Headquarter by the Armed Forces, purposed for the Brazilian Space Activities Commission, keeping the same subprojects, subordinate activities and expenditure groups in accordance with Act № 8.652 of 29 April 1993.

Section 9. Income for BSA are also:

I. budgetary support granted in accordance with the Federal Budget Law;

II. any kind of rents resulting from its assets or activities;

III. special appropriations granted by means of the law;

IV. other funds that were or are to be absorbed;

Section 10. BSA's assets consist of property and real estate that may be acquired, including donations and bequests by natural or legal persons.

Sole paragraph. The executive authority may cede to BSA federal real estate to use it when necessary for carrying out its activities and their development.

Section 11. BSA inherits Cobae as far this concerns its authorizations and obligations resulting from agreements and national or international cooperation instruments.

Sole paragraph. The National Treasury

Prosecution Office takes the necessary actions for concluding additional agreements aiming the formalization of this article.

Section 12. Within BSA, special positions with sensitive functions for the President of the Agency or the Commission shall be opened, as provided in Annex I of this Act, complying with the budgetary support for the same purpose.

Sole paragraph. A person on a position with sensitive functions or in the Commission, referred in Annex I, shall be freely appointed by the Administration in accordance with the legislation in force.

Section 13. There shall be positions of permanent employment opened in BSA, as provided in Annex II of this Act.

§1. The implementation of the positions, referring to this section, requires a prior approval through Public Competition in accordance with the legislation in force.

§2. The executive authority governs the authorizations for the positions, referred in this section.

Section 14. The remuneration amounts for the permanent positions in BSA are provided in Annex II of Act № 8.622 of 19 January 1993; any subsequent amendments, including legislative changes are to be complied with.

Section 15. The employees at the Federal Administration, who are directly or indirectly at the disposal at BSA, have guaranteed remuneration and right of a permanent position or permanent employment, including promotions.

§1. In accordance with the provisions of this section, the employee keeps paying the pension funds he/she is associated with, without interrupting his/her continuity of employment at the main authority or establishment for any purposes of the Labor Law and the Social Security, the special laws or internal rules.

§ 2. The period of being in service at BSA counts for the employee, for any purposes of functional life, as a period of actual occupation or position service by the means of the main authority or establishment.

Section 16. For the accomplishment of the regular obligations of BSA, but not less than 60 % of their total number, there can be paid positions opened for each federal employee who is currently on permanent employment or permanent position.

Section 17. BSA employees assimilate the activity efficiency, referred in Ordinance № 13 of 27 August 1992, to 160%.

Section 18. Within 180 days after this law enters into force, the executive authority develops the guidelines and management structure of BSA.

Section 19. The President of the Republic shall decree Cobae's obliteration after BSA starts functioning.

Sole paragraph. Until Cobae's obliteration, referred to this section, is finalized its heads and employees have to continue performing their current functions.

Section 20. This law enters into force on the day of its promulgation.

City of Brasilia, 10 February 1994; 173 years Independency and 106 years since the Proclamation of the Republic

ITAMAR FRANCO
Celso Luiz Nunes Amorim
Viana Lobo
Jose Israel Vargas
Arnaldo Leite Pereira

Ministry of science and technologies
Brazilian Space Agency
Higher Council

Resolution no. 51 dated 26 January 2001

The Higher Council of the Brazilian Space Agency – AEB, fulfilling its powers, given to it under sec. 4, art. VIII of the Supplement to Decree no. 3.566 dated 17 august 2000, and in view of the provisions of chapter III, section 5, art. VII of the regulations, as well as according to the contracts and conventions which settle the space activities, in which Brazil is a party, on its regular meeting, which was held on 14 December 2000, decided:

Article 1. For the purposes of issuing, supervision and control of the license for space launching activities with commercial purpose on Brazilian territory, the Brazilian Space Agency (AEB) shall comply with the terms and conditions established in this regulation unless there is no specific requirements regarding the activities related to the space launching activities.

Sole paragraph. The provisions of this Regulation do not apply to space launching activities carried out by Brazilian governmental organisations or bodies

Article 2. For the purposes for this resolution, license is the administrative deed, within the competence of AEB which gives the right of carrying out launching space activities on Brazilian territory, in compliance with the terms and conditions of the legislation currently in force.

§ 1. The license is one of the requirements for the formalization and approval of the request for receiving a permit for carrying out launching space activities on Brazilian territory.

§ 2. The license is granted to legal entities, persons, an association or consortium, with a seat or legal representative in Brazil, with the explicit power to receive claims and bear administrative or legal responsibility and deemed technically and administratively able to carry out activities related to the space launching.

§ 3. In order to issue a license, AEB shall require the legal entity to guarantee the technical transfer in compliance with the conditions set forward by the competent Brazilian authority.

§ 4. The legal entity shall prove that it is authorized by its country of origin to perform space activities, for the purposes of the provisions of section 6 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.

§ 5. In case of a license request which is made by a legal entity which is a consortium or association, the prove mentioned in § 4, shall be presented by the country of origin of each of the members of the consortium or association.

§ 6. The license is issued for a period which is defined for each case, due to the amortization of the investments which the licensee has made.

Article 3. The license shall be issued by the Brazilian Space Agency (AEB) by resolution of the Higher Council.

Article 4. License may be suspended or revoked:

I. In cases of bankruptcy of licensee;

II. If licensee carries out activities other than the ones it has been licensed to perform;

III. If licensee performs services without compliance with Brazilian laws;

IV. If, during administrative procedures, it is verified that licensee has lost its technical

aptitude or its financial capability to keep on carrying out the space launching activities it has been authorised to perform.

Article 5. The licensees" activities shall be controlled, followed-up and supervised by the Brazilian Space Agency (AEB).

Sole paragraph. In order to control, follow-up and supervise the space launching activities of the licensees, their managers, contractual relations or associated enterprises, the Brazilian Space Agency (AEB) is allowed to enter into agreements with public or private organisations or bodies, and, furthermore, to hire third parties for this purpose.

Article 6. In case of a violation of any of the provisions of this regulation, the Brazilian Space Agency (AEB) subject the offender to the following penalties, providing its motives and stating its reasons:

I - Warning;

II - Temporary suspension of the license;

III - Revocation of license.

Sole paragraph. The penalties dealt with in this article befall the competence of the Higher Council, and the President of the Brazilian Space Agency (AEB), at referendum of the Council, may apply them in urgent cases, with immediate effect.

Article 7. The licensee shall be responsible for any damages, caused to third parties by the activity carried out by him, and the Brazilian Space Agency has the right to require periodically updated insurance contract covering the damages which are within his responsibility.

Article 8. The President of the Brazilian Space Agency shall settle the regulations and the specific requirements for considering, check and issuing of a license, as well as control, follow-up and supervision of the space activities carried out by the licensees.

Article 9. Should any disagreements arise from this regulation, the Arbitration Court of the city of Brasilia –DF shall be the competent authority to solve it.

Article 10. This regulation becomes effective as of the date of its publication.

Luiz Gylvan Meira Filho

President of the Council
(Resolution published on 31 January 2001 in the Official Gazette, part 1, page 13-14)

Canadian Space Agency Act

1990, C. 13

An Act to establish the Canadian Space Agency and to provide for other matters in relation to space

[Assented to 10th May, 1990]

Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

SHORT TITLE

1. This Act may be cited as the Canadian Space Agency Act.

INTERPRETATION

2. In this Act,

"Agency" means the Canadian Space Agency established by section 3;

"Board" means the Space Advisory Board established pursuant to subsection 19(1);

"Executive Vice-President" means the Executive Vice-President of the Agency appointed pursuant to subsection 13(1);

"Minister" means such member of the Queen's Privy Council for Canada as is designated by the Governor in Council as the Minister for the purposes of this Act;

"President" means the President of the Agency appointed pursuant to subsection 12(1).

ESTABLISHMENT OF AGENCY

3. There is hereby established an agency of the Government of Canada, to be known as the Canadian Space Agency.

OBJECTS AND FUNCTIONS

4. The objects of the Agency are to promote the peaceful use and development of space, to advance the knowledge of space through science and to ensure that space science and technology provide social and economic benefits for Canadians.

5. (1) The Agency may exercise its powers, and perform its duties and functions, in relation to all matters concerning space over which Parliament has jurisdiction and that are not by or pursuant to law assigned to any other department, board or agency of the Government of Canada.

(2) In carrying out its objects, the Agency shall

(a) assist the Minister to coordinate the space policies and programs of the Government of Canada;

(b) plan, direct, manage and implement programs and projects relating to scientific or industrial space research and development and the application of space technology;

(c) promote the transfer and diffusion of space technology to and throughout Canadian industry;

(d) encourage commercial exploitation of space capabilities, technology, facilities and systems; and

(e) perform such other functions as the Governor in Council may, by order, assign.

(3) In carrying out its objects, the Agency may

(a) construct, procure, manage, maintain and operate space research and development vehicles, facilities and systems;

(b) assist departments, boards and agencies of the Government of Canada to

use and to market space technology;

(c) make grants and contributions in support of programs or projects relating to scientific or industrial space research and development and the application of space technology, including projects designed to develop, test, evaluate or apply new or improved processes, products, systems or information relating to space science and technology with a view to determining the commercial potential of that science and technology, but not including any programs or projects relating solely to the commercial exploitation of space science or technology;

(d) cooperate with the space and space-related agencies of other countries in the peaceful use and development of space;

(e) provide services and facilities to any person;

(f) license, sell or otherwise make available any patent, copyright, industrial design, trade-mark, trade secret or other like property right controlled or administered by the Minister;

(g) enter into contracts, memoranda of understanding or other arrangements in the name of Her Majesty in right of Canada or in the name of the Agency;

(h) acquire any money, securities or other personal property by gift or bequest and expend, administer or dispose of any such money, securities or property subject to the terms, if any, on which the gift or bequest was made;

(i) administer any loans or guarantees made by the Minister pursuant to section 9; and

(j) do all such things as are necessary or incidental to the attainment of the objects of the Agency.

(4) In exercising its powers and performing its duties and functions under this Act, the Agency shall, where appropriate, make use of the services and facilities of departments, boards and agencies of the Government of Canada.

POWERS, DUTIES AND FUNCTIONS OF THE MINISTER

6. In furtherance of the objects referred to in section 4, the Minister shall coordinate the space policies and programs of the Government of Canada.

7. The Minister is responsible for the operations of the Agency.

8. The Minister may, with the approval of the Governor in Council, enter into agreements with the government of any province respecting the carrying out of any program of the Agency.

9. The Minister may, with the concurrence of the Minister of Finance,

(a) make loans to any person with respect to the commercial exploitation of space science and technology; and

(b) guarantee the repayment of any portion of the principal and interest owing on any loan made by any person in respect of the commercial exploitation of space science and technology.

10. (1) With the approval of the Governor in Council and subject to such terms and conditions as the Governor in Council may specify, the Minister may, by order, prescribe the fee or charge, or the manner of determining the fee or charge, to be paid by a person or a person of a class of persons

(a) to whom the Agency provides any services or facilities; or

(b) who is licensed by the Agency to use, or to whom the Agency otherwise makes available, any patent, copyright, industrial design, trade-mark, trade secret or other like property right.

(2) The Governor in Council may, by order, prescribe the interest, or the manner of determining the interest, to be paid on any

overdue fee or charge prescribed or determined in a manner prescribed pursuant to subsection (1).

(3) Subject to subsection (4), the Agency shall impose the fees or charges, including interest on overdue fees or charges, prescribed or determined in a manner prescribed pursuant to subsection (1) or (2).

(4) With the approval of the Governor in Council, the Minister may, by order, waive or reduce any fee, charge or interest that would otherwise be imposed under this section.

(5) The Agency may, with the approval of the Treasury Board, use any fee or charge imposed under this section in a fiscal year to offset the costs incurred in that year in connection with the services, facilities or property right in respect of which the fee or charge was imposed.

(6) All fees, charges and interest imposed under this section are debts due to Her Majesty in right of Canada and are recoverable as such in the Federal Court or any other court of competent jurisdiction.

(7) An order made under this section that applies to or in respect of only one person or body shall be deemed not to be a statutory instrument for the purposes of the Statutory Instruments Act.

11. Any power, duty or function of the Minister under this Act, other than the power to make orders under section 10 and to authorize under this section, may be exercised or performed by any officer or employee of the Agency authorized by the Minister to do so and, if so exercised or performed, shall be deemed to have been exercised or performed by the Minister.

ORGANIZATION OF AGENCY

12. (1) The Governor in Council shall appoint an officer, to be called the President of the Agency, to hold office during pleasure for a term not exceeding five years.

(2) The President is the chief executive officer of the Agency and, under the direction of the Minister, has control and supervision over the work, officers and employees of the Agency.

(3) In the event of the absence or incapacity of the President or a vacancy in that office, the Executive Vice-President shall act as the President for the time being unless the Minister appoints another person to so act, but no person may act as President for a period exceeding ninety days without the approval of the Governor in Council.

13. (1) The Governor in Council may appoint an officer, to be called the Executive Vice-President of the Agency, to hold office during pleasure for a term not exceeding five years.

(2) The Executive Vice-President shall exercise such powers and perform such duties and functions as the President may assign.

14. The President and the Executive Vice-President, on the expiration of a first or any subsequent term of office, are eligible to be re-appointed for a further term.

15. The President and the Executive Vice-President shall be paid such remuneration as may be fixed by the Governor in Council.

16. (1) Such employees as are necessary for the proper conduct of the work of the Agency shall be appointed in accordance with the Public Service Employment Act.

(2) Notwithstanding subsection (1), the Agency may appoint and employ astronauts in positions in the Agency and may, with the approval of the Governor in Council, establish the terms and conditions, including remuneration, of their employment.

(3) The Public Service Staff Relations Act does not apply to any person employed in the Agency pursuant to subsection (2).

(4) Each person employed in the Agency pursuant to subsection (2) is deemed to be an employee for the purposes of the Government Employees Compensation Act, to be employed in the public service of Canada for the purposes of any regulations made pursuant to section 9 of the Aeronautics Act, and to be employed in the Public Service for the purposes of the Public Service Superannuation Act and for the purposes of being eligible to enter competitions under the Public Service Employment Act and of sections 11 and 13 of the last-named Act.

17. The principal office of the Agency shall be in the greater Montreal area.

18. (1) Every contract, memorandum of understanding and arrangement entered into by the Agency in its own name is binding on Her Majesty in right of Canada to the same extent as it is binding on the Agency.

(2) Actions, suits or other legal proceedings in respect of any right or obligation acquired or incurred by the Agency, whether in its own name or in the name of Her Majesty in right of Canada, may be brought or taken by or against the Agency in the name of the Agency in any court that would have jurisdiction if the Agency were a corporation that is not an agent of Her Majesty.

ADVISORY BOARD

19. (1) The Governor in Council may establish a board, to be known as the Space Advisory Board, consisting of not more than nineteen members appointed by the Governor in Council to hold office during pleasure for a term not exceeding three years.

(2) The Board shall include persons from the space science community and the private sector, including the space industry.

(3) The Governor in Council shall designate one of the members of the Board to be Chair of the Board.

(4) In the event of the absence or incapacity of a member of the Board, the Minister may designate a person to act as a member for the time being, but no person may act as a member for a period exceeding ninety days without the approval of the Governor in Council.

(5) A member of the Board, on the expiration of a first or any subsequent term of office, is eligible to be re-appointed for a further term.

20. (1) Each member of the Board is entitled to be paid such travel and living expenses incurred by the member while absent from the member's ordinary place of residence in connection with the work of the Board as may be fixed by the Governor in Council.

(2) A member of the Board may, for advisory services provided to the Minister otherwise than during attendance at meetings of the Board, be paid such remuneration as may be fixed by the Governor in Council.

21. The Board shall, on request of the Minister, advise the Minister on any matter relating to space.

22. The Board shall meet at such time and place as the Minister may determine.

ANNUAL REPORT

23. The President shall, within four months after the end of each fiscal year, submit an annual report on the operations of the Agency in that year to the Minister, and the Minister shall cause a copy of the report to be laid before each House of Parliament on any of the first fifteen days on which that House is sitting after the Minister receives it.

CONSEQUENTIAL AMENDMENTS

24. to 27. [Amendments]

TRANSITIONAL

28. (1) Where a position in the public service of Canada is transferred to the Agen-

cy within ninety days after the day on which this Act comes into force, the incumbent of the position continues in the position in the Agency, unless the incumbent otherwise elects prior to the transfer, and any person so continuing is deemed to have been appointed to the Agency in accordance with subsection 16(1).

(2) Notwithstanding subsection (1) and section 28 of the Public Service Employment Act, no person deemed by that subsection to have been appointed is subject to probation, unless the person was subject to probation immediately before the appointment, and any person who was so subject to probation continues to be subject thereto only for so long as would have been the case but for this section.

COMING INTO FORCE

*29. This Act shall come into force on a day to be fixed by order of the Governor in Council.

**[Note: Act in force December 14, 1990, see SI/91-5.]*

Establishment of a Presidential Advisory Committee Known as the Chilean Space Agency Supreme Decree No. 338

Santiago, 17 July 2001

On this date, His Excellency decreed the following:

Having regard to:

The provisions of article 24 and article 32, paragraph 8, of the Political Constitution of the Republic,

Considering:

1. The expediency of developing and increasing knowledge in the field of space sciences and the appreciable benefit to be derived from the application of space technology to various areas of national activity;

2. The firm intention of the Government of Chile to accord the highest priority to the development of space policy and its applications to the country's economic and social development;

3. The conclusion of the work entrusted to the Outer Space Committee of the Ministry of National Defence pursuant to Supreme Decree No. 1068 of 1980 and Supreme Decree No. 160 of 1995, both issued by the aforementioned Ministry;

4. The need to have our country's views reflected in international space organizations and to obtain the benefits of international cooperation in the field of outer space;

5. The desire of the Government of Chile to demonstrate to the international community that it advocates the use of outer space for peaceful purposes and, in this regards, wishes to adopt a consistent approach that reflects our country's position;

6. The need to involve the various sectors interested in space development, be they governmental, civil, military, academic or economic, in the discussion and elaboration of national policies, projects, programmes and other initiatives for this purpose;

7. The urgent need for one institution to represent all of the aforementioned sectors which, with the participation and consideration of all relevant interests, will cooperate with the President of the Republic in this field and serve as coordinating centre for the various administrative organizations working in this field.

Decree

Article 1. A Presidential Advisory Committee known as the Chilean Space Agency shall be established to provide advice in all matters concerning the identification, formulation and implementation of policies, plans, programmes, measures and other activities relating to space, and to serve as coordinating centre government organizations involved in this field.

Article 2. In order to perform its function of advising the President of the Republic in such matters, the Committee shall in particular:

(a) Propose the national space policy and the measures, plans and programmes required for its execution or implementation;

(b) Serve as coordinating centre for the application of the national space policy and the implementation of the relevant programmes, plans and measures;

(c) Serve as coordinating centre for government organizations involved in space activities at the national and international levels;

(d) Advise the President of the Republic with a view to ensuring that Chile's foreign policy in the field of outer space affairs reflects national space policy and, to this end, foster coordination between the Ministry of

Foreign Affairs and the other ministries and bodies represented in the Chilean Space Agency and make the appropriate recommendations;

(e) Promote and propose the conclusion of international agreements with a view to gaining access to and channelling international scientific, technological and economic cooperation in the field of space activities;

(f) Promote and propose the conclusion of agreements or other instruments which encourage public and private investment in space development;

(g) Propose criteria for allocating national resources, or resources obtained in the context of international cooperation, for space development;

(h) Provide advice on the formulation of national plans and programmes to study, develop and utilize the full potential of space technology;

(i) Propose campaigns to promote space activities and the use of outer space for peaceful purposes, encouraging scientific, technological and academic interaction and the teaching and study of, and dissemination of information on, space activities;

(j) Maintain systematic and updated information on space activities taking place at the national and international levels;

(k) Identify and propose tools and resources offered by space technology in the fields of environmental protection or conservation and control of international drug trafficking, providing assistance in these fields to the National Environment Commission and the National Drug Control Commission;

(l) Study national legislation on outer space affairs and propose relevant improvements or reforms at the institutional and operational level. In particular, the Committee should draft and put forward a bill on the establishment of a standing institutional framework for the development of space activities.

Article 3. The Agency shall be composed of the following members:

(a) Under-Secretary of Aviation, who shall service as Chairman;

(b) Under-Secretary for Foreign Affairs;

(c) Under-Secretary-General of the Presidency;

(d) Under-Secretary of Education;

(e) Under-Secretary of Telecommunications;

(f) Chairman of the National Commission for Scientific and Technological Research, who shall serve as Executive Secretary;

(g) Director of Space Policy of the Ministry of Foreign Affairs;

(h) Chief of Staff of National Defence;

(i) A representative of the Chilean Air Force;

(j) Executive Secretary of the Council of Rectors of Chilean Universities;

(k) Two scientists with experience in space science and technology, appointed by the Academy of Sciences;

(l) Two representatives of the business world, appointed by the Confederation of Industry and Commerce.

Without prejudice to the foregoing, the Committee may invite other government officials and representatives of the private sector to participate if it deems that such participation would be advantageous to its work.

Article 4. The Chilean Space Agency shall be managed by its Chairman, who shall have the competence required to carry out the Committee's tasks.

The Agency shall also have an Executive Secretary, who shall assist the Chairman of the Committee in his work, carry out the tasks delegated to him by the Chairman and

serve as coordinator between the Agency and government bodies.

The Chairman of the National Commission for Scientific and Technological Research shall serve as Executive Secretary of the Agency.

A technical advisory committee composed of five members appointed with the agreement of the Agency shall assist the latter in its work.

Article 5. Although the Chilean Space Agency, as the advisory body to the President of the Republic, shall be attached directly to his office, the technical and administrative support required for the Agency's operation shall be provided by the Ministry of National Defence through the Office of the Under-Secretary of Aviation.

Article 6. The members of the Agency and its technical advisory committee shall perform their functions without remuneration.

Article 7. The Agency shall establish its rules of procedure at its founding meeting and shall, at the same time appoint alternates for each of its members.

Article 8. The Agency shall periodically inform the President of the Republic of the progress of its work and shall also submit relevant proposals.

Article 9. Government bodies and officials shall, within the scope of their respective competence and authority, provide the assistance required by the Agency to carry out its mandate.

Article 10. Supreme Decree No. 1068 of 1980 and Supreme Decree No. 160 of 1995, both issued by the Ministry of National Defence, are repealed.

Law no. 61-1382 Dated 19 December 1961 Regarding the Establishment of the National Centre for Space Studies

The National Assembly and the Senate approved,

The President of the Republic communicated a law with the following contents:

Article 1 – A public scientific and technical institution is being established, named National Centre for Space Studies of commercial and trade character with financial autonomy and subordinated to the Prime Minister.

Article 2 – The National Centre for Space Studies shall have the mission to develop and direct the scientific researches and techniques in the field of space studies. For these purposes it shall have to:

1° gather all kind of information for the national and international activities concerning the space problems, its exploration and use;

2° Prepare and propose for the approval of the Intergovernmental Panel on Scientific and Technical researches, research programmes of national interest in this field;

3° To ensure the execution of the abovementioned programmes either in the laboratories and technical facilities of the Institute, or by means of previous researches of other public or private institutions or by financial participations;

4° To monitor, in cooperation with the Minister of Foreign Affairs, the problems of international cooperation in the field of outer space and for the execution of that part of the international programmes entrusted to France;

5° To provide either directly or by means of donations or subscriptions, the publication of scientific works related to space matters.

Article 3 – The National Centre for Space Studies provides its financial management and representation in line with its commercial goals.

Article 4 – For the financing of the different missions, foreseen in article 2, the National Centre for Space Studies shall allocate the appropriations for space researches for each annual budget in execution of the Law on the additional program activities coordinated for scientific and technical researches no. 61-530 dated 31 may 1961.

As of the date of promulgation of this law, the Centre shall substitute the state in the previous conventions for space studies under chapter 56-00 of the budget of the Prime Minster, entitled „Basics of the development of scientific and technical research."

Article 5 – A decree of the National assembly shall set the conditions for applying this law and respectively the rules for administrative financial existence of the institution, the administrative structure, and the functions of the administration, the centre's president and director.

Article 6 – Each year, before the budget vote, the National Centre for Space Studies shall present to the Parliament a report on its activity and the results achieved throughout the past year.

This Act shall be executed as State law.

Compiled in Paris, this 19th December 1961.

Decree no. 89-508 dated 19 July 1989

On Space Committee establishment

Sec. 1. – To the Minister of Transport and to the relevant ministry is established a space commission, which includes:

- Secretary General at the Ministry of Foreign Affairs;
- General attaché in charge of the arming;
- General director in charge of the industry;
- General director in charge of the telecommunication;
- General director in charge of the research and technology;
- Director, in charge of the budget;
- Commander-in-chief;
- General attaché in charge of space activities;
- Chairperson and general director of the National Centre for Space Research.
- General Secretary in charge of the national defence; (attached as a note to the Decree on 11 December 1990)
- Director in charge of the national meteorology (attached as a note to the Decree on 11 December 1990)

Sec. 2. – To facilitate the achievement of a coordinated space policy, the Committee has the following missions:

a) To prepare the relevant government resolutions related to the space development;

b) To study the influence of the space programs on the French and European industry;

c) To prepare on the grounds of the report of the General Director of the National Centre for Space Research the directions regarding France's stand on the international space cooperation;

d) To suggest doing activities which it considers necessary to the Prime Minister.

Sec. 3. – The Space Committee convenes twice a year under the initiative of its chairperson. In relation to its daily work carried out by its first president, the Committee can invite for consultation representatives of the various directorates in the ministries concerned and consult qualified experts.

The General Space delegation together with the National Centre for Space Research carry out the functions of Committee" Secretariat.

Sec. 4. – The Prime Minister, Minister of Economy, Finance and Budget, Minister of Foreign Affairs, Minister of Defence, Minister of Industry and Territorial Development, Minister of Telecommunications and Space, Minister of Research and Technology and the Minister with delegated powers to the Prime minister, Minister of Economy, Finance and Budget are appointed according to their powers with the execution of this decree which will be published in the Official newspaper of Republic of France.

Made in Paris, 19 July 1989

Law on the Transfer of Administrative Tasks in the Field of Space Flights (Law on the Transfer of Competences for Space Flights – RAUeG)

Publication dated 22 August 1998

§1 Transfer of competences

The German authorities, competent in space matters give to the German Aerospace Centre (DLR) the right to accept administrative tasks in the field of space science on its own behalf and within the actions permitted by the public law.

Administrative tasks under par. 1 are:

a) The making of German space flights projects,

b) The execution of German space programs, especially by assigning orders and subsidies;

c) Protection of the German interests in space flights internationally, especially before the European Space Agency.

d) DLR decides on any objections against the administrative acts, which DLR has issued on the grounds of the rights, transferred to it.

e) DLR shall be subject to control by the assigning federal authority regarding the implementation of the administrative tasks in the field of space science transferred to it.

§2 If DRL transfers somebody else budget appropriations within the framework of his accepted competences, then the appropriations shall be managed by the transferee.

§3 Right of inspections of the Federal Court of Auditors

The Federal Court of Auditors examines the reporting of the DLR's budget and accounting. Articles 89, 90, 91, 94, 95, 96 and 100 of the Regulations of the Federal budget apply for the audit procedure.

§4 Enforcement.

2590 Federal Gazette (BGBl.) Year 2007 Part I No. 58, issued in Bonn on 28 November 2007

Act to Give Protection against the Security Risk to the Federal Republic of Germany by the Dissemination of High-Grade Earth Remote Sensing Data

(Satellite Data Security Act — SatDSiG) of November 23, 2007

The Federal Parliament (Bundestag) has passed the following Act:

Part 1
Area of Application

Section 1
Area of Application

(1) This Act applies

1. to the operation of high-grade earth remotesensing systems

a) by German nationals or by legal persons or associations of persons under German law,

b) by foreign legal persons or foreign associations of persons with their head office within the territory of the Federal Republic of Germany, or

c) if inalterable sequences of instructions to command the orbital system are transmitted from within the territory of the Federal Republic of Germany;

2. to the handling of data generated by a high-grade earth remotesensing system as described in Number 1 until the moment of their dissemination

a) by German nationals or by legal persons or associations of persons under Ger-

man law,

b) by foreign legal persons or foreign associations of persons with head their office within the territory of the Federal Republic of Germany, or

c) where the data are disseminated from within the territory of the Federal Republic of Germany.

(2) This Act does not apply to the operation of high-grade earth remotesensing systems by a State agency with military or intelligence duties, provided that the possibility of unauthorized third parties gaining knowledge of the generated data is excluded. This Act may not be applied to the operation of a high-grade earth remote sensing system that is permitted under the applicable law of another Member State of the European Union and the latter is comparable to the provisions and to the protected interests of this Act. The responsible authority may waive the application of the Act if the legal provisions of a third country satisfy the requirements of Sentence 2 and if there is an international treaty between the third country and the Federal Republic of Germany which affirms the comparability of the provisions and protected interests.

Section 2
Definitions

(1) For the purposes of this Act

1. The „Operator" is the person who has the control of the earth remotesensing system under his own responsibility;

2. „Data" are signals from one or more sensor(s) of an orbital or transport system and all products derived from the same, regardless of their degree of processing and their type of storage or representation; a unit of data for the purpose of Section 27 is each individual detail;

3. The „Data Provider" is any person who disseminates data generated by a high-grade earth remotesensing system;

4. A „high-grade earth remotesensing system" is a space-based transport or orbital system, including the ground segment, by means of with data about the earth are generated, where its sensor is itself/sensors are themselves technically capable either alone or in combination with one or more other sensors of generating data with a particularly high information content within the meaning of Para (2);

5. A „sensor" is a part of a space-based earth remote sensing system, which records electromagnetic waves of all spectral ranges or gravimetric fields;

6. „Dissemination" means bringing data into circulation or making data accessible to third parties.

(2) The Federal Ministry of Economics and Technology shall determine by statutory ordinance without the consent of the Federal Council the conditions under which data have particularly high information content. The information content shall thereby be determined according to

1. geometric resolution,

2. spectral coverage,

3. the number of spectral channels and the spectral resolution,

4. the radiometric resolution and

5. the temporal resolution.

The information content of microwave sensors or radar sensors shall also be determined according to

1. the polarization characteristics and

2. the phase history.

The provisions consider the possible effects of disseminating data with particularly high information content on the vital security interests of the Federal Republic of Germany, the peaceful co-existence of nations and the foreign relations of the Federal Republic of Germany.

Part 2

Operation of a high-grade earth remotesensing system

Section 3

Operator license

(1) The operation of a high-grade earth remotesensing system requires an operator license.

(2) Subsequent alterations of the operator license are permitted if this is necessary to ensure that the requirements for the operator license are adhered in the event of subsequent occurrences or an amended legal provision.

(3) This does not affect the requirements made by other statutes on the operation of a high-grade earth remotesensing system. The operator lincense is granted without prejudice to the private rights of third parties.

(4) If a space-based earth remotesensing system is not high-grade, the responsible authority shall affirm the same on application by the Operator. If the need for an operator license is subsequently dispensed with by amendment of the provisions of Section 2 (2), the operator license is extinguished.

Section 4

Operator license requirements

(1) Operator license shall be granted if

1. the Operator of the high-grade earth remotesensing system possesses the requisite degree of reliability,

2. the sequences of instructions to

a) command the orbital or transport system,

b) control of the sensor(s),

c) control of the transmission of data by the orbital or transport system to a ground segment of the Operator or to a person admitted under Section 11 and

d) control of the dissemination of data directly by the orbital or transport system

are produced within the Federal Republic of Germany and protected against alteration by third parties by means of a method tested and declared suitable by the Federal Office for Information Security (Bundesamt für Sicherheit in der Informationstechnik - BSI),

3. the transmission of the data by the orbital or transport system to a ground segment of the Operator or to a person admitted under Section 11, the transmission of data between various locations of the ground segment of the Operator, and transmission of the data by the Operator to a person admitted under Section 11, are protected from becoming known to unauthorized third parties by means of a method tested and declared suitable by the Federal Office for Information Security (BSI), and

4. the Operator has taken technical and organizational measures preventing unauthorized persons from gaining access to the command installations of the high-grade earth remotesensing system and to the installations for receiving, processing and storing the data and entry to the control rooms used for the same.

(2) The Operator shall arrange for persons having access to the command installations of a high-grade earth remotesensing system or to the installations for receiving, processing and storing the data of such systems to undergo a simple security check in conformity with the Security Clearance Check Act (Sicherheitsüberprüfungsgesetz - SÜG) which is performed by the responsible authority .

Section 5

Obligation of documentation

(1) The Operator of a high-grade earth

remotesensing system is obliged to record

1. the sequences of instructions to command the orbital or transport system,

2. the sequences of instructions to control the sensor(s),

3. details of encryption processes, codes used and code management and

4. the time and path of the command sequences.

(2) The records under Para. (1) shall be filed for at least five years after execution of the relevant command sequence and be held available for inspection by the relevant authority.

Section 6
Obligation of notification

(1) The Operator of a high-grade earth remotesensing system shall notify the responsible authority in writing without delay of

1. Changes in facts which it is obliged to notify to the commercial register (Handelsregister) or register of associations (Vereinsregister), and

a) if the Operator is organized under the legal form of a partnership, changes in the articles of partnership, or

b) if the Operator is organized in the legal form of a limited-liability company (GmbH), changes in the persons of the corporate members or in the extent of their participation,

2. Actual indications that a third party is transmitting or attempting to transmit the sequences of instructions to to command the orbital or transport system, to control the sensor(s) or to control the transmission of data from the orbital or transport system, and

3. any changes made to the measures taken under Section 4 (1) No. 4.

(2) The Operator of a high-grade earth remotesensing system shall notify the responsible authority without delay in writing of the persons admissible under Section 11 to whom he transmits data.

Section 7
Obligation to provide information

(1) The Operator of a high-grade earth remotesensing system shall provide the responsible authority with information on demand and submit documents, if this is required to monitor adherence to this Act and the statutory ordinances passed under this Act.

(2) Persons obliged to provide information may refuse to answer any questions if the answers would expose those persons or relatives of those persons as defined in Section 383 (1) Nos. 1 to 3 German Code of Civil Procedure (ZPO) to the risk of criminal prosecution or to proceedings under the statute on administrative offenses (Gesetz über Ordnungswidrigkeiten - OWiG).

Section 8
Rights of entry and inspection

The officers of the responsible authority are authorized to gain entry to the business and operating premises of the Operator of a high-grade earth remotesensing system during normal business and operating hours and to undertake the examinations required in performance of their duties; Sections 196, 197 (1) Sentences 1 and 2 and (2), Section 198, Section 199(2) and Sections 200 to 202 German Tax Code (Abgabenordnung - AO) apply mutatis mutandis.

Section 9
Measures of the responsible authorities

(1) The responsible authority can take measures that are necessary towards the Operator of a high-grade earth remotesensing system in the individual case to ensure the due performance of the Operator's obligations.

(2) The responsible authority can, in particular

1. temporarily prohibit the transmission of data to a ground segment or to a person admitted under Section 11 or

2. order that operation be transferred wholly or in part to a special commissioner.

(3) The Operator of the high-grade earth remotesensing system pays the costs incurred for the appointment of the special commissioner including the compensation payable to the same. The responsible authority determines the amount of compensation.

Section 10
Acquisition of enterprises and participating interests in enterprises; business takeovers

(1) The acquisition of an enterprise that operates a high-grade earth remotesensing system or the acquisition of a direct or indirect participating interest in such an enterprise by

1. foreign nationals or by legal persons or associations of persons under foreign law, or

2. legal persons or associations of persons under German law in which foreign nationals or legal persons or associations of persons under foreign law hold at least 25 per cent of the voting rights shall be notified to the responsible authority by the buyer without delay. This does not apply if, after acquiring the share, the buyer's direct or indirect share of voting rights in the relevant enterprise does not attain the level of 25 per cent. When calculating the buyer's share of voting rights, the shares of other enterprises held in the enterprise to be acquired must be attributed to the buyer if the buyer holds at least 25 per cent or more of the voting rights in these other enterprises. The responsible authority can prohibit the acquisition within one month of receiving the complete documents governing the sale, if this is necessary to safeguard the vital security interests of the Federal Republic of Germany.

(2) The complete or partial takeover of the operation of a high-grade earth remotesensing system or parts thereof requires a permit if the takeover dispenses with the need for an operator license under Section 3(1). The acquirer shall apply for the granting of the permit. The permit shall be granted if the further operation of the high-grade earth remotesensing system or of parts of the high-grade earth remotesensing system does not endanger the vital security interests of the Federal Republic of Germany.

Part 3
Dissemination of data

Chapter 1
General requirements

Section 11
Dissemination license

(1) A Data Provider wishing to disseminate data requires a dissemination license.

(2) Subsequent alterations of the dissemination license are permitted if this is required in order to ensure that the requirements for the dissemination license are adhered to in the event of subsequent occur-

rences or an amended legal provision.

Section 12
Dissemination license requirements

(1) The dissemination license shall be granted if

1. the Data Provider possesses the requisite degree of reliability,

2. the Data Provider has taken technical and organizational measures preventing unauthorized persons from gaining access to the installations for receiving, processing or storing the data of a high-grade earth remotesensing system or entry to the control rooms used for the same.

3. The transmission of the data between various locations of the ground segment of the Data Provider and the transmission of the data to a different Data Provider are protected from becoming known to unauthorized third parties by means of a method tested and declared suitable by the Federal Office for Information Security (BSI) and

4. the dissemination of the data generated by a high-grade earth remotesensing system is guaranteed to be secure according to the state of the art.

(2) The Data Provider shall arrange for persons having access to the command installations of a high-grade earth remotesensing system or to the installations for receiving, processing and storing the data of such systems to undergo a simple security check in conformity with the Security Check Act (SÜG) undertaken by the responsible authority.

Section 13
Obligation of notification

The Data Provider shall notify the responsible authority without delay in writing

1. of changes in facts which it is obliged to notify to the commercial register (Handelsregister) or register of associations (Vereinsregister), and

a) if the Data Provider is organized under the legal form of a partnership, any changes in the articles of partnership or

b) if the Data Provider is organized in the legal form of a limited-liability company (GmbH), changes in the persons of the corporate members or in the extent of their participation,

2. any changes made to the measures taken under Section 12 (1) No. 2 and

3. of any actual indications that the security of data generated using a high-grade earth remotesensing system is not maintained.

Section 14
Obligation to provide information

(1) The Data Provider shall provide the responsible authority with information on demand and submit documents if this is required for monitoring adherence to this statute and the legal ordinances passed under this Act.

(2) The Data Provider may refuse to answer any questions if the answers would expose that person or a relative of that person as defined in Section 383 (1) Nos. 1 to 3 of the German Code of Civil Procedure (ZPO) to criminal prosecution or to proceedings under the statute on administrative offenses.

Section 15
Rights of entry and inspection

The officers of the responsible authority are authorized to gain entry to the business and operating premises of the Data Provider during normal operating and business hours and to undertake the examinations required in performance of their duties; Section 196,

Section 197(1) Sentence 1 and 2 and (2), Section 198, Section 199(2) and Section 200 to Section 202 of the German Tax Code (AO) apply mutatis mutandis.

Section 16
Measures of the responsible authorities

The responsible authority can take measures against the Data Providerin the individual case to ensure the due performance of its obligations. It may, in particular,

1. require the dissemination of the data to be adapted to the state of the art, or

2. temporarily prohibit the dissemination of data.

Section 35
Coming into force

(1) Section 2 (2), Section 17 (3) and Section 26 Sentences 2 to 4 come into force on the day after their promulgation.

(2) This Act otherwise comes into force on 1 December 2007.

The constitutional rights of the Federal Council are preserved.

The above Act is hereby executed. It shall be promulgated in the federal gazette (Bundesgesetzblatt).

Berlin, November 23,

The Federal President
Horst Köhler
The Federal Chancellor
Dr. Angela Merkel
The Federal Minister for Economics and Technology
Michael Glos

Law Concerning The National Space Development Agency Of Japan (Law No. 50 of June 23, 1969, as amended)

[UNOFFICIAL TRANSLATION]

Chapter I: General Provisions

ARTICLE 1. (Purpose)

The National Space Development Agency shall be established with a view to conducting in an integrated, systematic and effective manner the development, launching and tracking of artificial satellites and rockets for the launching of artificial satellites, exclusively for peaceful purposes, thereby contributing to the promotion of space development and utilization.

ARTICLE 2. (Status as Judicial Person)

The National Space Development Agency (hereinafter referred to as the„Agency") shall be a judicial person.

ARTICLE 3. (Offices)

1. The Agency shall have its main offices in Tokyo.

2. The Agency, upon authorization from the Prime Minister, may establish subordinate offices at necessary places.

ARTICLE 4. (Capital)

1. The capital of the Agency shall consist of the sum of the following amounts:

(1) ¥500,000,000

(2) The amount that is deemed to have been the contributed by the Government under the provisions of Article 3, Paragraph 2 of the Supplementary Provisions.

(3) The amounts that are to be contributed by persons other than the Government on the occasion of establishment of the Agency.

2. The Government, on the occasion of establishment of the Agency, shall contribute the ¥500,000,000 referred to in Item I of the preceding Paragraph.

3. The Agency, whenever necessary, may increase its capital upon authorization from the competent Ministers.

4. When the Agency is to increase its capital under the provisions of the preceding Paragraph, the Government may, within the scope of amount to be determined under the budget, make a contribution to the Agency.

5 . The Government, when making contributions to the Agency, may use land, buildings and fixtures on land or articles (hereinafter referred to as „land, etc.") for purposes of making its contribution.

6. The values of land, etc. which are to be contributed under the provisions of the preceding Paragraph shall be the values that are appraised by the Appraisal Committee on the basis of the prices prevailing as of the date of the contribution.

7. The Appraisal Committee referred to in the preceding Paragraph and the other necessary matters concerning the appraisal shall be prescribed by a Cabinet Order.

ARTICLE 5. (Investment Bonds)

1. The Agency shall issue investment bonds for the contributions.

2. The investment bonds shall be in non-bearer form.

3. The necessary matters concerning the investment bonds other than those which are stipulated in the preceding Paragraph shall be prescribed by a Cabinet Order.

ARTICLE 6. (Prohibition of Refundment of Holdings, Etc.)

1. The Agency shall not be able to refund to the contributors their holdings.

2. The Agency shall be able neither to

acquire holdings of the contributors nor receive the same for the purposes of establishing the right of pledge.

ARTICLE 7. (Registration)

1. The Agency shall have to effect registration in accordance with the provisions of a Cabinet Order.

2. On the matters that ought to be registered under the provisions of the preceding Paragraph, the Agency shall not be able to set up them against third parties unless the registration has been completed.

ARTICLE 8. (Restrictions on the Use of Appellation)

No one other than the Agency shall be able to use the appellation „National Space Development Agency."

ARTICLE 9. (Mutatis Mutandis Application of Civil Code)

The provisions of Article 44 (Corporation's Capacity for Assuming Responsibility for illegal Acts) and Article 50 (Address of Corporation) of the Civil Code (Law No. 89 of 1896) shall apply mutatis mutandis to the Agency.

Chapter II: Executives, Etc.

ARTICLE 10. (Executives)

1. The Agency shall have one President, one Vice President, no more than five Executive Directors and two General Auditors as executives.

2 . The Agency may have no more than two part-time Executive Directors as executives in addition to the Executive Directors referred to in the preceding Paragraph.

ARTICLE 11. (Duty and Authority of Executives)

1. The President shall represent the Agency and preside over its overall business.

2. The Vice President shall represent the Agency and shall, as determined by the President, manage the business of the Agency in assistance with the President, temporarily take over the duties of the President when he is unable to perform his duties, and carry out the duties of the President when that position is vacant.

3. The Executive Directors (with the exception of the part-time Executive Directors) shall, as determined by the President, manage the business of the Agency in assistance with the President and the Vice President, temporarily take over the duties of the President and the Vice President when they are unable to perform their duties, and carry out the duties of the President and the Vice President when their positions are vacant.

4. The part-time Executive Directors shall, as determined by the President, manage the business of the Agency in assistance with the President and the Vice President.

5. The General Auditors shall audit the business of the Agency.

6. The General Auditors may submit opinions to the President or the competent Ministers (the Director-General of the Science and Technology Agency for the Prime Minister in the event that the former is delegated under the provisions of Article 40. The same is applicable under Article 41, Paragraph 2 and Article 43, Item I), wherever they deem it necessary, on the basis of the findings of an audit.

ARTICLE 12. (Appointment of Executives)

1. The President shall be appointed by the Prime Minister with the concurrence of the Space Activities Commission.

2. The Vice President and Executive Di-

rectors shall be appointed by the President with the authorization of the Prime Minister.

3. The General Auditors shall be appointed by the Prime Minister after obtaining the opinion of the Space Activities Commission.

ARTICLE 13. (Term of Office of Executives)

1. The term of office of the President and Vice President shall be four years and the term of office of the Executive Directors and General Auditors two years.

2. The executives may be reappointed.

ARTICLE 14. (Disqualification for Executives)

Those persons who fall under any one of the following Items shall not be able to become executives:

(1) Officials of the Government or local public bodies (except those educational public servants who are prescribed by a Cabinet Order and part-time officials).

(2) Persons who engage in the business of production or sales of commodities or contracting construction and have close interests with the Agency in business deals or, if such persons are judicial persons, their executives (including those persons who have authority or controlling power which is equivalent to or higher than that of such executives, regardless of their title).

(3) Executives of the organizations of the entrepreneurs referred to in the preceding Item (including those persons who have authority or controlling power which is equivalent to or higher than that of such executives, regardless of their title).

ARTICLE 15. (Removal of Executives)

1. The Prime Minister or the President shall remove any executive appointed by him when such executive falls under any one of the Items of the preceding Article.

2. The Prime Minister or the President may remove any executive appointed by him, in the manner set forth in Article 12, when such executive falls under either of the following Items or when the Prime Minister or the President otherwise considers that such executive is not fit to remain an executive:

(1) When it is recognized that he is no longer able to execute his duties due to his mental or physical problems.

(2) When he has violated the duties of his office.

ARTICLE 16. (Prohibition of Concurrent Posts by Executives)

An executive shall neither become an executive of a profit-making organization nor engage in any Profit-making business by himself; provided however, that this provision is not applicable when approval has been secured from the Prime Minister.

ARTICLE 17. (Restrictions on Right of Representation)

On the matters for which there exists conflict of interests between the Agency and the President or the Vice President, such person shall not have the right of representation. In such case, the General Auditors shall represent the Agency.

ARTICLE 18. (Appointment of Agents)

The President and the Vice President may appoint from among the Executive Directors or staff members of the Agency the agents who are empowered to take all actions in court or out of court, in connection with matters concerning the business of subordinate offices of the Agency.

ARTICLE 19. (Advisors)

1. Advisors may be assigned to the Agency to take part in the planning of important matters concerning the management of its business.

2. Advisors shall be appointed by the President from among men of learning and experience with the authorization of the Prime Minister.

ARTICLE 20. (Appointment of Staff Members)

Staff members of the Agency shall be appointed by the President.

ARTICLE 21. (Status of Executives, Etc. as Public Servants)

The executives, Advisors and staff members shall be regarded as staff members who engage in public services by law insofar as the application of the Criminal Code (Law No. 45 of 1907) and other penal regulations are concerned.

Chapter III: Business

ARTICLE 22. (Scope of Business)

1. The Agency shall conduct the following business in order to achieve the purpose referred to in Article 1:

(1) The development of artificial satellites and rockets for the launching of artificial satellites (hereinafter referred to as „artificial satellites, etc.") and development of facilities and equipment necessary therefor.

(2) The launching and tracking of artificial satellites, etc. developed by it and development of means, facilities and equipment necessary therefor.

(3) The development referred to in Item 1, the launching and tracking of artificial satellites, etc. and the development of means, facilities and equipment necessary therefor, which are conducted pursuant to entrustment thereof.

(4) Business incidenta1 to those businesses mentioned in the preceding three Items.

(5) Business required to accomplish the purpose referred to in Article 1 other than the business mentioned in each of the foregoing Items.

2. The Agency, in carrying out the following business, shall comply with the guidelines which it prescribes with authorization from the. competent Ministers:

(1) The launching of artificial satellites, etc. referred to in Item 2 of the preceding Paragraph.

(2) Business referred to in Item 3 of the preceding Paragraph.

3. The Agency shall have to secure authorization from the competent Ministers when it is to carry out the business referred to in Paragraph l, Item 5.

4. In addition to carrying out those businesses which are referred to In Paragraph l, the Agency may, in accordance with the guidelines which it prescribes with authorization from the competent Ministers, offer the facilities and equipment which are to be established by it for development, for the use of those who carry out space development.

ARTICLE 23. (Entrustment of Business)

The Agency may, in accordance with the guidelines which it prescribes with authorization from the competent Ministers, entrust part of its business.

ARTICLE 24. (Guidelines for Business Management)

The business of the Agency shall be conducted in accordance with a basic plan for space development which is to be stipulated by the Prime Minister after resolution

by the Space Activities Commission.

Chapter III-2: Compensation for Damages due to Launch of Artificial Satellites, Etc.

ARTICLE 24-2. (Conclusion of Insurance Contracts)

1. The Agency shall not launch an Artificial Satellite, Etc., until and unless it has entered into an insurance contract by which it can secure such amount as is necessary to compensate for damages incurred by others as a result of the launch of the Artificial Satellite, Etc.

2. The amount secured under the insurance contract set forth in the preceding Paragraph shall be determined by the competent Ministers, in order for such amount to be appropriate from the viewpoint of the protection of victims, etc., taking into account the amount that insurers can underwrite and other factors.

3. In the event that the launch of an Artificial Satellite, Etc. is to be performed by the Agency as a result of the consignment set forth in Article 22, Paragraph 1, Item 3 (hereinafter referred to as the „Consigned Launch"), the insurance contract set forth in Paragraph 1 hereof may, notwithstanding the provision of said Paragraph, be entered into by a person or entity which has consigned the launch of such Artificial Satellite, Etc., (hereinafter referred to as the „Consignor") for and on behalf of the Agency.

ARTICLE 24-3. (Special Arrangements for the Consigned Launch)

1. In the event that the Agency enters into an agreement with a Consignor with respect to the Consigned Launch, the Agency may, upon the approvals of the competent Ministers, enter into the following special arrangements with respect to its liability for compensation for damages caused by the Consigned Launch incurred by any persons or entities other than those related to the Consigned Launch:

(i) If the Agency is held liable for compensation for damages caused by the Consigned Launch incurred by any persons or entities other than those related to the Consigned Launch, and any of those related to the Consigned Launch are also liable for compensation for such damages, the Agency shall assume all of the liabilities for compensation for damages owed by those related to the Consigned Launch; and

(ii) In the preceding Item, if such damages are caused by a willful misconduct of any of those related to the Consigned Launch, the Agency shall have the right to have such person reimburse the damages already paid by the Agency.

2. For the purpose of the preceding Paragraph, „those related to the Consigned Launch" means the Consignor and any person or entity designated by the Agency and the Consignor in accordance with the said special arrangements as the persons or entities which are related to the Consigned Launch.

3. When the Agency enters into the special arrangements set forth in Paragraph 1 hereof, the insurance contract set forth in the first Paragraph of the immediately preceding Article shall, notwithstanding the provisions of said first Paragraph and the third Paragraph of the immediately preceding Article, be entered into by the Consignor for and on behalf of the Agency.

Chapter IV: Finance and Accounting

ARTICLE 25. (Fiscal Year)

The fiscal year of the Agency shall commence on April 1 of every year and terminate on March 31 of the following year.

ARTICLE 26. (Authorization of Business Plan. Etc.)

In each fiscal year the Agency shall prepare a business plan, a budget and a fund plan and secure authorization from the competent Ministers prior to the beginning of the fiscal year concerned. The same shall also be applicable in the event that Agency is to amend such plans or budget.

ARTICLE 27. (Settlement of Accounts)

The Agency shall complete a settlement of accounts for each fiscal year not later than May 31 of the following fiscal year.

ARTICLE 28. (Financial Statements)

1. In each fiscal year the Agency shall prepare a general inventory, a balance sheet and a statement of profit and loss (referred to as „financial statements" in this Article and in the following Article), submit them to the competent Ministers within one month after completion of the settlement of accounts and secure the approval from such Ministers.

2. When the Agency submits the financial statements to the competent Ministers under the provisions of the preceding Paragraph it shall affix to the financial statements a business report for the fiscal year concerned, a statement of accounts prepared according to the budget classification, and the opinion of the General Auditors on the financial statements and the statement of accounts.

3. When the Agency obtains approval of the competent Ministers set forth in the first Paragraph of this Article it shall, without delay make its financial statements public in the Official Gazette (Kanpo), and maintain such financial statements and supplemental schedules, and the business report, statement of accounts and the opinion of General Auditors referred to in the immediately preceding Paragraph, at each of its offices and make the same available for public inspection for the period stipulated by an ordinance of the competent Ministries.

ARTICLE 29. (Transmittal of Documents)

When the Agency has secured authorization or approval under the provisions of Article 26 or Paragraph I of the preceding Article, it shall transmit the documents pertinent to the business plan, budget and fund plan or the financial statements under such authorization or approval to those persons, other than the Government, who have made contributions to the Agency.

ARTICLE 30. (Disposition of Profit and Loss)

1. In the event that a profit is made according the accounting of profit and loss for a fiscal year, the Agency shall use it to make up for the loss carried over from the previous fiscal year, and, if there still remains a surplus settle it as a reserved fund.

2. In the event that a loss is incurred according to the accounting of profit and loss for a fiscal year, the Agency shall settle it by reducing the reserve fund stipulated in the preceding Paragraph, and, if there still remains a shortage, settle it as a loss to be carried over to the following fiscal year.

ARTICLE 31. (Short-Term Loans)

1. The Agency may secure short-term loans upon authorization from the Prime Minister.

2. The short-term loans stipulated in the preceding Paragraph shall be repaid within the fiscal year concerned; provided, however, that in the event that the repayment cannot be made due to a lack of funds,

only that amount which cannot be repaid may be converted into a new loan, upon authorization from the Prime Minister.

3. A short term loan which has been converted into a new loan under the proviso of the preceding Paragraph shall be repaid within one year.

ARTICLE 32. (Operation of Surplus Funds)

The Agency shall not operate surplus business funds with the exception of the following manners:

(1) Acquisition of national bonds and other securities designated by the Prime Minister.

(2) Deposits with banks or other financial institutions designated by the Prime Minister or postal savings.

(3) Money trust to banks engaging in trust business or trust firms.

ARTICLE 33. (Restrictions on Disposal of Property, Etc.)

The Agency shall secure authorization from the competent Ministers when it is to loan, transfer, or offer as security such important property exchange as prescribed by an ordinance of the competent Ministries.

ARTICLE 34. (Guidelines for Payment of Wages and Severance Allowances)

The Agency shall, secure approval from the Prime Minister when it is to establish guidelines for the payment of wages and severance allowances to its executives and staff members. The same shall also be applicable when the Agency is to amend such guidelines.

ARTICLE 35. (Mandate to Ordinance of Competent Ministries)

The necessary matters concerning the finance and accounting of the Agency other than those stipulated in this Law shall be prescribed by an ordinance of the competent Ministries.

Chapter V: Supervision

ARTICLE 36. (Supervision)

1. The competent Ministers shall exercise supervision over the Agency.

2. The competent Ministers may issue an order to the Agency concerning its business required for the supervision thereof, when they deem it necessary for the implementation of this Law.

ARTICLE 37. (Acquisition of Report and On-Spot Inspection)

1. The competent Ministers when they deem it necessary for the implementation of this Law, may cause the Agency to file a report on its business or have their staff members enter the offices and other places of business of the Agency and inspect the conditions of the business or the books, documents and other necessary objects.

2 . When staff members are to carry out an on-spot inspection under the preceding Paragraph, they shall carry a certificate which identifies them and show it to the persons concerned.

3. The authority to enter and inspect, stipulated in Paragraph l, shall not be construed as being recognized for criminal investigation.

Chapter VI: Miscellaneous Provisions

ARTICLE 38. (Dissolution)

1. In the event of dissolution of the Agency, there remain assets after the Agency has paid its obligations, the Agency shall distribute them to each contributor within the limit of the amount of his contribution.

2. Matters concerning the dissolution of the Agency other than that which is stipulated in the preceding Paragraph, shall be prescribed by a separate law.

ARTICLE 39. (Competent Ministers and Ordinance of Competent Ministries)

1. The competent Ministers in this Law shall be the prime Minister, the Minister of Posts and Telecommunications and the Ministers who are in charge of matters concerning to the development of artificial satellites, etc. and designated by a Cabinet Order.

2. The ordinances of the competent Ministries in this Law shall be Ministerial Ordinances issued by the competent Ministers.

ARTICLE 40. (Delegation to Director-General of the Science and Technology Agency)

1. The Prime Minister may delegate the following authorities to the Director-General of the Science and Technology Agency:

(1) The authorization under the provisions of Article 3, Paragraph 2; Article 4, paragraph 3; Article 22, Paragraphs 2 through 4; Article 23; Article 24-3, Paragraph 1; Article 26; Article 31, Paragraph 1 or the proviso of Paragraph 2; or Article 33.

(2) The approval under the provisions of the proviso of Article 16; Article 28, Paragraph 1; or Article 34.

(3) The determination of the amount secured under the insurance contract under the provisions of Article 24-2, Paragraph 2.

(4) The designation under the provisions of Article 32, Item 1or 2.

(5) The acquisition of report and conduct of on-spot inspection under the provisions of Article 37, Paragraph 1.

ARTICLE 41. (Consultations with Minister of Finance)

1. The Prime Minster, (Director-General of the Science and Technology Agency when he is delegated under the provisions of the preceding Article. The same is applicable under Article 43, Item 1.) shall have prior consultations with the Minister of Finance in the following cases:

(1) When he is to formulate the basic plan referred to in Article 24.

(2) When he is to give authorization under the provisions of Article 31, Paragraph 1 or the proviso of Paragraph 2.

(3) When he is to make designation under the provisions of Article 32, Item l or 2.

(4) When he is to give approvals under the provisions of Article 34.

2. The competent Ministers shall have prior consultations with the Minister of Finance in the following cases

(1) When they are to give authorization under the provisions of Article 4, Paragraph 3; Article 22, Paragraph 2, Item 2 or Paragraph 3; Article 24-3, Paragraph 1; Article 26 or Article 33.

(2) When they are to determine the amount secured under the insurance contract under the provision of Article 24-2, Paragraph 2.

(3) When they are to give approvals under the provisions of Article 28, Paragraph 1.

(4) When they are to formulate an ordinance of the competent Ministries under the provisions of Article 33 or Article 35.

Chapter VII: Penal Provisions

ARTICLE 42. (Penal Provisions)

In the event of the failure to file a report or filing of a false report under Article 37, Paragraph 1, or refusal, interference or evasion of the inspection under the same Paragraph, the executive or the staff member of the Agency who has committed such

violation shall be subject to a fine not exceeding ¥200,000.

ARTICLE 43.

In any of the following events, the executive of the Agency who has committed such violation shall be subject to an administrative fine not exceeding ¥200,000.

(1) Failure to secure the authorization or approval in case the authorization or approval must be secured from the Prime Minister or the competent Ministers under this Law.

(2) Failure to make the registration in violation of the provisions of the Cabinet Order referred to in Article 7, Paragraph l.

(3) Conducting business other than that referred to in Article 22, Paragraphs 1 and 4.

(4) Launching an Artificial Satellite, Etc., without entering into an insurance contract, in breach of the provision of Article 24-2, Paragraph 1.

(5) Operating surplus business funds in violation of the provisions of Article 32.

(6) Violating an order of the competent Ministers under in Article 36, Paragraph 2.

ARTICLE 44.

A person who has violated the provisions of Article 8 shall be subject to an administrative fine not exceeding ¥100,000.

Supplementary Provisions

ARTICLE 1. (Date of Enforcement)

This Law shall come into force as of the day of promulgation.

ARTICLE 2. (Establishment of Agency)

1. The Prime Minister shall designate the persons who will become President or General Auditors of the Agency in the manner set forth in Article 12, Paragraph 1 or Paragraph 3.

2. The persons who will be President or General Auditors designated under the preceding Paragraph shall be deemed as being appointed President or General Auditors under the provisions of this Law at the time of establishment of the Agency.

3. The Prime Minister shall appoint the Establishment Committee and cause it to handle business pertinent to the establishment of the Agency.

4. The Establishment Committee shall raise contributions to the Agency from persons other than the Government.

5. The Establishment Committee, when the raising of contributions referred to in the preceding Paragraph is completed, shall apply to the competent Ministers for the authorization of the establishment of the Agency.

6. Upon securing the authorization referred to in the preceding Paragraph, the Establishment Committee shall request the Government and those persons, other than the Government, who have agreed to make contributions, to pay their contributions.

7. On the day the contributions are paid in, the Establishment Committee shall turn over its business to the person who will be President designated under the provisions of Paragraph 1.

8. The person who will be President designated under the provisions of Paragraph 1 shall effect registration for the establishment without delay in accordance with the provisions of a Cabinet Order, when the business referred to in the preceding Paragraph has been turned over to him.

9. The Agency shall be brought into existence upon the completion of the registration under the preceding Paragraph.

ARTICLE 3. (Succession of Rights and Obligations, Etc.)

1. Among the rights and obligations actually owned or owed by the State at the time of establishment of the Agency, those which are relevant to the business handled by the Space Development Office of the Science and Technology Agency under the provisions of Article 20-2, Paragraph 1 of the Law Concerning the Establishment of the Science and Technology Agency (Law No. 49 of 1956) and the business (limited to that concerning the development of artificial satellites for the observation of the ionosphere) handled by the Radio Research Laboratories of the Ministry of Posts and Telecommunications under the provisions of Article 17-2 of the Law Concerning the Establishment of the Ministry of Posts and Telecommunications (Law No. 244 of 1948) and which are prescribed by a Cabinet Order, shall be succeeded by the Agency as of its establishment .

2. When the Agency has succeeded the rights and obligations owned or owed by the State under the preceding Paragraph, an amount equivalent to the total of the value of the land, buildings, articles and other assets which are relevant to the rights to be succeeded and which are prescribed by a Cabinet Order, shall be deemed as having been contributed to the Agency by the Government upon such succession.

3. The value of the assets referred to in the preceding Paragraph which will be deemed as having been contributed by the Government under the provisions of the preceding Paragraph shall be the value to be assessed by the Appraisal Committee on the basis of prices prevailing as of the date of establishment of the Agency.

4. The necessary matters concerning the Appraisal Committee referred to in the preceding Paragraph and other necessary matters concerning the appraisal shall be prescribed by a Cabinet Order.

5. In the event that the Agency has succeeded the rights of the State under the provisions of Paragraph l, the registration license tax and the real estate acquisition tax shall not be levied on the registrations accompanying such succession or on the acquisition of immovable properties relevant to such succession.

Supplementary Provisions

ARTICLE 1. (Date of Enforcement)

This Law shall come into force as of the date of promulgation.

ARTICLE 2. (Transitional Measures Pertaining to the Term of Office of Executives)

The term of office of the persons who are actually the Executive Directors at the time of enforcement of this Law shall be a s previously prescribed by this Law.

ARTICLE 3. (Transitional Measures Pertaining to the Penal Provisions)

Application of the penal provisions to conducts that have been done before the enforcement of this Law shall be as previously prescribed by this Law.

BILL
(13.06.06)

We Beatrix, by the grace of God Queen, Princess of Orange-Nassau, etc., etc., etc.

Greetings to all who shall see or hear these presents! Be it known:

Whereas We have considered that it is necessary to lay down rules with regard to space activities and the establishment and management of a registry of space objects;

We, therefore, having heard the Council of State, and in consultation with the States General, have approved and decreed as We hereby approve and decree:

CHAPTER 1. GENERAL PROVISIONS

Section 1

The following definitions shall apply in this Act and its constituent provisions:

a. Our Minister: Our Minister of Economic Affairs;

b. space activities: the launch, the flight operation or the guidance of space objects in outer space;

c. space object: any object launched or destined to be launched into outer space;

d. Dutch ship: a ship as referred to in Section 1, paragraph b, of the Netherlands Seafarers Manning Act;

e. Dutch aircraft: an aircraft registered in the Netherlands under Section 3.3 of the Aviation Act;

f. Outer Space Treaty: the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Bulletin of Treaties 1967, 31), concluded on 27 January 1967 in London/Moscow/Washington;

g. Liability Convention: the Convention on International Liability for Damage Caused by Space Objects (Bulletin of Treaties 1981, 37), concluded on 29 March 1972 in London/Moscow/Washington.

Section 2

1. This Act applies to space activities that are performed in or from within the Netherlands or else on or from a Dutch ship or Dutch aircraft.

2. By Order in Council this Act can also be declared wholly or partly applicable to:

a. designated space activities that are performed by a Dutch natural or juridical person on or from the territory of a State that is not party to the Outer Space Treaty or on or from a ship or aircraft that falls under the jurisdiction of a State that is not party to the Outer Space Treaty;

b. the organization of outer-space activities by a natural or juridical person from within the Netherlands.

CHAPTER 2. LICENCES

§ 1. Licence for space activities

Section 3

1. It is prohibited to perform space activities as referred to in Section 2 without a licence issued for this purpose by Our Minister.

2. Subsection 1 is not applicable to space activities that are performed under the responsibility of one or more of Our Ministers.

3. Regulations and restrictions can be attached to the licence for the following purposes:

a. the safety of persons and goods;

b. protection of the environment in outer space;

c. financial security;

d. protection of public order;

e. security of the State;

f. fulfilment of the international obligations of the State.

4. The licence is issued on the condition that the prospective holder shall have and maintain what Our Minister considers to be the maximum possible cover for the liability arising from the space activities for which a licence is requested. Account is taken here of what can reasonably be covered by insurance.

5. A time limit can be attached to the licence within which the licence-holder must begin the space activities.

6. The licence is issued for the duration of the space activities.

7. Further rules can be imposed by Ministerial Order in order to implement the provisions of subsection 4.

§ 2. Licence application

Section 4

1. The licence application shall be submitted to Our Minister.

2. Further rules can be imposed by Ministerial Order with regard to the way in which the application takes place and the information and documents that are furnished by the applicant.

3. In addition, requirements can be imposed by Ministerial Order which the applicant must fulfil in order to be eligible for a licence. These requirements may relate to:

a. the applicant's knowledge and experience;

b. authorization for the use of frequency space.

Section 5

Our Minister will decide on a licence application within six months after having received it.

Section 6

1. A licence will be refused if:

a. this is necessary in order to comply with a treaty or a binding decision of an international institution;

b. in the view of Our Minister, facts or circumstances suggest that the safety of persons and goods, environmental protection in outer space, the maintenance of public order or national security might be jeopardized by issuing the licence;

c. its issuance would contravene rules laid down by or pursuant to this Act.

2. A licence can be refused by Our Minister if:

a. a previously issued licence has been revoked owing to infringement of rules laid down by or pursuant to this Act or of the regulations attached to the licence;

b. the applicant has not discharged his obligations under a previously issued licence;

c. the application or the applicant does not comply with the rules laid down by or pursuant to this Act;

d. there is good reason to fear that that the applicant will not act in accordance with the rules laid down by or pursuant to this Act;

e. this is necessary in order to protect the interests referred to in Section 3, subsection 3.

Section 7

1. The licence will be revoked if:

a. this is requested by the licence-holder;

b. this is necessary in order to comply with a treaty or a binding decision of an international institution;

c. there is good reason to fear that the maintenance of the licence will jeopardize the safety of persons and goods, environmental protection in outer space, the main-

tenance of public order or national security.

2. A licence can be revoked by Our Minister if:

a. the rules laid down by or pursuant to this Act or the regulations pertaining to the licence have been, or are being, infringed;

b. the space activities have not been commenced within the stipulated time limit;

c. the purpose of the space activities for which the licence was issued has changed substantially;

d. this is justified by a change in the technical or financial capabilities of the licence-holder;

e. the information or documents furnished with the application prove to be so incorrect or incomplete that a different decision would have been made on the application if the true circumstances had been known at the time of its assessment;

f. this is necessary in order to protect the interests referred to in Section 3, subsection 3.

3. Before the licence is revoked, Our Minister will take any steps necessary to ensure the safety of persons and goods, environmental protection in outer space, the maintenance of public order or national security. Our Minister will provide the necessary instructions to the party whose licence will be revoked. This party is obliged to follow the instructions.

4. Our Minister can also amend the licence on the grounds referred to in subsection 2 instead of revoking it.

Section 8

1. The licence is not transferable.

2. On request, Our Minister can adjust the name entered in the registry if the licence is held by a juridical person that is merged, divided or changes its name.

Section 9

1. It can be decreed by Order in Council that, in order to cover the costs of work or services designed to implement the provisions by or pursuant to this Act, compensation is payable by the party for whom work or services have been performed in accordance with rules laid down by or pursuant to Order in Council.

2. If a sum payable under subsection 1 has not been paid within the appointed period, the statutory interest will be added to the sum in question, calculated from the day on which that time limit elapsed.

3. If payment is not made within the period referred to in subsection 2, the offending party will be ordered in writing to pay the sum it owes within two weeks, plus the statutory interest and the costs of the demand for payment.

§ 3. Disasters

Section 10

1. If an incident occurs or has occurred that may jeopardize the safety of persons and goods, environmental protection in outer space, the maintenance of public order or national security, or otherwise cause damage, the licence-holder shall, without delay, take the steps that can reasonably be expected of it in order to prevent the consequences of that event or, where those consequences cannot be prevented, to limit and rectify them as far as possible.

2. The licence-holder shall, without delay, notify Our Minister of an incident as referred to in subsection 1 and shall also, as soon as practicable, furnish information with regard to:

a. the causes of the incident and the circumstances under which the incident occurred;

b. the relevant information that is

needed in order to assess the nature and the seriousness of the consequences of the incident;

c. the steps that have been taken or are being contemplated in order to prevent, limit or rectify the consequences of the incident;

d. the steps that have been taken or are being contemplated in order to prevent such an incident recurring during a space activity.

CHAPTER 3. REGISTRY OF SPACE OBJECTS

Section 11

1. Our Minister shall maintain a registry with information concerning space objects that are being used in connection with space activities as referred to in Section 2.

2. The licence-holder shall, at times to be determined by Order in Council, furnish the information required for the registry.

3. Our Minister will be responsible for registering space objects that are being used in connection with space activities that are performed under the responsibility of one or more of Our Ministers.

4. Rules will be laid down by or pursuant to an Order in Council with a view to implementing this Section.

CHAPTER 4. REDRESS

Section 12

1. If the State is obliged to pay compensation under Article VII of the Outer Space Treaty or the Liability Convention, the State is entitled to recover this sum, in full or in part, from the party whose space activity has caused the damage.

2. For each event or series of events with the same cause, the licence-holder is liable for damage caused by its space activities, up to the value of the sum insured, as specified in Section 3, subsection 4.

3. Should the occasion arise, the State will exercise the right of redress, as specified in subsection 1, against the licence-holder up to the value of the sum insured, as specified in Section 3, subsection 4.

4. Should the occasion arise, the State can likewise exercise the right of redress, as specified in subsection 3, against the licence-holder's insurer.

CHAPTER 5. ENFORCEMENT

Section 13

1. The officials designated by order of Our Minister have been charged with the supervision of compliance with the provisions by or under Section 3, Section 7, subsection 3, third sentence, Section 10 and Section 11, subsection 2.

2. An order such as that referred to in the subsection 1 will be announced by placement in the Government Gazette.

Section 14

1. Our Minister is empowered to use administrative orders to enforce Section 3, Section 7, subsection 3, Section 10 and Section 11, subsections 2 and 4, of this Act and Section 5:20 of the General Administrative Law Act.

2. For the application of subsection 1, the requirement of speed as referred to in Section 5:24, subsection 5, of the General Administrative Law Act is, in any case, present if the non-fulfilment of the obligations referred to in subsection 1 poses a serious and direct threat to the safety of persons and goods, national security or public order.

Section 15

1. If the provisions by or pursuant to Section 3, subsections 1, 3 and 4, Section

7, subsection 3, third sentence, Section 10, or Section 5:20 of the General Administrative Law Act are contravened, Our Minister can impose an administrative penalty of up to Ђ450,000 or 10 per cent of the relevant annual sales of the company in the Netherlands, whichever is the greater.

2. If the provisions by or pursuant to Section 11, subsections 2 and 4, are contravened, Our Minister can impose an administrative penalty of up to Ђ100,000.

3. The size of the administrative penalty shall in any event be commensurate with the seriousness and duration of the infringement, and also with the extent to which the perpetrator is at fault.

Section 16

1. Our Minister shall not impose an administrative penalty if the infringement cannot be imputed to the perpetrator.

2. Our Minister shall not impose an administrative penalty if:

a. the perpetrator is deceased;

b. an administrative penalty has already been imposed on the perpetrator previously for the same infringement;

c. notice has been published, as referred to in Section 20, subsection 3, paragraph a;

d. criminal proceedings have been instituted and the hearing has begun, or

e. the right to institute criminal proceedings under Section 74 or 74c of the Netherlands Criminal Code or under Section 37 of the Economic Offences Act has lapsed.

3. An administrative penalty will expire if it is not irrevocable at the time of the death of the perpetrator. An irrevocable administrative penalty will expire if it has not yet been paid at that time.

Section 17

1. The power to impose an administrative penalty will lapse five years after the infringement is committed.

2. If objections are raised to the administrative penalty or an appeal is brought, the expiry date will be deferred until a final and conclusive decision has been made on the objection or appeal.

Section 18

1. If an official as referred to in Section 13 determines that an infringement as referred to in Section 15 has been committed, he shall prepare a report.

2. The report is dated and states:

a. the name of the perpetrator;

b. the infringement and also the statutory provision that has been contravened;

c. the facts and circumstances on the basis of which it has been determined that an infringement has been committed;

d. where and when the facts and circumstances referred to under c occurred.

3. A copy of the report will be sent to the party that has committed the infringement.

4. If so requested by an interested party who does not adequately understand the report owing to his poor knowledge of the Dutch language, Our Minister shall, as far as possible, ensure that the party concerned is notified of the content of the report in a language that he understands.

Section 19

1. A person with regard to whom an act is performed by Our Minister from which he can reasonably deduce that an administrative penalty will be imposed on him on account of an infringement shall not be obliged to make any statement regarding the matter.

2. The perpetrator shall be notified thereof before he is requested to furnish information.

Section 20

1. Notwithstanding Chapter 4.1.2 of the General Administrative Law Act, the person concerned will be summoned in writing to express his views with regard to the report, either in writing or verbally, as he chooses.

2. If the person concerned expresses his views verbally, Our Minister shall, if so requested by the person concerned who does not adequately understand the Dutch language, ensure that an interpreter is appointed who can assist the person concerned at the hearing, unless it can reasonably be assumed that this is not necessary.

3. The perpetrator shall be notified in writing if, after the perpetrator has put forward his views, Our Minister should decide that:

a. no administrative penalty will be imposed for the infringement, or

b. the infringement will still be brought before the public prosecutor.

Section 21

1. The decision to impose an order with conditional penalty payments or an administrative penalty will, in any event, state:

a. the infringement for which it has been imposed, and also the statutory regulation that has been infringed;

b. if an order with conditional penalty payments is imposed, the name of the perpetrator, the content of the order and the period to which it applies;

c. if an administrative penalty is imposed, the name of the perpetrator, the sum of money to be paid and also an explanation concerning the amount of the penalty.

2. If so requested by the perpetrator who does not adequately understand the decision owing to his poor knowledge of the Dutch language, Our Minister shall, as far as possible, ensure that the information given in that decision is communicated to the perpetrator in a language that he understands.

3. Our Minister shall, within 13 weeks after the date of the report, make a decision with regard to the imposition of an administrative penalty.

Section 22

1. An administrative penalty shall be paid within six weeks after the decision imposing the penalty has come into force.

2. Statutory interest will be added to the penalty, counting from six weeks from the day on which the decision referred to in subsection 1 was published.

3. If payment is not made within the period specified in subsection 1, the party concerned will be ordered in writing to pay the amount of the administrative penalty within two weeks, plus the interest payable under subsection 2 and the costs of the demand for payment.

4. The effect of a decision as referred to in subsection 1 will be suspended until the period for lodging an appeal has expired or, if an appeal has been lodged, until a decision has been given on the appeal.

Section 23

1. Where payment has not been made within the two-week period specified in Section 22, subsection 3, Our Minister can issue a notice demanding payment of the penalty owed by the perpetrator, plus the interest payable under Section 22, subsection 2, and the costs relating to the demand for payment and collection.

2. The notice demanding payment will be served by bailiff's writ, at the expense of the perpetrator, and shall be enforceable within the meaning of the Second Book of the Netherlands Code of Civil Procedure.

3. For six weeks following the day on which the writ is served, objections to the

notice demanding payment may be made by a writ against the State.

4. The objection has the effect of suspending execution. At the request of the State, the courts may cancel the suspension of execution.

CHAPTER 6. AMENDMENTS TO OTHER LEGISLATION

Section 24

1. The following has been inserted, in alphabetical order, in Section 1(1) of the Economic Offences Act: the Space Activities Act, Section 3, subsections 1 and 3, Section 7, subsection 3, and Section 10.

2. The following has been inserted, in alphabetical order, in Section 1(4) of the Economic Offences Act: the Space Activities Act, Section 11, subsections 2 and 4.

CHAPTER 7. CONCLUDING PROVISIONS

Section 25

1. Activities in outer space as referred to in Section 2 which are taking place on the date this Act comes into force can be continued without a licence for a period of 12 months from that date.

2. Anyone shall, within six months after the date this Act comes into force, notify Our Minister of the space activities that he is performing that may fall under this Act.

Section 26

If the Bill containing supplementary provisions to the General Administrative Law Act (Fourth tranche of the General Administrative Law Act, Parliamentary Papers II 2003/04, 29 702, No. 2), as submitted by Royal Message of 22 July 2004, is enacted and comes into force then Section 15, subsection 3, and Sections 16 to 23 of this Act shall cease to apply.

Section 27

This Act shall enter into force on a date to be determined by Royal Decree.

Section 28

This Act may be cited as: the Space Activities Act.

We order and command that this Act shall be placed in the Bulletin of Acts and Decrees and that all ministries, authorities, bodies and officials whom it may concern shall diligently implement it.

The Minister of Economic Affairs

Act on Launching Objects from Norwegian Territory etc. into Outer Space.
13 June. No. 38. 1969

§ 1 Without permission from the Norwegian Ministry concerned, it is forbidden to launch any object into outer space from:

a) Norwegian territory, also including Svalbard, Jan Mayen and the Norwegian external territories.

b) Norwegian vessels, aircrafts etc.

c) Areas that are not subject to the sovereignty of any state, when the launching is undertaken by a Norwegian citizen or person with habitual residence in Norway.

Certain terms can be set for such permission as described in paragraph one.

§ 2 The Ministry can issue regulations on control etc. of activities as described in § 1.

§ 3 This act enters into force immediately.

Law Number 7538
May 31, 2005

Space Development Promotion Act

Article 1 (Purpose) The purpose of this act is to promote the peaceful use and scientific exploration of outer space, to ensure national security, to further develop the national economy, and to raise the national standard of living through the systematic promotion of space development and the effective use and management of space objects.

Article 2 (Definitions) The terms in this act are defined as follows:

1. „Space development" means any one of the following items:

(a) Research activities and technology development activities relevant to the design, manufacturing, launch, and/or operation of space objects and

(b) The use and exploration of outer space as well as activities that promote such activities.

2. „Space development project" means projects that promote space development and projects that promote the development of the relevant sectors in education, technology, information, and industry, etc.

3. „Space objects" are objects designed and manufactured for use in outer space including space launch vehicles, artificial satellites, and spaceships and their components.

4. „Space accident" means an accident causing loss of life, personal injury or damage to property due to the fall, collision, or explosion of space objects and/or similar situations.

5. „Satellite information" means imagery, voice, sound, data or any information resulting from the combination of the above (including its processing and use) gained from artificial satellites.

Article 3 (Government Responsibilities) (1) The Korean government shall carry out space development in conformity with space treaties concluded with other countries and international organizations, and shall use outer space peacefully.

(2) The Korean government shall plan and implement overall policies for space development.

Article 4 (Relation to Other Acts) Subject to provisions in other Acts, this Act shall apply to the promotion of space development and to the use and management of space objects.

Article 5 (Establishing Basic Plan for Promoting Space Development) (1) The Korean government shall establish a basic plan (hereinafter referred to as „Basic Plan") for promoting space development and for using and managing space objects. The Basic Plan shall include the following items:

1. Purpose and scope of space development policies;

2. Organizational structure and strategy for space development;

3. Implementation plan for space development;

4. Plans for expanding the foundation and infrastructure necessary for space development;

5. Investment planning for obtaining the financial resources necessary for space development;

6. Plans for training specialists necessary for space development;

7. Outlines for international cooperation to promote space development;

8. Guidelines for promoting space development projects;

9. Matters related to the use and man-

agement of space objects;

10. Practical applications using the results of space development, such as satellite information, etc; and

11. Other provisions designated by Presidential Decree for the promotion of space development and the use and management of space objects.

(2) The Korean government shall develop a Basic Plan every five(5) years and it shall be confirmed by the National Space Committee in accordance with Article 6.1. When amending the Basic Plan, the same procedure shall apply, except for minor changes set by the Presidential Decree.

(3) The Minister of Science and Technology shall release the confirmed Basic Plan and develop an execution plan in accordance with the Basic Plan every year. This execution plan shall be deliberated on by the heads of related central administrative agencies(the „head of the National Intelligence Service" is included hereinafter); Information concerning national security may not be released.

Article 6 (National Space Committee) (1) The National Space Committee (hereinafter referred to as „Committee") is established and placed under the control of the President to deliberate provisions regarding space development including establishing the Basic Plan, etc.

(2) The Committee deliberates on the issues listed below. In the case of Subsection 6, the deliberation may be omitted if deemed necessary for reasons of national security, etc:

1. The Basic Plan;

2. Primary government policies relevant to the Basic Plan; and the role of related central administrative agencies (the „National Intelligence Service" is included hereinafter);

3. Designation and management of Space Development Institutes in accordance with Article 7;

4. Assessment of the use and management of space development projects;

5. Generation of the financial resources necessary for space development projects and an investment plan;

6. Launch permits for space objects;

7. Modification of space development activities pursuant to Article 19.2; and

8. Other provisions the Chair submits to the Committee.

(3) The Committee is composed of no more than fifteen (15) members including the Chair.

(4) The Minister of Science and Technology shall be Chair of the Committee. other members of the committee shall be:

1. Heads and public servants of related central administrative agencies designated by Presidential Decree; and

2. Civilian experts having extensive knowledge and experience in the area of space development who are appointed by the President.

(5) The Committee shall have a Practical Affairs Subcommittee for the Promotion of Space Development to carry out its affairs effectively; the Vice-Minister of Science and Technology assumes the chair of this subcommittee.

(6) Details relevant to the implementation and operation of the Committee and the Practical Affairs Subcommittee for the Promotion of Space Development are determined by Presidential Decree.

Article 7 (Designation as a Space Development Institute) (1) The Minister of Science and Technology may designate and support an expert body (hereinafter referred to as „Space Development Institute") to systematically and effectively implement space

development projects.

(2) The Space Development Institute carries out the following projects:

1. Execution of space development projects in accordance with the Basic Plan;

2. Integrated development, launch, and operation of space objects; and

3. Other affairs relevant to space development projects set by Presidential Decree.

(3) The details regarding the designation criteria, and support, etc for the Space Development Institute are set by Presidential Decree.

Article 8 (Domestic Registration of Space Objects) (1) If Korean citizens (legal or natural. The same shall apply hereinafter) desire to launch a space object (excluding space launch vehicles, the same applies in8, 9 and 10) inside or outside of the country, a preliminary registration shall be made to the Minister of Science and Technology in accordance with Presidential Decree one hundred and eighty (180) days before the scheduled launch date.

(2) The conditions under which foreigners shall make a preliminary registration to the Minister of Science and Technology in accordance with Article 8.1 are following items:

1. Launching in an area or facility within Korean territory or its jurisdiction; or

2. Launching in a foreign country, utilizing a space launch vehicle owned by the Korean government or Korean citizens.

(3) Any person wanting to make a preliminary registration of space objects in accordance with Articles 8.1 and 8.2 shall provide a launch plan which includes all of the following provisions:

1. Use and purpose of the space object;

2. Ownership or user of the space object;

3. Estimated lifetime and operation period of the space object;

4. Launch site and scheduled launch date of the space object;

5. Basic orbital parameters of the space object;

6. Launch vehicle provider and launch vehicle performance and specifications;

7. Liability for damage arising out of a space accident;

8. Manufacturer, manufacturing number and manufacturing date of the space object; and

9. Other provisions relevant to the launch, use, and management of space objects set by Presidential Decree.

(4) If the Minister of Science and Technology reviews the launch plan under Article 8.3 and concludes that the plan does not demonstrate adequate liability for damage in accordance with Article 14, the Minister may demand further revisions.

(5) Any person, who makes a preliminary registration of space objects according to Articles 8.1 and 8.2, shall then formally register the space objects with the Minister of Science and Technology in accordance with Presidential Decree within ninety (90) days after the space object reaches its planned orbit, except for space objects registered in foreign countries under agreement with the government of the launching country in accordance with the „Convention on Registration of Objects Launched into Outer Space."

(6) If there are changes to any item of Article 8.3, parties having filed the preliminary registration of space objects under Articles 8.1 and 8.2 or formally registered space objects under Article 8.5 shall report the change(s) to the Minister of Science and Technology within fifteen (15) days from the date of the change(s).

Article 9 (International Registration of Space Objects)

(1) If space objects are registered according to Article 8.5, the Minister of Science and Technology shall register the objects with the United Nations by way of the Minister of Foreign Affairs and Trade in accordance with „Convention on Registration of Objects Launched into Outer Space," with the exception of satellites to be registered with the United Nations in accordance with „Radio Wave Act" Article 44.1.

(2) If there are any changes in the contents registered to the United Nations in accordance with Article 9.1 due to the termination, etc. of space objects, the Minister of Science and Technology shall inform the United Nations via the Minister of Foreign Affairs and Trade.

Article 10 (Management of Space Objects Registry) The Minister of Science and Technology shall maintain and manage the preliminary registry and the formal registry of space objects in accordance with Ministerial Decree of the Ministry of Science and Technology.

Article 11 (A Launch Permit of a Space Launch Vehicle) (1) If a person who wants to launch a space launch vehicle falls under any of the following subsections, the person shall obtain a permit from the Minister of Science and Technology. Changes to the permitted item shall also be permitted by the Minister of Science and Technology except for minor changes set by Presidential Decree, of which the person seeking a launch permit shall report the changes within thirty (30) days after the changes are made:

1. Launching in an area or facility within Korean territory or its jurisdiction; or

2. Launching in a foreign country, utilizing a space launch vehicle owned by the Korean government or Korean citizens.

(2) Any person who wants to obtain a launch permit in accordance with Article 11.1 shall, according to Presidential Decree, submit to the Minister of Science and Technology a launch plan including a safety analysis report, a payloads operation plan, and the damage liability coverage.

(3) The Minister of Science and Technology shall consider the following subsections when granting a launch permit according to Article 11.1:

1. Use and purpose of the space launch vehicle;

2. Safety management of the space launch vehicle;

3. Financial capability including liability insurance for damages occurring from a space accident; and

4. Other items, which are set by Ministerial Decree from the Ministry of Science and Technology, necessary for launch and launch preparations, including the transportation of space launch vehicles.

(4) The Minister of Science and Technology may make any necessary stipulations when granting a permit according to Article 11.1.

Article 12 (Disqualification) Any person who falls under any of the following sections shall not obtain a launch permit for space launch vehicles in accordance with Article 11.:

1. Any person deemed incompetent or quasi-incompetent;

2. Any person who is bankrupt at the time of registration;

3. Any person who is within two years after the date of completion (including deemed completion) or commutation of a prison sentence for violating this Act;

4. Any person on probation for violating this Act; and

5. Any corporation represented by a person who falls under Articles 12.1 to 12.4.

Article 13 (Cancellation of Launch Permit and the Hearing) (1) The Minister of Science and Technology may revoke a launch permit for any reason which falls under the following subsections:

1. Delay of the launch for more than one (1) year from the permitted launch date without due cause;

2. Obtaining a launch permit by false means;

3. A request by the head of a related central administrative agency in anticipation of a serious threat to security;

4. Abnormalities in the safety management of the space launch vehicle before launch including fuel leakage, and communication system defects, etc;

5. Violation of Article 11.1 due to a failure to obtain a permit for changes; or

6. The person who obtained the launch permit for the space launch vehicle falls under any part of Article 12. However, in the case of Article 12.5, an exception is made when the representative has been replaced within three (3) months from the date of disqualification.

(2) If the Minister of Science and Technology intends to cancel the launch permit of a space launch vehicle under Article 13.1, a hearing shall be held. In cases that fall under Article 13.1.3 and 13.1.4, the Minister may forgo the hearing process.

Article 14 (Liability for Damages due to Space Accidents) A person who launches space objects according to Articles 8 and 11 shall assume the liability for damages owing to space accidents caused by the space objects. The scope of liability for damages and the limit of responsibility are specified by other laws.

Article 15 (Third-Party Liability Insurance) (1) Any person seeking to obtain a launch permit for space launch vehicles according to Article 11 shall insure against any liability. The third-party liability insurance shall be of an amount capable of compensating for damage possibly occurring due to space accidents.

(2) The minimum amount of third-party liability insurance in accordance with 15.1 is set by Ministerial decree of the Ministry of Science and Technology with consideration of the domestic and foreign insurance markets.

Article 16 (Formation of a Space Accident Inquiry Committee) (1) The Minister of Science and Technology may form a Space Accident Inquiry Committee under the supervision of the Minister of Science and Technology to investigate space accidents which are defined by Presidential Decree.

(2) The Space Accident Inquiry Committee will consist of five (5) to eleven (11) members including the chair. Committee members shall be nominated from specialists in related fields by the Minister of Science and Technology. The Chair shall be appointed from among the committee members by the Minister of Science and Technology. In case the space accident is involved in national security which is determined by Presidential Decree, a separate Space Accident Inquiry Committee may be formed by Presidential Decree.

(3) The Space Accident Inquiry Committee may investigate a person falling under any one of following items. In this case, the person to be investigated shall, unless the person has a valid reason not to, comply with the investigation:

1. Any person who has submitted a preliminary registration or formal registration of space objects in accordance with

Article 8;

2. Any person who has obtained a launch permit for a space launch vehicle in accordance with Article 11 ; and

3. Any other person related to the space object such as the manufacturer, and performance tester, etc.

(4) The Space Accident Inquiry Committee may request cooperation from the heads of the related administrative agencies in connection with access control to the area of a space accident and other investigations of relevance. The head of the related administrative agency receiving the request shall comply with the request, unless the agency has a valid reason not to.

(5) Details relevant to the formation date, member qualifications and management, etc. of the Space Accident Inquiry Committee shall be set by Presidential Decree.

Article 17 (Utilization of Satellite Information) (1) The Minister of Science and Technology may take action, such as designating or establishing an agency responsible for promoting the distribution and use of satellite information gained by artificial satellites developed in accordance with the Basic Plan. In this case, geographical information relevant to the „Act on the Establishment and Utilization of National Geographic Information System" shall be discussed with the Minister of Construction and Transportation.

(2) The Minister of Science and Technology may provide funding for promoting the distribution and use of satellite information within the budgetary limits.

(3) The government shall make every effort not to invade the privacy of individuals when using satellite information.

Article 18 (Support of Civil Space Development Activities) (1) The Minister of Science and Technology shall adopt policies to promote private space development activities and R&D investment by providing space development man power, tax benefits and financial support, and procurement, etc.

(2) The Minister of Science and Technology may request cooperation from the heads of related central administrative agencies for support of policies in accordance with Article 18.1.

Article 19 (Suspension and Modification of Space Development Activities) (1) If the Minister of Defense requests the Minister of Science and Technology the suspension of space development activities by Korean citizens for the carrying out of military operations during a time of war, national emergency or situations of similar proportion, the Minister of Science and Technology shall order the suspension of such space development activities to the Korean citizens.

(2) If the head of a related central administrative agency requests the Minister of Science and Technology the modification of space development activities by Korean citizens for reasons of public order or national security, the Minister of Science and Technology may order the modification of such space development activities to the Korean citizens after deliberation by the National Space Committee.

Article 20 (Requesting Support and Cooperation for Space Development) (1) The Minister of Science and Technology may request support and cooperation on the following from the heads of related central administrative agencies or the heads of local self-governing bodies if deemed necessary for the implementation of space development activities. In this case, the heads of the

related central administrative agencies or local self-governing bodies shall comply unless the agency or body has a valid reason not to:

1. Access control to the surrounding area (including territorial waters and air space) used for the domestic launch of space objects; and

2. Matters related to communications, fire control, emergency salvage and rescue, and safety management, etc.

(2) When the Minister of Science and Technology requests support and cooperation in accordance with Article 20.1, the request shall be limited to the minimum level required for the implementation of the space development activities.

Article 21 (Implementation of Space Development Activities Relevant to National Security) (1) The Minister of Science and Technology shall discuss with the head of the related central administrative agencies in advance when implementing space development activities relevant to national security.

(2) Necessary provisions on the establishment and execution of security measures for the space development project falling under Article 21.1 shall be set by Presidential Decree.

Article 22 (Rescue of Astronauts) When astronauts from a foreign space object makes an emergency landing, is lost, or is involved in an accident in Korean territory or neighboring international waters, the Korean government will render them necessary assistance and return them to the country of launch, country of registration or international organization responsible for the launch of the said space object.

Article 23 (Return of Space Objects) In the case of foreign space objects falling to or making an emergency landing on Korean territory, the Korean government will return the foreign space objects to the country of launch, country of registration or international organization responsible for the launch of the space objects.

Article 24 (Collection of Information and Fact-Finding Surveys on Space Development Activities) (1) The Minister of Science and Technology may collect information and conduct fact-finding surveys on space development activities and space industry for the systematic promotion and effective implementation of space development activities.

(2) The Minister of Science and Technology may request the related central administrative agencies, research centers, educational organizations, or related companies to submit relevant data or statements if deemed necessary for conducting domestic fact-finding surveys in accordance with Article 24.1.

(3) Details concerning the scope, period, and procedure for the collection of information or fact-finding surveys in accordance with Article 24.1 shall be set by Presidential Decree.

Article 25 (Confidentiality) Any person currently engaged or previously engaged in any work under this Act shall not disclose any information they encounter during their duty, or not use that information except for the purpose of this Act.

Article 26 (Consignment of Power) By Presidential Decree, the Minister of Science and Technology may consign the following activities to government-funded research institutes in the area of science and technology established in accordance with „the Law

on the Establishment, Operation and Promotion of Government-Funded Research Institutes in the Area of Science and Technology" or other related expert institutes:

1. Safety review relevant to the permits or permits for changes in accordance with Article 11.1; and

2. Collection of information and fact-finding surveys on space development activities and space industry in accordance with Article 24.

Article 27 (Penalty Clauses) (1) Any person not obtaining a permit (including a permit for changes) in accordance with Article 11.1 who launches a space launch vehicle shall be sentenced to imprisonment for up to five (5) years, or face fines not exceeding fifty million (50,000,000) Won.

(2) Any person who falls under any of the following items shall be sentenced to imprisonment for up to three (3) years, or face fines not exceeding thirty million (30,000,000) Won.:

1. Any person who does not comply with a suspension or modification order in accordance with Article 19; and

2. Any person who violates Article 25.

Article 28 (Dual Penalization) If a representative, agent, servant or other employee of a legal entity or an agent, servant or other employee of an individual violates Article 27, the offender shall face punishment. In addition, the legal entity itself and the individual himself shall be fined in accordance with Article 27.

Article 29 (Penalty) (1) Any person falling under any of the following sections shall be sentenced to a fine not exceeding ten million (10,000,000) won.:

1. Any person who violates Article 8.1 or 8.2 by failing to make a preliminary registration of space objects;

2. Any person who violates Article 8.5 by failing to make a formal registration of space objects; or

3. Any person who violates the proviso of Article 11.1 by failing to report changes.

(2) Any person falling under any of the following sections shall be sentenced to a fine not exceeding five million (5,000,000) won:

1. Any person who violates Article 8.6 by failing to inform or falsely informing about any changes within fifteen (15) days of the change; and

2. Any person who denies, interferes, or evades the investigation of an accident in accordance with Article 16.3.

(3) The Minister of Science and Technology shall impose and collect the fines stated in Article 29.1 and 29.2 according to Presidential Decree.

(4) Any person who does not agree with the fine imposed in accordance with Article 29.3 may make an objection to the Minister of Science and Technology within thirty (30) days of notice of the fine.

(5) If the person who was fined based on Article 29.3 raises an objection in accordance with Article 29.4, the Minister of Science and Technology shall inform this fact to the governing court without delay. The informed court shall hold a trial on the imposed fine in accordance with „the Voluntary Matters Proceedings Act."

(6) If the person does not raise an objection within the period stated in Article 29.4 nor pay the fine, the fine shall be paid in accordance with the procedure of disposition for failure of tax payment.

Additional Clauses

1. (Enforcement Date) This Act takes effect six (6) months from the date of promulgation.

2. (Intermediate Measures for the Basic Plan) Until the Basic Plan for Promoting Space Development stated in Article 5 is established, the Mid-to-Long Term Space Development Basic Plan, which was reviewed by the Committee of National Science and Technology in accordance with Article 9 of „Basic Law of Science and Technology", shall be regarded as the Basic Plan for Promoting Space Development.

3. (Intermediate Measures for the Registration of Space Objects) Space objects registered with the United Nations by the Republic of Korea prior to this Act are regarded as registered space objects in accordance with Article 8.

Space Liability Act

(translated version not authorized)

Article 1 (Purpose) The purpose of this act is to protect the aggrieved party and to contribute to the sound development of space activities by deciding the extent of damages and the limit of liability in case the damage occurs by the space activities.

Article 2 (Definitions) The terms in this act are defined as follows:

2.1. „Space objects" means the space objects defined at Article 2.3 of the space development promotion act.

2.2. „launching party" means a person who makes a preliminary registration or formal registration in accordance with Article 8, or a person who obtains a launch permit in accordance with Article 11 of the space development promotion act.

2.3. „launching" means the launching of a space object by the person who obtains a launch permit under Article 11.1 of the space development promotion act and includes preparation of launching, test launching and failed launching.

2.4. „space damage" means physical damage such as death, bodily injury or other impairment of health of the 3rd party and property loss such as destruction of, damage to or loss of property according to launching and operation of space objects.

Article 3 (Relation to International Treaties)

3.1. In the event the Korean government has paid compensation for damage to a foreign state according to the „Convention on International Liability for Damage caused by Space Objects", the Korean government may present a claim for indemnification to the launching party.

3.2. The application of this act can be

prevented or limited to the natural, legal person, organization or the government of the state which prevents or limits compensation for damage caused by space objects to the natural, legal person, organization or the government of Korea.

Article 4 (Absolute Liability and Waiver of Liability)

4.1. In case space damage occurs, the launching party shall have responsibility to pay compensation. However, in case of space damage caused by armed conflict, hostile activity, civil war or rebellion or caused in outer space, the launching party shall be liable only if the damage is due to his wilful misconduct or negligence.

4.2. The launching party who paid compensation for damage caused by the 3rd party's wilful misconduct or negligence may present a claim for indemnification to that 3rd party. However, if the damage was due to the supply of components, materials or service (including, labor service), the launching party may present a claim for indemnification to the supplier only if the damage is due to wilful misconduct or gross negligence of the supplier or his employees.

4.3. „Product Liability Act" is not applied for space damage.

Article 5 (Limit on Compensation) The amount of compensation to be paid by the launching party is limited to two hundred billion (200,000,000,000) won.

Article 6 (Third-Party Liability Insurance)

6.1. Any person seeking to obtain a launch permit for space launch vehicles according to Article 11 of„Space Development Promotion Act" shall insure against the 3rd party liability.

6.2. The minimum amount of the 3rd party liability insurance in accordance with Article 6.1 of this Act is, within the compensation limit under Article 5, set by ordinance of the Ministry of Education, Science and Technology with consideration of the characteristics of space objects, the difficulties of technology, circumstances around the launch site and the domestic and foreign insurance markets.

Article 7 (Governmental Measures)

7.1. The government shall take necessary actions to rescue the victims and to prevent further damage when space damage occurs.

7.2. The government may provide the launching party with the financial support, when it thinks appropriate in order to achieve the purpose of this Act in case the amount of the compensation under Article 4.1 would exceed the insured amount under Article 6.2.

7.3 The support from the government under Article 7.2 shall be limited to the extent allowed by the National Congress resolution.

Article 8 (Lapse of Right)

8.1. The right of claim for compensation under this Act will lapse unless the aggrieved party or his legal representative would not make a claim within one year after the day on which the person became aware of the damage and the responsible party under Article 4.1 of this Act.

8.2. The right of claim for compensation under this Act will lapse after three years after the day on which the space damage occurs.

Additional Clauses

1. (Enforcement Date) This Act takes effect six(6) months from the date of promulgation.

2. (Amendment of other Act) The Space Development Promotion Act will be amended as follows:

Article 15 is deleted.

Edict of the President of Russian Federation about Structure of Management of Space Activity in Russian Federation

For the purposes of effective use of rocket and space complex of Russia in interests of socio-economic development, security and international cooperation of Russian Federation decree:

1. To form the Russian Space Agency (RSA) under the Government of Russian Federation.

To charge the Russian Space Agency with:

realization of state politics in the field of the exploration and use of outer space;

elaboration jointly with Russian Academy of Sciences and interested ministries, departments, organizations and submission to the Government of Russian Federation of draft State Space program of Russian Federation in the part of Space systems, complexes and facilities of scientific, national-economy and defensive destination;

function of general customer of space systems, complexes and facilities of scientific and national-economy destination, being developed pursuant to the State Space program of Russian Federation;

participation in creation and use of space systems, complexes and facilities of dual (military and civil) destination, being developed under defense orders pursuant to the State Space program of Russian Federation;

coordination of commercial space projects and assistance in their realization

development jointly with organizations and by enterprises of research and testing base of cosmonautics, creation of scientific, technical and technological background for perfecting rocket and space technics;

interaction with appropriate bodies of the states - members to the Commonwealth of Independent States and foreign countries in the field of the exploration and use of outer space, as well as ground objects of space infrastructure within the limits of its competence.

2. To nominate Koptev Yuriy Nikolayevich the General Director of Russian Space Agency under the Government of Russian Federation.

To the General Director of RSA in term of two weeks to submit to the Government of Russian Federation for approval the draft regulations of RSA.

3. To admit the proposal of Russian of Academy of Sciences and Ministry of science, higher school and technical politics of Russian Federation as to the creation of the Interdepartment Expert Commission on Space, which is to carry out assessments and selection of projects on space systems, complexes and facilities of scientific and national-economy destination.

President of Russian Federation
B.Yeltsin
Moscow,
The Kremlin
February 25, 1992

Russian Presidential Edict No 2005: „On the Organization of the Further Utilization of the Baikonur Cosmodrome in the Interests of the Russian Federation's Space Activity"

(signed 24 October 1994)

With a view to efficiently utilizing the Baikonur Cosmodrome for the implementation of Russia's space programs and in connection with the signing of the Agreement on the Basic Principles and Conditions of the Utilization of the Baikonur Cosmodrome between the Russian Federation and the Republic of Kazakhstan, I decree that:

1. The Russian Federation Government is to organize the takeover of the Baikonur complex from the government of Kazakhstan and ensure its proper functioning. Proposals for candidacy for the post of head of Leninsk City Administration are to be prepared within one month.

The following provisions are to be made during the formation and amplification of the federal budget:

the allocation of appropriations to pay for the lease of the Baikonur Cosmodrome and the up keep of the city of Leninsk;

the allocation of appropriations to the Russian Space Agency and the Russian Federation Ministry of Defense for expenditure by the Military Space Forces on operational costs and purchases of series-produced equipment for the utilization, maintenance, upgrading, and retooling of the Baikonur Cosmodrome's facilities and the upkeep of servicemen; - the allocation of the necessary volume of capital investment, including for the construction of housing in the Russian Federation for persons discharged from military service after serving with the Russian Federation Armed Forces on the territory of the Baikonur Cosmodrome, and also for employees of enterprises and organizations working in the Baikonur complex on a permanent basis.

2. It is prescribed that the financial, material, and technical support for, and the utilization of, the Baikonur complex facilities used for the implementation of Russian military space programs are to be carried out by the Russian Federation Ministry of Defense (Military Space Forces), and that these functions as regards the implementation of Russia's federal space program are to be carried out by the Russian Space Agency under contracts with industrial enterprises and organizations and the cosmodrome's military units. The financial, material, and technical support of facilities connected with ensuring the proper functioning of the Baikonur complex is to be shared proportionately between the Russian Federation Ministry of Defense (Military Space Forces) and the Russian Space Agency.

3. A special military contingent numbering 16,000 men, including 3,800 officers, and not forming part of the numerical strength of the Russian Federation Armed Forces, is to be maintained from 1 January 1995 through 1 January 1997, from funds allocated to the Russian Space Agency from the federal budget, as part of the Military Space Forces for the implementation of space programs for scientific and national-economic purposes and international cooperation, and also for the utilization of facilities connected with ensuring the proper functioning of the Baikonur complex. The Russian Federation of Defense is to ensure the manning levels of the aforementioned military contingent and provide it with all types of allowance.

4. The Russian Federation Ministry of Defense (Military Space Forces) are charged with the overall coordination of work carried out at the Baikonur Cosmodrome.

5. This edict comes into force on the day it is signed.

The President of
Russian Federation

GOVERNMENT OF RUSSIAN FEDERATION
RESOLUTION of May 15, 1995
N 468 Moscow

About approval of the „Regulations of the Russian Space Agency"

The Government of the Russian Federation resolves:

1. To approve the attached „Regulations of the Russian Space Agency".

2. To declare the Resolution of the Council of Ministers - the Government of the Russian Federation of March 25, 1993 N 250 „On approval of the „Regulations on the Russian Space Agency" (the Collections of Acts by the President and the Government of the Russian Federation, 1993, 14, art.1181) invalid.

The Chairman of the Government of the
Russian Federation
V.CHERNOMYRDIN

Approved
by the Resolution of the Government
of the Russian Federation
on May 15, 1995

Regulations of the Russian Space Agency

1. The Russian Space Agency (RSA) is a federal body of executive power which ensures implementation of the state policy in the field of research and use of outer space for peaceful purposes and fulfilment of the Federal Space Program of Russia. The Russian Space Agency is a state customer for space technology of scientific and economic destination, as well as a co-customer for space technology used both for scientific and economic and also for purposes of defense and security of the Russian Federation, acting in conjunction with relevant federal bodies of

executive power, bodies of executive power of the subjects the Russian Federation, bodies of local self-governing.

2. In its activity the Russian Space Agency acts in accordance with the Constitution of the Russian Federation, federal laws, decrees and orders of the President of the Russian Federation, resolutions and orders of the Government of the Russian Federation, as well as with the present Regulations.

3. The main tasks of the Russian Space Agency are:

pursuing the state policy in research and use of outer space in peaceful purposes;

working out together with the Ministry of Defense of the Russian Federation, the Russian Academy of Sciences, other ministries, departments and organizations concerned, submitting to the Government of the Russian Federation a project of the Federal space program of Russia, state defense order on rocket-and-space technology (in conjunction with the Ministry of Defense of the Russian Federation and other ministries in part related thereto), bringing them to correspondent enterprises and organizations

execution of the duties of the general customer on the development of space systems, complexes and means of scientific and economic destination, including those concerning objects of the ground space infrastructure;

ensuring jointly with the Ministry of Defense of the Russian Federation compilation, placement and implementation of a state defense order, scientific research and experimental design works on rocket and space technology of different destination at enterprises and organizations which are under the management of the Russian Space Agency;

development together with interested ministries and departments of scientific research and testing base of cosmonautics, creation of scientific technical and technological background for improving of rocket and space technology;

ensuring together with the Ministry of Defense of the Russian Federation launches of spacecraft of scientific and economic destination and control over them;

organization of works to perform piloted space flights, as well as to select and train cosmonauts;

cooperation with corresponding bodies of the states - members of the Commonwealth of Independent States and other foreign states in the field of research and use of outer space within its competence;

organization and coordination of works on commercial space projects and assistance in their accomplishment;

forming and ensuring the implementation of the state scientific technical and industrial policy in the field of rocket-and-space technology , elaborating and promoting the fulfilment of the program of development, conversion and structural reforming the rocket-and-space branch;

composing, deploying and ensuring the implementation of the plan of the works to develop and use space technology in scientific and economic purposes, including works on international space projects, as well as procurement and delivery the space technology for the fulfilment of the federal space program of Russia in the established way;

promoting the elaboration and implementation of mobilization plans and tasks, measures of civil defense , plans to collect and replenish material resources of mobilization reserves at the enterprises of the rocket-and-space branch;

ensuring the fulfilment of works on

warranty control, industrial utilization and destroying military rocket and space technology , being put out of operation, which are made at the enterprises of the Russian Space Agency;

introducing new efficient forms of training and retraining personnel under the conditions of conversion and structural reforming of industries;

ensuring industrial and ecological safety at the enterprises and organizations, which are under the management of the Russian Space Agency;

issuing licenses for conducting space activities;

organization of certifying space technology of scientific and economic destination.

4. In accordance with the assumed tasks the Russian Space Agency:

organizes comprehensive researches on substantiating the main directions of the development of rocket-and-space technology of different destination and on determining their tactical and technical parameters;

determines together with ministries, departments and organizations concerned the priority scientific research and experimental design works, volumes of purchases and deliveries of space technology, capital investments for the fulfilment of the Federal space program of Russia, participates jointly with Ministry of Defense of Russian Federation in analogous works, which are conducted in the purpose of fulfilling a long-term program of creation and use of space technology of military destination and state defense order;

prepares on the basis the Federal Space Program of Russia and submits to the Ministry of economics of the Russian Federation and the Ministry of Finance of the Russian Federation the proposals on the budget of the Russian Space Agency for a coming year;

ensures consideration of a project of the Federal Space Program of Russia and a project of the budget application of the Russian Space Agency for a coming year at the Interdepartmental expert commission on space and organizes further consideration of these projects taking into account the recommendations of the Commission;

issues coordinated with ministries and departments concerned, the technical assignments for scientific research and design engineering works, the customer of which is the Russian Space Agency;

ensures together with ministries and departments concerned the implementation of scientific research and design engineering works on space technologies of scientific and economic destination, buys it and together with the Ministry of Defense of the Russian Federation ensures the operation of this technologies;

finances capital construction of ground objects of space infrastructure of civil purposes and together with the Ministry of Defense of the Russian Federation those of dual purpose (under shared financing) and also the objects of ground experimental base and objects of the enterprises and organizations, which are under the management of the Russian Space Agency, in accordance with the Federal Space Program of Russia, the long-term program of development and use of space technology of military destination, state defense order;

works out proposals on shared financing of scientific research, experimental and design engineering works on rocket-and-space technology of different destination;

works out the annual plan of launchings of space vehicles of scientific, economic and dual destination in conjunction with the ministries, departments and organizations concerned, and approves it together

with the Ministry of Defense of the Russian Federation;

submits proposals on adoption for operation of scientific and economic space systems and complexes, coordinated with the Ministry of Communications of the Russian Federation and other ministries and departments concerned, to the Government of the Russian Federation;

submits proposals on adoption for operation and armament of space systems, complexes and rocket complexes of dual destination, where the Russian Space Agency and this Ministry acts as state customers, together with the Ministry of Defense of the Russian Federation, to the Government of the Russian Federation;

adopts space civil facilities (except space systems and complexes) for operation coordinated with the Ministry of Defense of the Russian Federation;

ensures forestalling elaboration of new technologies, materials and scientific and technical background for the development of perspective samples of rocket and space technology together with the Ministry of Defense of the Russian Federation;

in accordance with the legislation in force approves normative-technical documents determining the order of development, tests and operation of space technology obligatory for execution by all enterprises and organizations participating in the realization of the Federal Space Program of Russia, the long-term program of development and use of space technology of military destination and state defense order, together with the Ministry of Defense , the State Committee of the Russian Federation on defense branches of industry and upon coordination with other ministries and departments concerned;

ensures maintenance and development of cosmodromes, flight control centres, command-telemetry complexes and other ground-based objects of space infrastructure used for the realization of the Federal Space Program of Russia, annual plans of launchings and flights of space vehicles of different destination, together with the Ministry of Defense of the Russian Federation on a shared basis, with other interested ministries and departments;

ensures maintenance and development of the objects of ground experimental base which is necessary for mastering of space technology;

works out proposals on issues of safety, pursues at the enterprises and organizations, which are under the management of the Russian Space Agency, a single policy in the sphere of state secrets protection and preservation of commercial secrets;

participates in organization of works on the use of strategic missiles systems to be reduced and eliminated, as launchers of various civil space devices together with the Ministry of Defense of the Russian Federation and other ministries and departments concerned;

forms coordination councils on directions of the development of space technology for peaceful purposes subject to conciliation with the ministries and departments concerned;

attracts non-budget financial resources for the realization of the Federal Space Program of Russia and for the accomplishment of other works related to the competence of the Russian Space Agency in accordance with the present Regulations;

according to the established procedure concludes treaties with foreign partners on the accomplishment of international space programs and projects (including those on a commercial basis) to be realized under financial or other support of the Russian Federation;

keeps contacts with corresponding bodies of the countries-members of the Commonwealth of Independent States for realization of the Agreement on Joint Activities in the Exploration and Uses of Outer Space in Peaceful Purposes;

ensures the realization of international obligations of the Russian Federation in the field of space activity, the development of mutually beneficial cooperation with organizations of foreign countries, together with the Ministry of Defense of the Russian Federation, State Committee the Russian Federation on defense branches of industry and other ministries and departments concerned;

conducts negotiations to conclude international agreements in the field of exploration and uses of outer space for peaceful purposes, together with the Ministry of Foreign Affairs of the Russian Federation and other ministries and departments concerned;

within the limits of its competence concludes international agreements with corresponding organizations of foreign countries;

represents the Russian Federation in the Inter-state space council of the Commonwealth of Independent States;

keeps up the Register of space objects of the Russian Federation, presents the information about space objects launched in Russia to the United Nations Organization;

participates in preparation of standards on issues of development and operation of space technology, as well as normative documents on safety requirements during the development, tests and operation of civil space technology;

accomplishes public information ensuring, organizes rocket-and-space technology shows, preparation and publication of scientific and technical literature on cosmonautics together with the ministries and departments concerned;

works out projects of legislative and other normative acts regulating activity on the exploration and uses of outer space, together with the Ministry of Defense of the Russian Federation and other ministries and departments concerned;

acquires, leases, sales, constructs, reconstructs and operates space and other civil and dual purpose technology (including spacecraft and carrier-rockets) buildings and facilities, other property, acquires patents, licenses, „know-how";

concludes agreement (contracts) on the fulfilment of basic researches, scientific, experimental, design engineering and technological works, works connected with operation of space technology, launching of space vehicles, maintenance and development of the ground space infrastructure and experimental base, capital constructions and the fulfilment of other tasks assigned to the Russian Space Agency;

within the limits of its competence represents the Russian Federation in international organizations acting in the field of exploration and uses of outer space;

conducts state regulation and coordination of the activities of enterprises and organizations on research, development, production and delivery of rocket-and-space technology of different destination, as well as on rendering services in the field of space activities to foreign organizations and firms;

participates together with the Ministry of Defense of the Russian Federation, other ministries and departments concerned in elaborating proposals on the insurance of defense capability the Russian Federation and control over the fulfilment of international treaties with the use of space means;

promotes the elaboration and implementation of mobilization plans and tasks,

measures of civil defense , plans to collect and replenish material resources of mobilization reserves with the aim to ensure a stable functioning of enterprises and organizations of the rocket-and-space branch in emergency period and under martial law;

elaborates and conducts the technical policy, aimed at ensuring healthy and safe labour conditions at the enterprises and organizations, which are under the management of the Russian Space Agency;

exercises within its competence control over using the budgetary means, conversion and investment credits, means of non-budget fund, as well as elaborates and submits, subject to the established procedure, proposals on formulation and implementation of tax, financial, credit, price policy and on other questions connected with scientific and production, social and economic activities of the enterprises and organizations of the rocket-and-space branch;

participates in elaboration and implementation of privatization program, in stimulating entrepreneurial activities and competition;

promotes in conjunction with the interested ministries, departments, enterprises and organizations marketing investigations, elaborates long-term and short-term prognosis of the developments of the rocket-and-space branch;

undertakes the expertise and approve projects of construction, enlargement and technical re-equipment of the enterprises and organizations, which are under management of the Russian Space Agency;

undertakes measures for legal protection of objects of intellectual property and also represents the state interests while solving issues of using such objects, created at the expense of the federal budget.

5. The Russian Space Agency is granted with the rights:

to request and obtain from federal bodies of executive power, enterprises and organizations the information necessary for the fulfilment of the tasks assumed thereon;

to issue within its competence and subject to the procedure established by the legislation in force, normative acts and to exercise control over their observance;

to exercise control over the stipulated and efficient using by the subordinate enterprises and organizations of budgetary means allocated to them;

to publish bulletins and other scientific and technical materials on rocket-and-space themes;

to open foreign offices, according to the established procedure;

to enlist experts for caring out consultations, preparation and consideration of corresponding questions on a contractual basis, to form provisional creative collectives and working groups for solution of some scientific-and-technical issues;

to perform foreign economic activities according to the procedure established by the legislation;

in accordance with established procedure, to send employees of the Russian Space Agency to official trip abroad and to receive foreign specialists at the Russian Space Agency for resolution of issues connected with their activities;

to perform international telephone, telex and facsimile communications according to the established procedure for the solution of the tasks the Russian Space Agency.

6. The Russian Space Agency possess exclusive rights to use and dispose scientific and technical products and „know-how" in the field of space technology created in accordance with the agreements concluded by the Russian Space Agency (if agreements do not envisage otherwise) and also prod-

ucts and „know-how" created before as a scientific and technical background on space technology of scientific and economic destination.

7. The Russian Space Agency is headed by a Director General to be appointed and relieved by the President of the Russian Federation with the submission of the Chairman of the Government of the Russian Federation.

8. Deputies of the Director General are appointed and relieved by the Government of the Russian Federation. Distribution of duties between the deputies is exercised by the Director General.

9. The financing of Russian Space Agency staff is accomplished at the expense of federal budget to be used for upkeeping of central bodies of the federal executive power of the Russian Federation.

10. The General Director of the Russian Space Agency:

directs activities of the Agency;

bears personal responsibility for implementation by the Agency of tasks charged with, sets up a degree of responsibility of its deputies and leaders of agency structural divisions for directing separate spheres of its activities and work of subordinate organizations and enterprises;

approves structure, staff composition and regulations on the agency's structural divisions;

appoints and relieves leaders of structural divisions and other employees of the central staff of the Russian Space Agency;

appoints and relieves chiefs of enterprises and organizations, which are under the management of the Russian Space Agency;

within the limit of its competence and in accordance with acting legislation independently and when it is necessary together or subject to conciliation with other ministries and departments of the Russian Federation, issues orders and instructions obligatory for execution by the enterprises and organizations, which are under the management of the Russian Space Agency;

establishes decorations of the Russian Space Agency and rewards the employees of organizations and enterprises, which are under the management of the Russian Space Agency, as well as other persons, who actively participated in development of space technology and in works on exploration and use of outer space.

11. A board, comprising the Director General (chairman), his deputies ex-officio and also other leading employees of the Agency, is formed in the Russian Space Agency.

Members of the board of the Russian Space Agency, except persons included into the staff due to their duty, shall be nominated by the Government of the Russian Federation.

12. The board of the Russian Space Agency considers at its sessions the most important questions of provision of the works in the field of exploration and uses of outer space, of Agency activities and functioning of its structural divisions, of selection, arrangement and mastering of staff, social-and-economic development of the organizations and enterprises of the Agency and also other problems concerning its competence. Decisions of the board are put into practice by the orders of the Director General of the Russian Space Agency.

13. To pursue a single technical policy while creating space systems and complexes, working out recommendations on taking account of modern achievements of science and technology s while developing, testing and operation of perspective space equipment, a scientific and technical council is formed at the Russian Space Agency.

Members of the council include: leading employees, scientists, designers, highly skilled specialists of the Agency, the State Committee of the Russian Federation on defense branches of industry, the Russian Academy of Sciences, the Ministry of Communications of the Russian Federation, the Ministry of Defense of the Russian Federation, other central bodies of federal executive power concerned and also of enterprises and organizations of rocket-and-space industry, representatives of public organizations and independent experts. The staff of the scientific and technical Council and the regulations thereof are approved by the General Director of the Russian Space Agency.

14. The Russian Space Agency has its current and other banking accounts.

15. The Russian Space Agency is a legal entity and has its seal with the picture of the Russian Federation State insignia and with its appellation.

Decree No 422, „On Measures to Fulfil the Russian Federal Space Program and International Space Agreements"

Government of the Russian Federation, 12 April 1996

In order to further space activity and international cooperation in this area, the Government of the Russian Federation resolves:

1. To note that jointly with the Russian Academy of Sciences, the Russian Federation Ministry of Defense, the Russian Federation Ministry of Communications, the Russian Federation Ministry of Foreign Affairs and other federal bodies of executive government, the Russian Space Agency successfully fulfilled the Mir-Shuttle Russian-American manned spaceflight program and other projects planned under the Russian Federal Space Program and initiated the work of creating an international space station.

2. To approve the work schedule for 1996 under the Mir-NASA program foreseen by the Agreement Between the Russian Federation and the United States of America on Cooperation in Peaceful Exploration and Exploitation of Space, signed during the Sixth Session of the Russian- American Commission on Economic and Technological Cooperation, and foreseeing: launching and docking of Soyuz-TM manned spacecraft with the Mir orbiting station in July and December 1996; launching and docking of the Priroda special-purpose module with the Mir orbiting station in April 1996; launching and docking of Progress-M transport spacecraft with the Mir orbiting station in April, June, July and October 1996; docking of the American Shuttle reusable spacecraft with the Mir orbiting station in March, August and December 1996.

3. That jointly with the Russian Academy of Sciences, the Russian Federation Ministry of Defense, the Russian Federation Ministry of Finance, the Russian Federation Ministry of Economics and other interested federal bodies of executive government, the Russian Space Agency shall take the necessary steps to ensure fulfillment of the Russian federal program and international space agreements in 1996. To treat prompt and high-quality fulfillment of work under the Mir-NASA and Mars-96 international space programs and the efforts to create the international space station as a task of special state importance. To take under advisement that in order to complete these projects, the Russian Space Agency will attract additional resources by concluding international contracts to transport representatives of foreign countries to the Mir orbiting station.

4. To approve the attached schedule for the financing of the expenses of the Russian Space Agency on the Russian Federal Space Program in 1996.

That the Russian Space Agency shall additionally conclude state contracts (agreements) to complete scientific research and experimental design work in 1996, and to purchase series-manufactured equipment under the Russian Federal Space Program amounting to 1,110 billion rubles [R] over and above resources foreseen by Decree No 227-15, 2 March 1996 of the Government of the Russian Federation, and within the limits of appropriations foreseen for the Russian Space Agency by articles 16 and 17 of the Federal Law „On the Federal Budget for 1996."

To grant the Russian Space Agency permission to attract specific-purpose credits from commercial banks (banking consortiums) under the guaranty of the Russian Federation Ministry of Finance in 1996 for the purpose of ensuring continuity of financing of developments and production of space equipment under the Russian Federal Space Program, for a term of not less than 3 months and in the amount of R700 billion, including R200 billion in March and R200 billion in the second quarter of 1996, according to procedure established by Decree No 227-15, 2 March 1996 of the Government of the Russian Federation.

To establish that the Russian Federation Ministry of Finance shall use resources foreseen by the 1996 federal budget for the Russian Space Agency to repay credits from commercial banks (banking consortiums) attracted to finance development and production of space equipment under the Russian Federal Space Program in 1996, and interest on them. That the Russian Federation Ministry of Economics and the Russian Space Agency shall submit, to the Government of the Russian Federation within a week's time by the established procedure, proposals on updating state orders for 1996 under the Russian Federal Space Program.

5. That beginning in 1997, in drafting the federal budget, the Russian Federation Ministry of Finance and the Russian Federation Ministry of Economics shall foresee allocation of specific-purpose credits to the Russian Space Agency for maintenance of facilities of the Baykonur Cosmodrome, the Russian State Scientific Research and Testing Center for Cosmonaut Training imeni Yu. A. Gagarin, and scientific research vessels.

That resources allocated to the Russian Space Agency in 1996 to maintain and operate facilities of the Baykonur Cosmodrome in the form of subsidies for the maintenance of the infrastructure of the city of Leninsk shall be considered when forming the basic indicators taken into account in budget calculations.

6. That beginning in 1997 the Russian Federation Ministry of Economics shall

foresee capital investments into reconstruction and reequipment of facilities of the Baykonur Cosmodrome and the Russian State Scientific Research and Testing Center for Cosmonaut Training imeni Yu. A. Gagarin, in its calculations of expenses on the Russian Federal Space Program when preparing drafts of the federal budget.

7. To agree with the proposal of the Russian Federation Ministry of Economics, the Russian Federation Ministry of Finance and the Russian Space Agency to apply a reduction factor of 0.2 to actual depreciation in 1996 when calculating wear (depreciation deductions) of fixed capital (including the unique testing base) of scientific organizations and enterprises administered by the Russian Space Agency, of the main developing enterprises, and of manufacturers of rocket and space equipment.

8. To recognize as no longer effective the second paragraph of item 1 of Attachment No 1 to Decree No 1282, 11 December 1993 of the Council of Ministers and Government of the Russian Federation „On State Support of Space Activity in the Russian Federation" (SOBRANIYE AKTOV PREZIDENTA I PRAVITELSTVA ROSSIYSKOY FEDERATSII, No 51, 1993, Article 4992).

9. That the Russian Federation Ministry of Economics and the Russian Federation Federal Energy Commission shall consider, within a month's time, proposals of the Russian Space Agency regarding the list of enterprises and organizations participating in the Russian Federal Space Program to be supplied fuel and energy resources without limit or cessation, and submit them to the Government of the Russian Federation.

10. That jointly with the Russian Federation Ministry of Finance, the Russian Federation Ministry of Fuel and Power Engineering and the Russian Space Agency, the Russian Federation Ministry for Cooperation With Member States of the CIS shall submit, within a month's time to the Government of the Russian Federation, proposals on the procedure for reimbursable payment by the Russian Federation and the Republic Kazakhstan for electric power used by the Baykonur complex, and to resolve the matter of paying off the amount owed by the Baykonur complex to the Republic of Kazakhstan for electric power in 1994-1995.

11. That jointly with the Russian Federation Ministry of Defense, the Russian Federation Ministry of Finance and the Russian Federation Ministry of Economics, the Russian Space Agency shall submit, within 3 month's time to the Government of the Russian Federation, proposals on improving operation of the Baykonur Cosmodrome and on the procedure for maintaining, after 1 January 1997, the special military contingent foreseen by Edict No 2005, 24 October 1994 of the President of the Russian Federation „On Organizing Further Use of the Baykonur Cosmodrome in the Interests of the Russian Federation's Space Activity."

[signed] Chairman of the Government of the Russian Federation
V. Chernomyrdin

LAW of the RUSSIAN FEDERATION „ABOUT SPACE ACTIVITY" Decree No. 5663-1 of the Russian House of Soviets

The exploration of outer space, which began in Russia, opens up new prospects for global civilization. In Russian Federation the exploration and use of outer space, including the Moon and other celestial bodies, is one of the most important directions of activities in the interests of citizens, society and state. The present Law is intended to provide legal regulation for space activities and stimulates the application of the potential of space science and industry for solving socio-economic, scientific, technical and defense task of Russian Federation.

Section 1. GENERAL PROVISIONS

Article 1. Legislation of Russian Federation on Space Activity

1. The present Law shall lay down legal and organization foundations of space activities under the jurisdiction of Russian Federation.

2. Space activities under the jurisdiction of Russian Federation shall also be regulated by other laws and normative acts of Russian Federation issued in accordance with the Constitution of Russian Federation and this Law.

Article 2. The Concept of Space Activity

1. For purposes of this Law space activity shall be defined as any activity immediately connected with operations to explore and use outer space, including the Moon and other celestial bodies. Space activity shall include:

space researches;

remote sensing of the Earth from outer space, including environmental monitoring and meteorology;

use of navigation, topographical and geodesic satellite systems;

piloted space missions;

manufacturing of materials and other products in outer space;

other kinds of activity performed with the aid of space technology.

2. Space activity comprises creating (including development, manufacture and test), as well as using and transferring of space techniques, space technology, other products and services necessary for carrying out space activity.

Article 3. Goals and Purposes of Space Activity

1. Space activity shall be carried out with the goal of promoting the well-being of the citizens of Russian Federation, the development of Russian Federation and ensuring its security, as well as solving global problems of mankind.

2. Main tasks of space activity under the jurisdiction of Russian Federation shall be:

providing access to outer space;

studying of the Earth and outer space;

developing science, techniques and technologies, enhancing economic efficiency;

ensuring defense capabilities of Russian Federation and control over the implementation of international treaties concerning armaments and armed forces.

Article 4. The Principles of Space Activity

1. Space activity shall be carried out in conformity with the following principles:

the equal right of the organizations and citizens of Russian Federation to participate in space activity;

access to information about space activity;

use of the results of space activity in the interests of customers with due regard to the rights of organizations and citizens participating in space activity;

introduction of the achievements of space science and technology into national economy;

restriction of monopolistic activity and the development of entrepreneurial activity;

independence of expertise on issues of space activity;

provision of safety in space activity, including protection of the environment;

promotion of international cooperation in the field of space activity;

international responsibility of the state for space activity performed under its jurisdiction.

2. In order to ensure strategic and ecological security it is prohibited in Russian Federation:

to put into the orbit around the Earth or to deploy in outer space otherwise nuclear weapons and any other kinds of weapons of mass destruction;

to test nuclear weapons and any other kinds of weapons of mass destruction in outer space;

to use space objects and other space technology as a tool to influence the environment for military and other hostile purposes;

to use the Moon and other celestial bodies for military purposes;

to create deliberate immediate threat to safety of space activity, including safety of space objects;

to create harmful contamination of outer space which leads to unfavourable changes of the environment, including deliberate elimination [destruction?] of space objects in outer space.

Other space activity under the jurisdiction of Russian Federation, which is prohibited by international treaties of Russian Federation, is not allowed as well.

3. Space activity, as well as dissemination of information on space activity shall be carried out with the observation of the requirements, stipulated by the legislation of Russian Federation, on the protection of intellectual property rights, state (including military) and commercial secret.

4. General information about space activity, which is subject to point 3 of present Article, including the data:

about plans of launching of space objects and their changes;

about space projects and the course of their realization;

about budget allocations for space activities;

about incidents and accidents while carrying out space activity and the damage because of such accidents

shall be disseminated without restrictions.

Section II. ORGANIZATION OF SPACE ACTIVITY

Article 5. Competence of Bodies of State Power and Administration

1. In Russian Federation space activity pertains to the competence of federal bodies of state power and administration.

2. The Supreme Soviet of Russian Federation shall determine the space policy of Russian Federation, including:

adoption of legislative acts, regulating space activity;

adoption of the Federal Space Program of Russia;

exercising control over the fulfilment of the Federal Space Program of Russia and

spending the state means allotted for space activity;

ratification of international treaties of Russian Federation on issues of space activity;

resolve other issues, within its competence, arising in the pursuit of space activity.

3. The President of Russian Federation shall be responsible for the implementation of space policy of Russian Federation, including:

issuing of Edicts and executive orders necessary for carrying out space activity;

supervising of activities of Council of Ministers - the Government of Russian Federation to implement the Federal Space Program of Russia and on other issues related to carrying out of space activity;

resolving, within his competence, other issues arising in the pursuit of space activity.

4. Council of Ministers - the Government of Russian Federation shall ensure the supervision of space activity, including:

issuing of Decrees and Executive Orders necessary for carrying out of space activity;

considering of the draft Federal Space Program of Russia as proposed by the Russian Space Agency, the Ministry of Defence of Russian Federation, the Russian Academy of Sciences and other state customers for works to create and use space technology;

submit to the Supreme Soviet of Russian Federation the draft Federal Space Program of Russia and proposals on financing of space activity;

approve the Regulations of Russian Space Agency;

undertake measures to protect interests of Russian Federation, as well as Russian organizations and citizens in the field of space activity;

resolve within its competence other issues arising in the pursuit of space activity.

5. Republics within Russian Federation, autonomous region, autonomous areas, territories, regions and cities of Moscow and St.Peterburg shall participate in the exercise of powers to regulate space activity provided for by this Law.

Article 6. The Russian Space Agency

1. The Russian Space Agency shall be a body of federal executive power responsible for carrying out space activity in scientific and national-economy purposes under the jurisdiction of Russian Federation in accordance with the space policy of Russian Federation.

2. The Russian Space Agency shall, within its competence:

elaborate a draft Federal Space Program of Russia in coordination with the Ministry of Defence of Russian Federation, the Russian Academy of Sciences and other state customers of works in creation and use of space technology;

form and place a state order for works in creation and use of space technology for scientific and national- economy purposes, including works under international space projects;

participate in coordination with the Ministry of Defence of Russian Federation in placing the state order for works in creation and use of space technology, used both for scientific and national-economy purpose and for purposes of defence and security of Russian Federation;

ensure, in coordination with the Ministry of Defence of Russian Federation and other ministries and departments of Russian Federation the exploitation, maintenance and development of ground and other objects of space infrastructure for scientific and national-economy purposes;

issue licenses for the types of space activity;

organize certification of space technology ;

provide space activity with necessary normative technical documentation;

ensure, in conjunction with corresponding state services, the safety of space activity;

interact with the organizations and agencies of foreign states, as well as international organizations on questions of space activity and enter into appropriate international agreements;

perform other functions, as defined by Council of Ministers - the Government of Russian Federation.

3. The Russian Space Agency may create its territorial agencies in order to fulfil its functions, taking into account interests of subjects of Russian Federation in use of results of space activity.

Article 7. Space Activity for Purposes of Defense and Security of Russian Federation.

1. Space activity for purposes of defense and security of Russian Federation shall be pursued by the Ministry of Defense of Russian Federation which shall be responsible for the implementation of the long-term program and annual plans of works to create and use military space technology in conjunction with other ministries and departments of Russian Federation.

2. The Ministry of Defence of Russian Federation shall within its competence:

elaborate draft program and annual plans of works to create and use military space technology and, in conjunction with the Russian Space Agency of space technology applied for both scientific and national-economy purposes and for the purposes of defense and security of Russian Federation;

form and place the state order for works to create and use military space technology and, in conjunction with the Russian Space Agency space technology applied both for scientific and national-economy purposes and for purposes of defense and security of Russian Federation;

use space technology for purposes of defense and security of Russian Federation;

perform exploitation of space technology for scientific and national-economy purposes on a contractual basis;

ensure, jointly with the Russian Space Agency and other ministries and departments of Russian Federation, the maintenance and development of ground and other objects of space infrastructure;

provide space activity with necessary normative technical documentation;

participate in the certification of space technology on a contractual basis;

ensure, in conjunction with corresponding state services, safety of space activity;

perform other functions established by Council of Ministers - the Government of the Russian Federation.

3. The Ministry of Defence of Russian Federation shall have the right to temporarily transfer idle objects of space infrastructure under its jurisdiction to the Russian Space Agency on a contractual basis to be used for space activity for scientific and national-economy purposes.

Article 8. Federal Space Program of Russia

1. The Federal Space Program of Russia shall be the document on the basis of which the state order for the creation and use of space technology for scientific and national-economy purposes shall be formed. The procedure of interaction of the Russian Space Agency and the Ministry Defence of Russian

Federation in elaboration and approval of the Federal Space Program of Russia and the long-term program and annual plans of works to create and use military space technology shall be determined by the legislation of Russian Federation.

2. The Federal Space Program of Russia shall be elaborated taking into account:

established goals, tasks and principles of space activity;

interests of the subject of Russian Federation;

economic situation in the country;

condition of space science and industry;

need for a comprehensive development of the space and the ground segments of space infrastructure;

interests of users and producers of space technologies;

situation and trends in the development of cosmonautics;

conditions in the world space market;

international obligations of Russian Federation and the task to expand international cooperation.

3. The Federal Space Program of Russia shall be elaborated in accordance with the results of a competition of space projects submitted by the ministries and departments of Russian Federation, organizations and citizens concerned.

The procedure and terms for holding competitions of space projects for scientific and national-economy purposes shall be determined by the Russian Space Agency with the participation of the Russian Academy of Sciences and other customers of works in creation and use of space technology.

4. General information about the Federal Space Program of Russia and annual reports on its implementation shall be published in the press.

Article 9. Licensing of Space Activity

1. This Law shall establish a licensing (permission) procedure for the pursuit of space activity in scientific and national-economy purpose.

2. Subject to licensing shall be space activity of organizations and citizens of Russian Federation or space activity of foreign organizations and citizens under the jurisdiction of Russian Federation, if such activity includes tests, manufacture, storage, preparation for launching and launching of space objects, as well as control over space flights.

3. Types, forms, and terms of licenses, the conditions and procedures for their issue, withholding, suspension or termination, as well as other questions of licensing shall be regulated by the legislation of Russian Federation.

4. Carrying out space activity by an organization or a citizen without a license or in wilful violation of the terms of the license shall be punishable by virtue of the legislation of Russian Federation.

5. The actions of the state bodies to license space activity may be claimed in the court of law or in the arbitration tribunal.

Article 10. Certification of Space Technology

1. Space technology, including space objects, ground and other objects of space infrastructure created for scientific and national-economy purposes, shall be checked for the compliance with the requirements establish by the legislation of Russian Federation (certification).

Equipment used in the creation and use of space technology may also be subject to certification.

2. Upon the completion of the certification procedure a certificate shall be issued to each sample of space technology .

The types, forms and terms of certifi-

cates, the terms and procedures for the issue, withholding, suspension or termination thereof, as well as other questions of certification shall be regulated by the legislation of Russian Federation.

3. The certification agencies, manufacturers of space technology and corresponding officials violating the rules of certification of space technology shall be responsible by virtue of the legislation of Russian Federation.

Article 11. Expertise on Issues of Space Activity

1. Decisions on the following issues connected with the pursuit of space activity shall be taken on the basis of expertise:

inclusion of a project into the Federal Space Program of Russia;

adoption of the Federal Space Program of Russia;

issuing of licenses for space activity;

issuing of certificates for samples of space technology as well as equipment used in the creation and use of space technology;

categorizing space technologies as products whose export shall be banned or restricted;

review of competitions of space projects;

identification of the cause of accidents in the pursuit of space activity;

other questions as determined by Council of Ministers - the Government of Russian Federation.

2. For the purposes of expertise the Supreme Soviet of Russian Federation, Council of Ministers - the Government of Russian Federation, the Russian Space Agency or other body making a decision on issues connected with space activity shall form expert commissions from amongst specialists not concerned about the result of the expertise

3. The procedure for the formation and work of expert commissions shall be determined by the legislation of Russian Federation.

4. The conclusion of an expert commission shall not be binding on the body making a decision on issues connected with space activity.

The responsibility for such decision that does not accord with the conclusion of the expert commission shall rest with the chief executive officer of the body making the decision.

The members of the expert commission shall be responsible for the accuracy and validity of their findings

Section III. ECONOMIC CONDITIONS OF SPACE ACTIVITY

Article 12. Financing of Space Activities and Foreign Investments

1. Financing of space activity for scientific and national-economy purposes shall be executed from the republican budget of Russian Federation in accordance with the Federal Space Program of Russia and figured in the republican budget of Russian Federation as a separate item.

Financing of space activity for purposes of defence and security of Russian Federation shall be provided by the republican budget of Russian Federation as a part of defense expenditures.

2. Space activity shall be financed from the republican budget of Russian Federation in purpose-oriented manner through state customers of works in creation and use of space technology and shall be distributed between contractors in accordance with state contracts.

The state customer and the contractor shall have the right to resort to non-budget sources of financing, including their own re-

sources, provided this does not contradict to objectives of the space project.

3. Organizations and citizens involved in the implementation of space projects shall be, according to the established procedures, granted with state guarantees, soft credits, tax exemptions and other necessary privileges.

4. Foreign investments into space activity falling within the framework of the Federal Space Program of Russia, shall be guaranteed by the budget of Russian Federation, as well as by the assets and other property of Russian Federation.

Foreign investments in space activity of organizations and citizens of Russian Federation shall be guaranteed by their assets or by their intellectual or other property.

Article 13. The Russian Space Fund

1. The Russian Space Fund shall be established with the aim to support and promote space science and industry.

2. The assets of the Russian Space Fund shall be provided by:

allocations from the republican budget of Russian Federation granted on a purpose-oriented basis as part of the financing of the Federal Space Program of Russia;

extra-budgetary funds created by state customers for works to create and use space technology ;

part of the profit received by organizations and citizens at the expense of tax exemption granted in connection with space activity;

profit resulting from the realization of space projects financed by the Russian Space Fund;

insurance payments made by organizations and citizens involved in space activity in the form of obligatory or voluntary insurance;

voluntary contributions of Russian and foreign organizations and citizens.

The order of accumulation and spending of the resources of the Russian Space Fund shall be laid down in the Statutes of the Russian Space Fund.

3. The resources of the Russian Space Fund shall be directed towards financing the Federal Space Program of Russia in coordination with the Russian Space Agency and other customers for works to create and use space technology, towards supporting space projects involving innovation and military conversion, as well as towards projects to use of the results of space activity, among others, for promoting science, education and culture.

In the distribution of the resources of the Russian Space Fund priority shall be given to ground-breaking research projects and high efficiency economic, social and other projects.

The resources of the Russian Space Fund shall also be employed to ensure risks connected with space activity and to eliminate the after-effects of accidents, that may result from such activity.

4. The Russian Space Fund shall operate in accordance with the Statutes approved by Council of Ministers - the Government of Russian Federation in coordination with the Supreme Soviet of Russian Federation

Article 14. Creation of Space Technology

1. The state order for the creation of space technology shall be formed and placed in accordance with the Federal Space Program of Russia and the long-term program and annual plans of works to create and use military space technology.

2. The works under the state order shall be carried out in accordance with the technical assignment approved by the state customer, which shall form grounds for the

conclusion of the state contract between the state customer and the contractor.

3. Property rights over space technology shall be transferred to the customer from the moment of signing the acceptance certificate, unless otherwise stipulated by the relevant agreement.

The rights of organizations and citizens involved in the creation of space technology to further utilize such technology shall be specified in agreements, concluded by these organizations and citizens with the customer of the works

4. Mixed companies shall be allowed to act as contractors under the state order, provide that the share of foreign capital in their statutory fund does not exceed 49 percent.

Contractors under the state order shall be allowed to involve foreign organizations and citizens as subcontractors, and shall be responsible for fulfilment of their obligations by the latters.

Article 15. Use and Transfer of Space Technology

1. Space technology shall be allowed to be used according to its purpose, pending on its putting into exploitation.

The order of using space technology for testing and the order of its putting into exploitation shall be stipulated by the legislation of Russian Federation.

2. The use of space technology shall be effected by the proprietor of such technology or by other organizations and citizens upon agreement with the proprietor.

3. Components of space technology may belong to several organizations and citizens, unless this disrupts the operational regime of the functioning of such space technology.

Procedures for the use of space technology, components of which belong to several organizations and citizens, shall be governed by contracts between such organizations and citizens.

4. An organization exploiting space technology, which is in federal ownership shall provide, on a contractual basis, opportunities for the use of such technology by any interested organization and citizen. In concluding agreements for the use of space technology, which is in federal ownership preference shall be given to project under the Federal Space Program of Russia, and also to organizations and citizens of Russian Federation that offer more beneficial terms of such use.

5. Space technology taken out of operation may be transferred to organizations whose main line of activities is directed at using the results of space activity in purposes of education and culture. Such technology may also be sold to organizations or citizens on a contractual basis.

Article 16. Use of Space Technologies and Results of Space Activity

1. The use and transfer of space technology shall be effected with respect to the rights of intellectual property that are protected by the legislation of Russian Federation.

2. The fulfilment of the works to create space technology, including those under the state order, shall not bind the contractor to transfer technologies to the customer, unless otherwise specified by the agreement between the contractor and the customer.

3. Procedures and terms of the use of technologies developed while fulfilling the works in creation and use of space technology, legal protection of which is not stipulated by the legislation of Russian Federation, shall be established under agreements between the interested organizations and citizens.

4. The property rights over the physical

product created in outer space shall belong to the organizations and citizens possessing property rights in the components of space technology , with the use of which such product has been created, unless otherwise specified by relevant agreements.

The property rights over the information product created as a result of space activity shall belong to the organizations and citizens, that have created such information product, unless otherwise specified by relevant agreements.

The property rights of other organizations and citizens participating in space activity, in particular by providing transportation and other services, shall be stipulated by relevant agreements.

Section IV. SPACE INFRASTRUCTURE

Article 17. Space Objects

1. Space objects of Russian Federation shall be subject to registration and shall have markings certifying their appurtenance to Russian Federation.

2. Russian Federation shall retain jurisdiction and control over space objects registered in it, during the ground time of such objects, at any stage of a space flight or stay in outer space, on celestial bodies and also on return to the Earth outside the jurisdiction of any state.

3. The rights of ownership over space objects shall remain unaffected, during the ground time of such objects, at any stage of a space flight or stay in outer space, on celestial bodies and also on return to the Earth, unless otherwise specified in international treaties of Russian Federation.

4. If a space object is designed and manufactured by Russian organizations and citizens jointly with foreign organizations and citizens or international organizations, the issues of the registration of such object, the jurisdiction and control thereover and also the issues of the rights of ownership thereof shall be decided on the basis of the appropriate international treaties.

5. The rights of jurisdiction and control over space objects, as well as of ownership thereof shall not affect the legal status of the area of outer space or the surface or subsoil of a celestial body occupied by it. In direct proximity to a space object of Russian Federation within the zone minimally necessary for ensuring safety of space activity, rules may be established that shall be binding for Russian and foreign organizations and citizens.

Article 18. Ground and Other Objects of Space Infrastructure

1. The ground and other objects of space infrastructure in Russian Federation shall consist of:

cosmodromes;

launching complexes and installations;

instrumentation and command complexes;

space objects flight control centers and points;

space equipment storage bases;

areas of fallout of separating parts of space objects;

space objects landing grounds and runways;

experimental base facilities for the creation of space technology ;

cosmonaut training centers and equipment;

any other ground facilities and equipment used for carrying out of space activities.

Ground and other objects of space infrastructure, including mobile, shall be considered as such to the extent that they are used for ensuring or carrying out space

activity.

2. The ground and other objects of space infrastructure, which are in federal property, shall be under the authority of state organizations in charge of their operation.

The transfer of ground and other objects of space infrastructure, which are in federal property, under the authority, ownership or leaseholding of other organizations shall only be permitted in the manner specified by the legislation of Russian Federation.

3. The allotment of slots of land for ground and other objects of space infrastructure and the right-of-way zones adjacent thereto shall be made by bodies of state power and administration of relevant subjects of Russian Federation, as well as by local authorities in accordance with the legislation of Russian Federation.

The procedure and terms of use of such slots of land shall be laid down by agreements between relevant bodies of state power and administration and the organizations responsible for the operation of the ground and other objects of space infrastructure.

4. Activities involving the utilization of ground and other objects of space infrastructure by organizations and citizens of Russian Federation outside the jurisdiction of any state shall be carried out in accordance with this Law.

Such activities by organizations and citizens of Russian Federation within the territories, which are under the jurisdiction of a foreign state shall be carried out in accordance with the legislation of this state, unless it is contrary to this Law.

Article 19. Space Flight Control

1. Space flight control at all stages from the launching of a space object of Russian Federation to completion of the flight shall be exercised by the organizations in charge of the ground and other objects of space infrastructure.

2. The launch and landing of space objects of Russian Federation shall be carried out in preset area under an arrangement made with the appropriate bodies of state power and administration.

In case of accidents, including failures and crashes, while conducting space activity the landing of space objects of the Russian Federation can be made in other regions with the notice of appropriate bodies of a state authority and management.

3. Manoeuvring of space objects in the air space of the Russian Federation is executed in view of the requirements of the legislation, regulating use of the air space of the Russian Federation.

4. The space object of a foreign state can execute a single innocent flight [passage?] through the air space of the Russian Federation with the purpose to insert such an object into an orbit around the Earth or further in outer space, as well as with the purpose to return it to the Earth under the condition of advance noting of appropriate services of the Russian Federation about time, place, trajectory and other conditions of such flight.

5. The Russian Space Agency and the Ministry of Defence of the Russian Federation informs about launching and landing of space objects of the Russian Federation appropriate bodies of a state authority and management of the Russian Federation, and in case of necessity - interested foreign states and international organizations as well.

In case of launching, landing or terminating of existence of space objects of the Russian Federation beyond its boundaries the appropriate services of the Russian Federation execute their functions as agreed

with competent bodies of the interested foreign states.

Article 20. Cosmonauts and Crews of Piloted Space Objects

1. Citizens of the Russian Federation, who expressed desire to participate in space flights and meet the established professional and medical requirements, are selected for preparation and realization of space flights on the basis of competition.

The order and conditions of competition shall be determined by the Russian Space Agency and the Ministry of Defence of the Russian Federation with the participation of other customers of works in creation and use of space technology and published in the press.

2. The order of preparation cosmonauts, of formation of crews of piloted space objects and approval of the flight program, as well as rights and responsibilities of cosmonauts, payment of their labour and other conditions of their professional activity shall be determined by the contracts pursuant to the legislation of the Russian Federation.

3. The commander of a crew of a piloted space object of the Russian Federation can be nominated a citizen of the Russian Federation.

The commander of a crew of a piloted space object of the Russian Federation shall be vested with all completeness of authority, necessary for realization of the space flight, for management of crew and other persons, participating in the flight.

The commander of a crew of a piloted space object of Russian Federation shall within the scope of his authority bear responsibility for the fulfilment of the flight program, the safety of the crew and other persons participating in the flight and the preservation of the space object and the property within it.

4. Russian Federation shall retain jurisdiction and control over any crew of a piloted space object registered in it, during the ground time of such object, at any stage of a space flight or stay in outer space, on celestial bodies, including extra-vehicular stay, and on return to the Earth, right up to the completion of the flight program, unless otherwise specified in international treaties of Russian Federation.

5. Citizens of foreign states who take a space flight training course in Russian Federation or are involved in a flight on a piloted space object of Russian Federation shall be obliged to observe the legislation of Russian Federation, unless otherwise specified in international treaties of Russian Federation

Article 21. Personnel at the Ground and Other Objects of Space Infrastructure

1. Personnel to be regarded as personnel at the ground and other objects of space infrastructure shall be specialists performing duties in the sphere of testing, storage and operation of space technology , as well as any other duties involving the provision of operational regime of the functioning of the ground and other objects of space infrastructure.

2. The functional duties of personnel at the ground and other objects of space infrastructure shall be determined by the organizations in charged of the operation thereof.

Personnel at the ground and other objects of space infrastructure shall be subject to appraisal for adequacy in the established professional standards.

3. The size of the pay and the additional material remuneration of personnel at the ground and other objects of space infrastructure shall be established by the contracts of employment concluded with the organizations using such objects.

The procedure of payment and personal equipment for personnel at the ground and other objects of space infrastructure, who are in military service shall be laid down in the appropriate legislation of Russian Federation.

4. Members of personnel at the ground and other objects of space infrastructure, whose professions are connected with hazardous or harmful conditions of work shall be given additional benefits in accordance with the legislation of Russian Federation and the conditions of the appropriate contracts.

5. Persons enlisted in the performance of space accident or disaster clean-up operations shall enjoy the same privileges as attending to the ground and other objects of space infrastructure.

Section V. SAFETY OF SPACE ACTIVITY

Article 22. Ensuring Safety of Space Activity

1. Any space activity shall be carried out with the observance of the safety requirements laid down by the legislation of Russian Federation.

Overall guidance of the work to ensure the safety of space activity shall be laid down upon the Russian Space Agency and the Ministry of Defence of Russian Federation.

Carrying out the safety measures in space activity shall be laid down upon the appropriate state services, as well as upon the organizations and citizens that are engaged in carrying out such activity

The bodies of state power and administration of Russian Federation and of subjects of Russian Federation, as well as organizations and citizens shall be obliged to take all necessary measures to ensure safety of space activity.

The Russian Space Agency and the Ministry of Defence of Russian Federation upon request of interested organizations and citizens shall provide the information on the threat arising while carrying out space activity.

With origination of a threat to public safety and the environment the Russian Space Agency shall immediately inform the appropriate bodies of state power and administration, as well as organizations and citizens, about this.

Article 23. Investigation of Space Incidents

1. Incidents, including accidents and disasters, while carrying out space activity shall be subject to investigation, the procedure of which shall be set in the legislation of Russian Federation.

2. The manner of conducting and the substantiation of the results of an investigation of accidents, including accidents and disasters, may be appealed against in courts of law.

Article 24. Search-and-Rescue, Clean-up of Accidents

1. Search-and-rescue works, as well as clean-up of an accident while carrying out space activity shall be accomplished by appropriate state services with the participation of bodies of state power and administration of relevant subjects of Russian Federation, local authorities, organizations and citizens.

2. Clean-up of accidents while carrying out space activity shall consist of the restoration and reconstruction of the industrial and other plants that have suffered as a result of the accidents, necessary environmental measures and compensation for damage to relevant subjects of Russian Federation,

organizations and citizens.

Article 25. Insurance of Space Activity

1. The organizations and citizens, which exploit space technology or to whose order the creation and use of space technology in scientific and national-economy purpose is carried out, shall take compulsory insurance coverage in the amount set by legislation of Russian Federation.

Compulsory insurance shall be affected against damage to the life and health of the cosmonauts and the personnel at the ground and other objects of space infrastructure, as well as against property damage to third parties.

Compulsory insurance premiums shall be transferred to the Russian Space Fund or other insurance companies which have obtained a license for the insurance of space activity, and shall be used to compensate for damage as a result of accidents while carrying out space activity on the basis of contracts of insurance with organizations and citizens carrying out such activity.

2. Organizations and citizens carrying out space activity may effect voluntary insurance of space technology , as well as risks connected with such activity.

Section VI. INTERNATIONAL COOPERATION

Article 26. International Obligations in the Field of Space Activity

1. International treaties of Russian Federation on issues of space activity shall be subject to ratification by the Supreme Soviet of Russian Federation.

2. If rules are laid down in an international treaty ratified by the Supreme Soviet of Russian Federation other than those contained in this Law and other legislative acts of Russian Federation governing space activity, the rules of the international treaty shall preempt.

3. Russian Federation shall ensure the fulfillment of the obligations it has assumed in the field of space activity, and specially under the Treaty on Principles Governing the Activity of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

4. Russian Federation shall promote the development of international cooperation in the field of space activity, as well as the solution of international legal problems that may arise in the exploration and use of outer space.

Article 27. The Legal Regime for Foreign Organizations and Citizens

1. Foreign organizations and citizens carrying out space activity under the jurisdiction of Russian Federation shall enjoy the legal regime established for organizations and citizens of Russian Federation to the extent that such regime is provided by the appropriate state to organizations and citizens of Russian Federation.

2. The Russian Federation shall ensure the legal protection of the technologies and commercial secrets of foreign organizations and citizens carrying out space activity under the jurisdiction of Russian Federation in accordance with the legislation of Russian Federation.

Any other protection of the technologies and commercial secrets of foreign organizations and citizens carrying out space activity under the jurisdiction of Russian Federation, that may be required shall be provided on a reciprocal basis.

3. Foreign organizations and citizens engaged in carrying out space activity under the jurisdiction of Russian Federation shall effect the insurance of space technology and also risks involved in space activity

in the manner specified by this Law.

Article 28. The Legal Regulation of International Cooperation

1. The organizations and citizens of Russian Federation involved in carrying international projects in the field of space activity shall conclude agreements with foreign organizations and citizens in accordance with the legislation of Russian Federation, unless otherwise specified in these agreements.

2. In case of a conflict of the rules of the legislation of Russian Federation and that of a foreign state applicable to space activity with the participation of organizations and citizens of Russian Federation, the legislation of Russian Federation shall prevail, unless otherwise specified in international treaties signed by Russian Federation.

Section VII. LIABILITY

Article 29. Responsibility of Officials, Organizations and Citizens

State bodies and their officials, other organizations and their officials, as well as citizens guilty of violation of this Law and other legislative acts governing space activity shall be held responsible in accordance with legislation of Russian Federation.

Article 30. Liability for Damage

1. Russian Federation shall guarantee full compensation for direct damage inflicted as a result of accidents while carrying out space activity in accordance with legislation of Russian Federation.

2. Compensation for damage inflicted as a result of accidents while carrying out space activity shall be paid by the organizations and citizens responsible for operation of the space technology involved.

If such damage is the result of errors committed at the creation and use of space technology, liability for damages shall be partly of fully laid upon the appropriate organizations and citizens.

3. Liability for damages inflicted by a space object of Russian Federation within the territory of Russian Federation or outside the jurisdiction of any state, except outer space, shall arise regardless of the fault of the inflictor thereof.

If in any place, apart from the Earth surface, damage has been inflicted on a space object of Russian Federation or on property on board of such object by another space object, the liability of organizations and citizens shall emerge with their being at fault and in proportion to their fault.

Should liability for damage inflicted by a space object of Russian Federation attach to several organizations and citizens, the injured party may claim for a compensation to all such organizations and citizens or to any of them.

In the latter case, the organization or the citizen that has indemnified for the damage shall have the right of recourse against the correspondents, whose liability shall be apportioned according to the degree of their fault, and if it is impossible to establish the fault - equally.

4. The liability of organizations and citizens participating in the creation and use of space technology for damage inflicted as a result of accidents while carrying out space activity shall be limited to the amount of the insured sum or insurance indemnity provided in contracts of insurance of space technology and risks involved in space activity.

If the insured sum or insurance indemnity is insufficient for compensation for the damage inflicted as a result of accidents while carrying out space activity, recourse may be taken against the property of relevant organizations and citizens in the manner specified in the legislation of Russian Federation.

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THE PRESIDENCY
No. 1385 15 December 2008

It is hereby notified that the President has assented to the following Act, which is hereby published for general information:

No. 36 of 2008: South African National Space Agency Act, 2008.

ACT

To provide for the promotion and use of space and Co-operation in space-related activities,

foster research in space science, advance scientific engineering through human capital,

support the creation of an environment conducive to industrial development in space technologies within the framework of national government policy,

and for that purpose to establish the South African National Space Agency;

to provide for the object.., and functions of the South African National Space Agency and for the manner in which it must be managed and governed;

and to provide for matters connected therewith.

BE IT ENACTED by the Parliament of the Repuhlic of South Africa, as follows:

ARRANGEMENT OF SECTIONS

Definitions

1. In this Act, unless the context indicates otherwise

"Agency" means the South African National Space Agency estahlished by section 2

"Board" means the Board of the Agency contemplated in section 6;

"Chief Exeeutive Officer" means the person appointed as such in terms of seclion 14;

"Department" means the Department of Science ami Technology;

"GEPP" means the Government Employees Pension Fund;

"GEPL" means the Government Employees Pension Law, 1996 (Proclamation No. 21 of 1996);

"Minister" means the Minister responsible for science and technology;

"national space science and technology strategy" means any strategy determined in terms of section 3;

"satellite imagery" means photographs of the earth or other planets in visible colours and other spectra hy means of

artificial satellites;

"space" means the area heyond the earth's measurable atmosphere;

"Space Alfairs Act" means the Space A/Tairs Act, 1993 (Act No. 84 of 1993);

"space mission applications" means the usage and dissemination of data retrieved from spacecraft sensors;

"space mission operations" means the day-la-day management of spacecraft;

"space science" means any of several scientific dIsciplines that sludy phenomena occuning in the upper atmosphere, in space or on celestial bodies other than Earth;

"this Act" includes any regulation made in terms of section 19.

Etablishment of South African National Space Agency

2. (1) The South African Natiollal Space Agency is herehy established as a juristic person.

(2) The Public Finance Management Act, 1999 (Act No.1 of 1999), applies to the Agency.

National Space Science and Technology Strategy

3. The Minister must determine national space science and technology strategies in order to give effect to national space policy contemplated in the Space Affairs Act.

Objects of Agency

4. The objects of the Agency are to

a) promote the peaceful use of space;

(b) support the creation of an environment conducive to industrial development in space technology;

(e) foster research in space science, communications, navigation and space physics;

(d) advance scientilic, engineering and technological competencies and capabilities through human capital development outreach programmes and infrastructure development; and

(e) foster international co-operation in space-related activities.

Functions of Agency

5. (1) The Agency must

a) implement any space programme in line with the policy determined in terms of the Space Affairs Act;

(b) advise the Minister on the development of natjonai space science and technology strategies and programmes;

(e) implement any natillnal space science and technology strategy; and

(d) acquire, assimilate and disseminate space satellite imagery for any organ of state.

(2) The Agency may, in order to perform any duly contemplated in subsection (I) and in order to achieve its objects

a) enter into an agreement with any person, government or administration on the terms and conditions agreed upon by the Agency and that person, government or administration;

(b) purchase or otherwise acquire, or dispose of, any property and may hire out, let, pledge or otherwise encumber that property;

(c) for the purposes or developing or exploiting any invention or technological space expertise

i) establish a company contemplated in the Companies Act, 1973 (Act No. 61 of 1973), or in collaboration with any other person establish such a company; and

ii) acquire an interest in any company or other juristic person undertaking the development or exploitation or an invention or technological space innovation;

(d) establish any programme in line with nationtal space policy in respect of

i) enabling technologies that will provide leadership in coordinating and supporting applied research;

(ii) coordination and support to the development of space science missions;

(iii) space mission applications; and

(iv) space mission operations;

(e) support progrrammes or projects relating to scientific space research;

(f) co-operate with space and space-related agencies of other countries in the peaceful use and development of space; and

g) do anything necessary for the proper performance of its functions or to achieve its objects,

Board of Agency

6. (1) The Agency acts through its Board,

(2) The Board consists of

a) a chairperson appointed by the Minister;

(b) not less than 10 and not more than 15 members; and

(c) the Chief Executive Officer, as an *ex officio* member.

Appointment of Board members

7. (1) The Minister appoints members of the Board after

a) publishing a notice in the Gazette and two national newspapers circulating in the Republic calling upon memhers of the public to nominate persons contemplated in section 6(2)*(a)* and *(b)*;

(b) appointing a panel of experts to compile a short-list of not more than thirty (30) persons from the nominees referred to in paragraph (a);

(c) the chairperson of the panel has submitted a short-list of candidates together with their curriculum vitae to the Minister who must submit it to the National Assemhly for approval; and

(d) the National Assembly has submitted to the Minister an approved short-list from which to select.

(2) The panel must act in a transparent and fair manner and ensure that the candidates are competent and broadly representative of the: South African population, according to race, gender and disability,

(3) If the shortlist compiled in terms of subsection (2) does not contain suitable persons or the required number of suitable persons, the Minister may call for further nominations in the manner set out in subsection (l),

(4) The Board must

a) consist of persons who are citizens of the Republic or have the right of permanent residence in Ihe Republic and have distinguished themselves in the field of the space science and technology sector or possess the relevant qualifications, experience or skills in relation to some aspect of the functions of the Agency;

(b) be broadly representative of the various sectors in the field of space science and technology; and

(c) have at least one member who has a legal qualification and one member with financial expertise.

Disqualification, Removal from Office, Term of Office and Filling of Vacancies

8. (1) A person may not be appointed as a member contemplated in section 6(2) (a) or (b) if he or she

(a) is an unrehabilitated insolvent;

(b) has heen declared by a court to be menlally ill;

(c) has been convicted of an offence in the Republic or elsewhere and was sentenced to imprisonment without the opinion of a fine, other than an offence commit-

ted prior to 27 April 1994 associated with a political objective for which amnesty was granted by the Truth and Reconciliation Commission;

(d) is a memher or the National Assembly, a provincial legislature or any municipal council, or is a delegate to the Nalional Council of Provinces;

(e) is not a citizen or, does not have the right of permanent residence in, the Republic; or

(f) has, as a result of improper conduct, been removed from a position of trust by a competent court of law.

(2) The Minister may remove a member contemplated in section 6(2)(a) or (b) from office

a) on the grounds of misconduct, incapacity or incompetence;

(b) if the member is absent from three consecutive meetings of the Board without leave from the Board;

(c) if the member becomes disqualified as is contemplated in subsection (1);

(d) for any other sound and compelling reason.

(3) A decision to remove a member of the Board from office in terms of subsection (2) must be based on the recommendation of an independent panel appointed by the Minister.

(4) The Minister may dissolve the Board on reasonable grounds.

(5) A member contemplated in section 6(2)(a) or (b) holds office for a period not exceeding four years, subject to subsections (1) and (2).

(6) No memher may serve more than two consecutive terms.

(7) If a memher of the Board dies, resigns by written notice to the Minister or is removed from office, the Minister may, having followed the procedure contemplated in seclion 7, appoint a person in that vacancy for the remaining part of the term of office.

Functions of Boord

9. (I) The Board must perform any function imposed upon it in accordance with a policy direction issued hy the Minister and in terms of this Act.

(2) The Board must

a) oversee the functions of the Agency;

(b) monitor Ihe research priorities and programmes of the Agency;

(c) give effect to the strategy of the Agency, in the performance or its functions; and

(d) notify the Minister immediately of any matter that may prevent or materially affect the achievement of the objects of the Agency.

(3) The Board may, after consultation with the Minister, establish or disestablish organisational divisions of the Agency.

Remuneration of Boord Members

10. A member of the Board or a member of any committee of the Board who is not in the full-time employment of the State must be paid such remuneration and allowances out of the funds of the Agency as may be determined by the Minister, in consultation with the Minister of Finance.

Meetings of Board

11. (1) The Board must meet at least four times a year at such times and places as the Board may determine.

(2) The Board may determine the procedure for its meetings.

(3) The chairperson

a) may convene a special meeting of the Board; and

(b) must convene such a meeting within 14 days of receipt of a written request signed by at least two third of the members

of the Board to convene such a meeting.

(4) The chairperson or, in the chairperson's absence, a member of the Board elected by the members present, must preside at a meeting of the Board.

(5) The quorum for a meeting of the Board is the majority of the Board members eligible to vote.

(6) A decision of the Board must be taken by resolution of the majority of the members present at any meeting of the Board, and in the event of an equality of votes on any matter, the person presiding at the meeting has a casting vote in addition to her or his deliberative vote.

Disclosure of Interest

12. (1) A member of the Board must upon appointment disclose to the Minister by way of a written statement any interest which could reasonably compromise the Board in the performance of its functions.

(2) A member of the Board may not vote or in any manner be present during or participate in the proceedings at any meeting of the Board if, in relation to any matter before the Board, she or he may have an interest which precludes her or him from performing her or his functions as a member of the Board in a fair, unbiased and proper manner.

Committees of Board

13. (1) The Board may establish one or more committees to perform such functions as the Board may determine.

(2) The Board may appoint as members of such committee any

(a) member of the Board;

(b) employee of the Agency; or

(c) other person with suitable skills or experience who must be paid such allowances as the Minister may determine.

(3) A member of the Board may not serve on more than two committees at a time.

(4) The Board may at any time dissolve or reconstitute a committee.

(5) The Board is not absolved from the performance of any function entrusted to any committee in terms of this section.

Chief Executive Officer of Agency

14. (1) The Board must, with the approval of the Minister, appoint a suitably skilled and qualified person as the Chief Executive Officer.

(2) The appointment of the Chief Executive Officer must be made after following a transparent and competitive selection process.

(3) The Chief Executive Officer is appointed for a term not exceeding five years and is subject to such conditions relating to remuneration and allowances as the Board may determine.

(4) The Chief Executive Officer must enter into a performance agreement with the Board within three months of taking up the post as Chief Executive Officer.

(5) The Chief Executive Officer is responsible for the administration and the general management and control of the day-to-day functioning of the Agency, subject to the directions and instructions issued by the Board.

(6) The Chief Executive Officer is responsible and accountable to the Board for

(a) all money received by the Agency and the utilisation of that money; and

(b) the property of the Agency.

(7) The Chief Executive Officer must report to the Board on matters that may adversely affect the functioning of the Agency.

(8) If the Chief Executive Officer is absent for a period of more than two months or is unable to carry out her or his duties,

or if there is a vacancy in the office of the Chief Executive Officer, the Board may, with the concurrence of the Minister, appoint any person who meets the requirements determined in subsection (J) to act as Chief Executive Officer, until the Chief Executive Officer is able to resume those functions or until the vacant position of Chief Executive Officer is filled.

(9) If the Chief Executive Officer is absent for a period of less than two months the Board may, without the concurrence of the Minister, appoint any person to act as Chief Executive Officer.

(10) The acting Chief Executive Officer has all the powers and may perform all the duties of the Chief Executive Officer.

(11) The Chief Executive Officer may not serve for more than two consecutive terms.

Employees of Agency

15. (1) Subject to subsection (2), the Chief Executive Officer

(a) must, on such conditions as she or he may determine, appoint such number of employees or receive on secondment such number of persons as are necessary to enable the Agency to perform its functions;

(b) is responsible for the administrative control of the organisation and for the discipline of the employees and persons contemplated in paragraph (a); and

(c) must ensure compliance with applicable labour legislation.

(2) The Board must approve

(a) the general terms and conditions of employment of the employees contemplated in subsection (1);

(b) a human resource policy; and

(c) structures for remuneration, allowances, subsidies and other benefits for employees contemplated in subsection (1) in accordance with a system approved by the Minister with the concurrence of the Minister of Finance.

(3) The terms and conditions of employment contemplated in subsection (2)(c) must be broadly in line with the guidelines issued from time to time by the Minister responsible for the public service and administration.

Pensions

16. (I) The Agency may, under the Pensions Fund Act, 1956 (Act No. 24 of 1956), establish a pension fund for its employees.

(2) Any employee of the Agency who was, prior to the commencement of this Act, a member of the GEPF, may

(a) remain a member of the GEPF;

(b) terminate her or his membership of the GEPF and join the pension fund established in terms of subsection (I); or

(c) elect dormant membership of the GEPF in accordance with section 27 of the GEPL.

Funds of Agency

17. (1) The funds of the Agency consist of

(a) money appropriated by Parliament;

(b) fees, royalties or other revenue obtained in terms of this Act;

(c) donations or contributions received by the Agency; and

(d) revenue accruing to the Agency from any other source.

(2) The Agency must utilise its funds to defray the expenses incurred by the Agency in the performance of its functions.

(3) Money received by way of donation or contribution must be utilised in accordance with any conditions imposed by the donor or contributor concerned.

(4) The Agency may, subject to the approval of the Minister and in terms of the Public Finance Management Act, 1999 (Act

No. 1 of 1999), invest any of its funds not immediately required.

Delegation

18. (1) The Chief Executive Officer may, subject to such conditions as she or he may determine, delegate to an employee of the Agency any function entrusted to the Chief Executive Officer under this Act.

(2) A delegation in terms of subsection (1) does not prohibit the performance of the function in question by the Chief Executive Officer.

(3) The delegation must be in writing.

Regulations

19. The Minister may, after consultation with the Board, make regulations regarding

(a) the method of reporting to the Minister on Board meetings and the frequency of those reports;

(b) interim measures for the continued management and functioning of the Agency in the event that the Minister dissolves the Board in terms of section 8(4); and

(c) any ancillary or incidental administrative or procedural maller that it is necessary to prescribe for the proper implementation or administration of this Act.

Short title and Commencement

20. This Act is called the South African National Space Agency Act, 2008, and comes into operation on a date to be fixed by the President by proclamation in the Gazette.

MINISTRY OF THE PRESIDENCY 6058 ROYAL DECREE 278/1995, dated 24th February 1995, establishing in the Kingdom of Spain of the Registry foreseen in the Convention adopted by the United Nations General Assembly on 2nd November 1974

Following the accession of Spain, on 20th December 1978, to the Convention on Registration of Objects Launched into Outer Space, adopted on 12th November 1974 (Official State Gazette No. 25 of 29th January 1979), appropriate internal measures must be adopted to enable Spain to comply with the terms of that Convention, especially with regard to the establishment of a Registry of Objects Launched into Outer Space and to the notifications that have to be made to the Secretary-General of the United Nations.

The recent placing in orbit of the Spanish Hispasat 1A and 1B satellites offers a further reason and the occasion not to delay the setting up of this Registry any further.

By virtue thereof, at the proposal of the Minister for Foreign Affairs and the Minister of Industry and Energy, prior approval by the Minister for the Public Administrations, with the concurrence of the Council of State and after discussion by the Council of Ministers at its meeting on 24th February 1995,

I DO HEREBY DECREE:

Article 1

The Spanish Registry of Objects Launched into Outer Space, hereinafter referred to as the „Spanish Registry", is hereby established.

Article 2

The Spanish Registry shall be kept by the Sub-Directorate General of Multilateral Economic Relations and Development of the Directorate-General of International Economic Relations of the Ministry of Foreign Affairs.

Article 3

Full and free access shall be provided to the information contained in the Spanish Registry and shall be regulated pursuant the provisions contained in Article 37 of Act 30/1992, on the Legal Regime of the Public Administrations and Common Administrative Procedure and the regulations adopted in implementation thereof.

Article 4

The term „space object" is deemed to include both component parts thereof and the launch vehicle and parts thereof.

Article 5

Entries shall be made in the Spanish Registry in respect of space objects that have been launched or whose launching has been promoted by the Spanish State or that have been launched from Spain or from a Spanish facility.

If, in addition to Spain, one or more States, hereinafter referred to as „launching State or States" are competent to make an entry, the procedure to be followed shall be as laid down in Article II, paragraph 2, of the Convention on Registration of Objects Launched into Outer Space adopted on 12th November 1974.

Article 6

The registration of each space object shall contain the following data:

(a) Name of launching State or States;

(b) An appropriate designator of the space object or its registration number;

(c) Date and territory or location of launch;

(d) Basic orbital parameters, including:

(I) Nodal period;

(II) Inclination;

(III) Apogee;

(IV) Perigee;

(e) General function of the space object.

Any other additional information deemed useful may also be included.

Article 7

Businesses and institutions in possession of the data referred to in the previous Article shall be obliged to notify it to the Directorate-General of Industrial Technology of the Ministry of Industry and Energy, which may, in turn, may obtain from the aforesaid business and institutions any supplementary information deemed necessary to effect the entry and the mandatory notification to the Secretary-General of the United Nations, pursuant the Convention.

The Directorate-General of Industrial Technology of the Ministry of Industry and Energy shall convey any information that it were to receive to the Directorate-General of International Economic Relations of the Ministry of Foreign Affairs and the Directorate-General of International Economic Relations shall enter this information in the Spanish Registry and arrange for its formal notification to the Secretary-General of the United Nations with a view for its inclusion in the Register of the latter.

The notifications referred to in this Article shall also include any amendments to data concerning registered space objects and, in particular, cases where space objects have ceased to be in terrestrial orbit. Such modifications shall form the subject of a prior entry in the Spanish Registry, pursuant the provisions of the preceding Article.

Single Additional Provision

The Directorate-General of International Economic Relations of the Ministry of Foreign Affairs shall arrange for the formal notification to the Secretary-General of the United Nations pertaining to the establishment of the Spanish Registry. the Spanish Registry.

Single Transitory Provision

The Directorate-General of International Economic Relations of the Ministry for Foreign Affairs shall arrange for the entry and subsequent formal notification to the Secretary-General of the United Nations of any space objects that were launched before the establishment of the Spanish Registry and of any space objects for which Spain is the launching State.

First Final Provision

The Minister for Foreign Affairs and the Minister of Industry and Energy may approve the necessary provisions for the execution and implementation of this Royal Decree.

Second Final Provision

By Order of the Minister of the Presidency issued at the proposal of the Minister for Foreign Affairs and of the Minister of Industry and Energy, the Spanish Registry may be kept by a body within these Ministries other than that specified in Article 2 hereof.

Third Final Provision

This Royal Decree shall enter into force on the day following its publication in the Official State Gazette.

At Madrid, this 24th day of February of the year.

JUAN CARLOS R.
The Minister of the Presidency
ALFREDO PÉREZ RUBALCABA

Act on Space Activities (1982:963)
[UNOFFICIAL TRANSLATION]

Section 1

This Act applies to activities in outer space (space activities).

In addition to activities carried on entirely in outer space, also included in space activities are the launching of objects into outer space and all measures to manoeuvre or in any other way affect objects launched into outer space.

Merely receiving signals or information in some other form from objects in outer space is not designated as space activities according to this Act. Nor is launching of sounding rockets designated as space activities.

Section 2

Space activities may not be carried on from Swedish territory by any party other than the Swedish State without a licence. Nor may a Swedish natural or juridical person carry on space activities anywhere else without a licence.

Section 3

A licence to carry on space activities is granted by the Government.

A licence may be restricted in the way deemed appropriate with regard to the circumstances. It may also be subject to required conditions with regard to control of the activity or for other reasons. Inspection of the space activities of licence holders is exercised by the authority decided by the Government.

Section 4

A licence may be withdrawn if the conditions of the licence have been disregarded or if there are other particular reasons for it.

The Government decides on withdrawal of licences to carry on space activities. Pending a final decision on its withdrawal, a licence may be withdrawn temporarily.

Section 5

Any person who wilfully or through negligence carries on space activities without the necessary licence shall be sentenced to a fine or to imprisonment for at most one year. The same applies to any person who wilfully or through negligence disregards the conditions laid down as a prerequisite for obtaining a licence.

Any person who has committed outside the country a crime as referred to in paragraph one shall be sentenced, if he is in this country, according to this Act and the Swedish Penal Code and at a Swedish court, even though Chapter 2 section 2 or 3 of the said Code is not applicable and notwithstanding Chapter 2 section 5a first and second paragraphs of the said Code. Legal proceedings for a crime as referred to in paragraph one may be taken only with the Government's consent.

Section 6

If the Swedish State on account of undertakings in international agreements has been liable for damage which has come about as a result of space activities carried on by persons who have carried on the space activity shall reimburse the State what has been disbursed on account of the above-mentioned undertakings, unless special reasons tell against this.

Decree on Space Activities (1982:1069)
[UNOFFICIAL TRANSLATION]

Section 1

Application for a licence in accordance with the Space Activities Act (1982:963) shall be in writing and submitted to the National Board for Space Activities.

The Board shall consult the telecommunications administration or other national ministries or authorities affected by the application and hand over the issue with comments to the Government.

Section 2

The National Board for Space Activities Act shall exercise control of space activities carried on by those who have licences for such activities.

Section 3

If infringement of the Space Activities Act (1982:963) or of the conditions laid down by virtue of the said Act is suspected, the National Board for Space Activities shall inform the Government.

Section 4

The National Board for Space Activities shall keep a register of the space objects for which Sweden is to be considered the launching State in accordance with Article 1 of the Convention on registration of objects launched into outer space of 14 January, 1975.

If, in addition to Sweden, another State may also be considered a launching State in accordance with the Convention, the space object shall only be registered in Sweden if this has been agreed between the States concerned.

The register shall give

1. a designation or registration number of the space object,
2. the date and territory or location of launching,
3. basic orbital parameters, including
   a) Nodal period
   b) Inclination
   c) Apogee
   d) Perigee

The Board shall, through the agency of the Ministry for Foreign Affairs, supply the Secretary General of the United Nations with information from the register.

DECREE OF THE PRESIDENT OF UKRAINE „On Establishing the National Space Agency of Ukraine"

Based on the need for preserving and developing in the interest of independent Ukraine the scientific-technical and production potential in the space sector of the National economy of Ukraine, their use for resolving social and economic issues, I ORDER:

1. A National Space Agency of Ukraine (NSAU) to be established by the Cabinet of Ministers of Ukraine.

(Section 2 is no longer valid on the grounds of Decree of the President № 70/99 dated 27.01.1999)

2. Main assignments of the National Space Agency of Ukraine are:

- Elaboration of the conceptual bases of State policy in relation to the exploration and use of outer space;
- preparation of suggestions and recommendations to the President of Ukraine and the Cabinet of Ministers of Ukraine on issues related to the exploration and use of outer space;
- coordination of the activity of state executive authorities, scientific-research establishments and organizations of the space sector on issues related to organizing and accomplishing space activities;
- organizing the international and intergovernmental cooperation and control of the compliance with the international legislations on the issues related to exploration and use of outer space;
- organizing the activities with fundamental and applied nature in the space sector;
- financing the operations related to exploration and use of outer space.

3. By the date 01.04.1992 the Cabinet of Ministers of Ukraine is to develop and approve an „Ordinance on the National Space Agency of Ukraine" and its regular structure, also to provide financing for the activity of the National Space Agency of Ukraine.

4. This Decree comes into force by the date it was signed.

President of Ukraine
L. Kravchuk
city of Kiev, 29.02.1992
№ 117

Ordinance Of The Supreme Soviet Of Ukraine, On Space Activity Law of Ukraine of 15 November 1996 (VVRU, 1997, p. 2)

[UNOFFICIAL TRANSLATION]

Section I. GENERAL PROVISIONS

Article 1. Use of terms and concepts

For the purposes of this Law the terms and concepts listed below shall have the following meanings:

"Space activity" shall mean scientific space research, the design and application of space technology and the use of outer space;

"Space facilities (space technology)" shall mean material objects produced by piecework which are designed, manufactured and operated both in outer space (space segment, space infrastructure) and on the Earth's surface (ground segment, ground infrastructure) for the purpose of exploring and using outer space;

"Subjects of space activity" shall mean enterprises, institutions and organizations, whether domestic, international or foreign, which engage in space activity;

"Space technologies and services" shall mean the results of scientific development, methods, means and services required for the pursuit of space activity and for obtaining and making use of the results of such activity;

"Incident" shall mean an event related to space activity which has led to a threat to the life or health of persons or damage to or destruction of the property of citizens, enterprises, institutions or organizations, or damage to the environment;

"Emergency" shall mean an event related to space activity which has led to the death of persons or to serious bodily injury, or to destruction of the property of citizens, enterprises, authorities or organizations, or substantial damage to the environment;

"Rules of space activity" shall mean special rules, technical norms and standards which regulate space activity and its safety;

"Personnel of space facilities" shall mean the staff of enterprises, institutions or organizations which are involved in the manufacture, testing or operation of space facilities and the clean-up of incidents and emergencies, as well as specialists working for enterprises, institutions or special units of military units involved in performing such work;

"Compliance certificate" shall mean a document attesting to the fulfilment by a space facility of the operating requirements of space technology, as regulated by the relevant regulatory texts in force in Ukraine.

Article 2. Legislation on space activity in Ukraine

Relations in the area of space activity shall be regulated by this Law and by other legislative acts of Ukraine adopted in conformity therewith.

Article 3. Aims of space activity

Space activity shall be conducted with the following aims:

Furthering the socio-economic development and scientific progress of Ukraine and promoting the welfare of its citizens;

Contributing to the solution of the general problems facing humankind;

Developing space science and engineering and space-related services and technologies apt to assist in bringing about the stable development of the national economy;

Creating an extensive export potential in the space sector;

Ensuring access to outer space and the conduct of scientific investigations of the Earth and outer space;

Establishing and maintaining space systems to ensure modern State information coverage;

Safeguarding the long-term interests of the State in relation to national security and defence capabilities;

Fostering the development of education;

Assisting in the monitoring of conformity with international security agreements to which Ukraine is a party.

Article 4. Principles of space activity

The space activity of Ukraine shall be conducted in accordance with the following principles:

State regulation;

Progressive development and systematic reform of State policy in relation to the exploration and use of outer space;

Practical exploitation of the scientific and technical potential of Ukraine and of possibilities created by space activity in the interests of the national economy, scientific advancement and State security and for commercial purposes;

Furtherance of international cooperation and the maintenance and development of existing relations in matters related to space with due regard for national interests.

Section II. ORGANIZATION OF SPACE ACTIVITY

Article 5. State regulation and management of space activity

State regulation and management of space activity in Ukraine shall be effected by means of the following:

Legislative definition of the basic principles, standards and rules governing space activity;

Elaboration of the conceptual bases of State policy in relation to the exploration and use of outer space for peaceful purposes and in the interests of State security;

Establishment of the Ukrainian All-State (National) Space Programme;

Specialized training of personnel to be covered by the Ukrainian National Budget;

The application of a licensing (authorization) system in relation to such activity, as well as other rules and regulations in conformity with legislation currently in force.

The Ukrainian National Space Agency shall be the specially authorized central executive authority responsible for implementing State policy in relation to space activity.

Article 6. Competences of the Ukrainian National Space Agency

The Ukrainian National Space Agency shall, within its competence:

Formulate the conceptual basis of State policy in relation to the exploration and use of outer space for peaceful purposes and in the interests of national security;

Provide for the organization of space activity in Ukraine and under the jurisdiction of Ukraine outside its borders;

Prepare, in collaboration with ministries, other central executive authorities and the Ukrainian National Academy of Sciences, the Ukrainian All-State (National) Space Programme and ensure its implementation;

Direct the management and coordination of the work of enterprises, institutions and organizations in the space and related sectors;

Act as the general State customer placing orders for scientific research relating to the exploration and exploitation of outer space and to scientific research and design and engineering studies for the design, manufacture and testing of space technology, including in connection with international space projects;

Arrange, in collaboration with min-

istries and other central authorities of Ukraine, for the operation, maintenance and improvement of space facilities;

Arrange for licensing of space activity in Ukraine and the licensing of such activity under the jurisdiction of Ukraine outside its borders;

Arrange for the development and operation of the Ukrainian Space Technology Certification System (UkrSSKT);

Ensure that subjects of space activity in Ukraine are furnished with the requisite regulatory texts;

Carry out the registration of space technology;

Arrange for cooperation between Ukraine and other States and international organizations in space-related matters, and ensure the maintenance and development of existing international relations in the area of space activity;

Undertake action aimed at improving the foreign trade relations of Ukraine with other States in the area of space activity;

Participate in the preparation of international treaties to be concluded by Ukraine;

Perform other functions in the area of space activities in conformity with legislation currently in force.

Article 7. Ukrainian All-State (National) Space Programme

Space activity in Ukraine shall be pursued on the basis of the Ukrainian All-State (National) Space Programme, which shall be prepared for periods of five years and submitted by the Cabinet of Ministers of Ukraine to the Supreme Soviet of Ukraine for its approval.

The Ukrainian All-State (National) Space Programme shall be drawn up by the Ukrainian National Space Agency in collaboration with the competent central executive authorities and the Ukrainian National Academy of Sciences on the basis of the aims and basic principles of space activity in Ukraine.

The Ukrainian All-State (National) Space Programme shall serve as the basis for the following:

Determination of civil, defence and dual-use space technology requirements and the conclusion of contracts in conformity with current legislation for the performance of scientific research work (hereinafter referred to as space technology orders) and the release of space technology for the current year, subject to approval by the Cabinet of Ministers of Ukraine;

Assignment of funds from the Ukrainian National Budget for the financing of space activity in accordance with State orders;

The training of personnel to be covered by the Ukrainian National Budget and the provision of social welfare coverage for personnel of space facilities;

Maintenance and improvement of space facilities forming part of the ground infrastructure and maintenance of the requisite safety standards in space activity;

Conduct of international cooperation in space-related matters, including the involvement of Ukraine in international space projects.

Article 8. Regulations governing space activity

The regulations governing space activity in Ukraine include operating standards for space facilities, and standards and regulatory texts governing procedures for the following:

Licensing of space activity;

Certification and registration of space facilities;

Organization, execution and ensuring of space launches and flights;

Supervision and monitoring of the safety of space launches and flights and of the operation of space technology;

Environmental protection in the course of space activity;

Conduct of search and rescue operations in connection with space activities;

Conduct of official investigations of incidents and emergencies;

Construction, operation, maintenance and repair of installations and equipment of infrastructural ground facilities;

Training of the personnel of space facilities;

Implementation of measures to protect space activity from unlawful intrusion.

The regulations governing space activity also include other regulatory acts governing space-related activities and their safety, as well as compliance with the requirements of intellectual property protection and State, military and commercial secrecy.

The regulations governing space activity shall be established by the relevant State authorities of Ukraine within their competence and shall be binding upon all subjects of space activity.

Article 9. Prohibitions on and restrictions of space activity

The following shall be prohibited in connection with the conduct of space activity in Ukraine:

Insertion into orbit and placing in space by whatsoever means of nuclear weapons or any other types of weapons of mass destruction, or the testing of such weapons;

The use of space technology as a means of producing effects upon the environment for military purposes or other purposes posing a threat to humankind;

The use of the Moon and other celestial bodies for military purposes;

The presenting of a direct threat to the life and health of human beings and the causing of damage to the environment;

The violation of international norms and standards regarding pollution of outer space;

Other acts related to space activity which are not permissible under international law.

Space activity conducted under a specific project which has led to the loss of human lives, substantial material damage or substantial damage to the environment may be restricted or prohibited in conformity with the legislation of Ukraine currently in force.

Article 10. Licensing of space activity

Any space facility engaging or intending to engage in space activity in Ukraine or under the jurisdiction of Ukraine outside its borders shall be required to have a licence from the Ukrainian National Space Agency for the pursuit of such activity.

The list of the types of space activity subject to licensing shall be established by the laws of Ukraine.

The procedures for the licensing of space activity in Ukraine shall be established by the Cabinet of Ministers of Ukraine.

Article 11. Financing of space activity

Space activity pursued for scientific or economic purposes for which the State is the customer shall be financed on the basis of the Ukrainian All-State (National) Space Programme and shall be covered by a special item in the Ukrainian National Budget.

Space activity for the purposes of the defence and security of Ukraine shall be financed from the Ukrainian National Budget in respect of defence expenditure.

Financing shall be effected through

State customers of works for the design and use of space technology and shall be allocated among contractors in accordance with State contracts.

Foreign credits and investments in space activity related to implementation of the Ukrainian All-State (National) Space Programme shall be guaranteed by the State in conformity with Ukrainian legislation currently in force.

Section III. GENERAL REQUIREMENTS IMPOSED ON SPACE FACILITIES

Article 12. Certification of space facilities

Any space facility in Ukraine shall be subject to certification attesting to its compliance with operating requirements established by the regulatory texts in force in Ukraine, with subsequent issuance of a compliance certificate.

Procedures for the certification of space technology in Ukraine shall be determined by the Ukrainian Space Technology Certification System, which shall operate as part of the State Certification System (UkrSEPRO).

Procedures for the testing and certification of imported space facilities or space facilities to be exported from Ukraine and for the preparation of the respective certification documents shall be established by the Regulations for the Certification of Space Technology in Ukraine, subject to approval by the Cabinet of Ministers of Ukraine.

Article 13. Registration of space facilities

Space facilities shall be subject to mandatory State registration in the State Register of Space Facilities of Ukraine in accordance with Regulations Governing the Registration of Space Facilities in Ukraine, subject to approval by the Cabinet of Ministers of Ukraine. If a space facility has been designed jointly with corporate entities of other countries or with international organizations, the question of its registration shall be decided in accordance with the international agreements (contracts) concluded.

A space facility registered in the State Register of Space Facilities of Ukraine shall be issued with a registration certificate.

Following the registration of a space facility in the State Register of Space Facilities of Ukraine, any entries in respect of such facility previously made in registers of space facilities of other States shall not be recognized by Ukraine.

The registration of a space facility in the register of space facilities of another State shall not be recognized by Ukraine unless that facility is also registered in the State Register of Space Facilities of Ukraine.

Article 14. Removal of space facilities from the State Register

A space facility shall be removed from the State Register of Space Facilities by the Ukrainian National Space Agency if:

It is withdrawn from operation;

It is physically destroyed;

It is transferred in accordance with established procedure to another State or to an international or foreign enterprise, institution or organization.

If a space facility is removed from the State Register of Space Facilities of Ukraine, the relevant registration certificate shall be rendered invalid.

Article 15. Clearance, restriction and prohibition of the operation of space facilities

A space facility shall be cleared for operation if it has been issued with a compliance certificate and registered in the State Register of Space Facilities of Ukraine. The Ukrainian National Space Agency may re-

strict or prohibit the operation of space facilities if:

No compliance certificate has been issued or the period of validity of the compliance certificate has elapsed;

The operation of the space facility is in violation of Ukrainian legislation currently in force; or

The operation of the space facility is in violation of the requirements established by the technical operating documentation for that facility.

Article 16. Leasing of a space facility

The procedures and rules for leasing a space facility to an international or foreign subject of space activity shall be governed by the legislation currently in force, unless otherwise provided by international agreements to which Ukraine is a party which have been concluded in the form of a law.

Section IV. PARTICIPATION BY UKRAINE IN INTERNATIONAL SPACE-RELATED COOPERATION

Article 17. Ukraine as a subject of international space law

As a subject of international space law, Ukraine shall pursue its space activities on the basis of equality with other States in the light of its national interests.

Ukraine shall ensure the fulfillment of all its international obligations in the field of space activity and shall bear responsibility under generally recognized standards of international law and the provisions of international treaties to which it is a party.

Article 18. Principles of international space activity

International space activity in Ukraine shall be conducted in accordance with the following fundamental principles:

Strengthening of national sovereignty;

Observance of generally recognized principles and standards of international law;

Maintenance and further development of existing international links;

Fostering of the integration of Ukraine in the global economy;

Freedom of foreign-economic enterprise;

The legal equality of subjects of space activity; and

Protection of the interests of subjects of space activity in the territory of Ukraine and outside its borders.

Article 19. Settlement of disputes

Disputes arising in the course of international space-related cooperation shall be subject to examination in the courts of Ukraine, unless otherwise provided by the international treaties to which Ukraine is a party.

Section V. ENSURING THE SAFETY OF SPACE ACTIVITY

Article 20. State supervision of the safety of space activity

State supervision of compliance with safety requirements in respect of space activity, as well as the training and certification of persons responsible for monitoring compliance with space regulations and verifying the necessary level of safety of space activity and of persons investigating incidents and emergencies shall be the responsibility of the Ukrainian National Space Agency, the Ministry of Defence of Ukraine and other executive authorities within their competence.

Article 21. Public safety and environmental protection

In the pursuit of space activity, subjects of space activity shall comply with safety

requirements with regard to the life and health of the public, the property of citizens, enterprises, institutions and organizations and protection of the environment.

Subjects of space activity shall ensure that the necessary measures are taken in order to prevent environmental damage as the result of space activity in accordance with Ukrainian legislation currently in force.

Article 22. Transport of space technology

For the purposes of the transport of space technology presenting a threat to the life or health of the population or to the environment, use shall mandatorily be made of special means of transport under guard.

Procedures for organizing the guarding and transport of space technology shall be established by special regulations, subject to approval by the Cabinet of Ministers of Ukraine.

Article 23. Notification of incidents and emergencies

Subjects of space activity shall be under a compulsory requirement to furnish full information to executive authorities on any incidents or emergencies.

The Ukrainian National Space Agency, ministries and other central executive authorities shall be required to furnish prompt and reliable information on the danger posed by the conduct of space activity, as well as on measures aimed at ensuring the necessary levels of safety for the public, property and the environment, to the duly authorized State authority, enterprises, institutions and organizations, as well as to citizens at their request.

Should there arise in the course of space activity a threat to the population of Ukraine or to its environment or to foreign States, the Ukrainian National Space Agency shall, in conformity with legislation currently in force, immediately inform the competent State authorities of Ukraine of such threat and shall also take the necessary measures to ensure public safety and the safety of the property of citizens, enterprises, institutions and organizations and of the environment.

Article 24. Compulsory insurance in the pursuit of space activity in Ukraine

The list of types of compulsory insurance to be taken out in connection with the pursuit of space activity shall be established by the Ukrainian legislation currently in force.

Procedures for compulsory insurance shall be established by the Cabinet of Ministers of Ukraine.

Article 25. Liability for damage sustained in the course of space activity, and compensation therefor

Liability for damage sustained in the course of space activity, as well as procedures for determining the extent of such damage for which compensation shall be payable, shall be established in conformity with Ukrainian legislation currently in force.

Section VI. SPACE ACTIVITY RELATED TO THE DEFENCE AND SECURITY OF UKRAINE

Article 26. Conduct of space activity related to defence and national security

Space activity related to defence and national security shall be conducted by the Ministry of Defence of Ukraine, which shall be responsible, jointly with the relevant ministries and other central executive authorities, for implementation of the Ukrainian All-State (National) Space Programme in respect of the use of military and dual-use space technology.

Article 27. Cooperation of the Ministry of Defence of Ukraine with the Ukrainian National Space Agency in relation to space activity

Procedures for cooperation between the Ministry of Defence of Ukraine and the Ukrainian National Space Agency in the conduct of space activity shall be defined by a statute, subject to approval by the Cabinet of Ministers of Ukraine.

Article 28. Competence of the Ministry of Defence of Ukraine in relation to space activity

The Ministry of Defence of Ukraine, within its competence, shall:

Formulate the conceptual basis of national space policy and of the Ukrainian All-State (National) Space Programme in respect of the part relating to the design and use of military space technology, and, in conjunction with the Ukrainian National Space Agency, of dual-use space technology;

Prepare orders and arrange for the respective work to be performed in relation to the design and use of military space technology and, in conjunction with the Ukrainian National Space Agency, of dual-use space technology on the basis of the Ukrainian All-State (National) Space Programme;

Provide for the use of space technology for the purposes of the defence of Ukraine;

In conjunction with the Ukrainian National Space Agency, ensure the operation and development of ground and space infrastructural facilities;

Participate in the process of the certification of military space technology.

Section VII. FINAL PROVISIONS

Article 29. Liability for offences under the legislation on space activity in Ukraine

Offences under the legislation on space activity in Ukraine shall be punishable by disciplinary, civil-law or criminal penalties in conformity with Ukrainian legislation currently in force.

DECREE OF THE PRESIDENT OF UKRAINE

„On the Ordinance of the National Space Agency of Ukraine"

To approve the Ordinance of the National Space Agency of Ukraine (applying).

In three months the Cabinet of Ministers of Ukraine shall comply its decisions with this Decree.

To recognize Section 1 and Section 2 of Ordinance № 969 of the President of Ukraine „On the measures on improvement of the state regulation of the space activity in Ukraine" dated 17.10.1995 as no longer valid.

President of Ukraine
L. Kuchma
City of Kiev, 22.07.1997
№ 665/97

Decree of the President of Ukraine dated 22.07.1997 № 665/97

ORDINANCE

On the National Space Agency of Ukraine

1. The National Space Agency of Ukraine (NSAU) is a specially authorized central executive body, subordinate to the Cabinet of Ministers of Ukraine that ensures the realization of state policy in the area of the space activity implements the management of its entrusted management scope, bears the responsibility for its development condition.

2. By its activity NSAU shall be led by the Constitution of Ukraine, the Legislation of Ukraine, the Ukrainian Supreme Council's Ordinances, by the Decrees and Orders of the President of Ukraine, the Acts of the Cabinet of Ministers of Ukraine and also by this Ordinance.

NSAU summarizes the practice of applying the Legislation on issues under its competence, develops suggestions concerning the improvement of the Legislation on the Space Activity and keeping the routine order submits them for consideration to the President of Ukraine.

Keeping the bound of its authorization rights NSAU organizes the applying of the Legislation and implements systematic control of their applying.

3. The main aims of NSAU are:

- to formulate the conceptual basis of State policy in relation to the exploration and use of outer space for peaceful purposes and in the interests of national security;

- to provide for the organization of space activity in Ukraine and under the jurisdiction of Ukraine outside its borders;

- to help increasing the defense capacity of the state and the national security using space equipment;

- to improve the cooperation between Ukraine and other countries or international organization related to the space field.

4. NSAU in accordance with its assignments:

1) develops in cooperation with the Ministries, other central executive bodies and with the National Academy of Sciences of Ukraine an Ukrainian All-State (National) Space Program and also scientific and technical programs and projects on the basic researches and the applied elaborations concerning space, including international ones, and ensures their application;

2) takes part in the development of projects on State programs for economic and social development of Ukraine, Ukraine" s Government Budget, also prepares and submits for consideration to the Cabinet of Ministers of Ukraine suggestions concerning the Ukrainian All-State (National) Space Program budgetary funding, scientific and technical programs and projects on the basic researches and the applied elaborations concerning space, ensures the accomplishment of the relevant international programs and projects and the Ukrainian participation in the international organizations" activities, provides Government loans and material and technical resources and investments for these purposes;

3) ensures the accomplishment of the scientific and technical and technological elaborations concerning the development of rocket and space technology;

4) implements the planning of suggestions concerning:

- development of mechanism for regulation of the economic development, its structural adjustment, equilibrium security, development of taxation, pricing and lend-

ing, determination of the special features in privatization of space orientated enterprises;

- social protection of the nation and the ecological security in the field of space activity;

5) within its authorization, takes part in the development of set of measures, aiming to deepen the economic reform, in the planning and implementation of investment and antitrust policy, in the preparation of macroeconomic and interbranch balances;

6) acts as General Government Contracting Authority in connection with the proceedings on space research and use, with the scientific-technical and test-design-technological planning, production and testing of space equipment, including implementation of international space projects;

7) carries out the management and activity coordination of the enterprises, establishments and organizations concerning the space sector and the sectors, connected with it;

8) in cooperation with the Ministries and other central executive bodies ensures the space activity objects" operation, maintenance and development;

9) organizes and coordinates the proceedings in connection with the launching of spacecrafts with different functions and flight management, as well as, within its authorization, ensures the receiving, collecting, handling and storage of data, incoming from the space devices;

10) organizes the selection of candidates and training of astronauts for manned space flights;

11) grants licences for scientific research to subjects of entrepreneurial activity in connection with the inventing and use of space equipment and technologies (except of launchers), development, testing, production and use of space objects and their components, earth-based space infrastructure and its components, equipment that composes a space segment of satellite system, excluding *television and radio systems, space objects data transmission, receiving, dissemination and use* (excluding matters concerning National Council for Radio and Television competence), other space services according the list accepted by the Cabinet of Ministers of Ukraine; controls the compliance with the licence conditions when operating the relevant activity (p. 11 sec. 4 of Revision of Presidential Decree № 1019/98 dated 15.09.1998);

12) organizes the development and functioning of the Space Technology Certification System of Ukraine (STCSU);

13) in accordance with the routine order carries out the space activity objects registration;

14) provides the Ukrainian space activity objects with the necessary legal documentation, develops financial, economic and other norms, mechanisms for their adoption and approves sector standards;

15) keeping the routine order, carries out the functions for managing the enterprises" property, subject to its management field, including assets and shares owned by the State as business companies" estates (State corporate rights), (p.15 sec.4 of Revision of Presidential Decree № 594/99 dated 29.05.1999);

16) acts as state authority in for the construction of residential buildings and technical facilities in the space sector;

17) controls the use of budgetary and non-budgetary funds and loans destined for enterprises, establishments and organizations, subject to its management field;

18) helps for adoption of new highly effective personnel training and retraining forms;

19) organizes rocket and space tech-

nology exhibitions, preparation and printing of scientific and technical literature on space activity;

20) creates scientific and technical sector information system;

21) issues newsletters and informs the society about the space activity;

22) undertakes actions aiming to develop the international economic collaboration between Ukraine and other countries related to space activity;

23) takes part in the preparation of Ukrainian international contracts concerning issues under its competence and organizes their application;

24) in the name of the national security of Ukraine:

- takes up actions for early detection of sources of danger;

- within its competence, helps ensuring the necessary stability, reliability and efficiency level of the system of government and state defense in a special period;

- ensures the reliable functioning of the space information and communication systems for the needs of State Senior Officials;

- within its authorization, controls the application of Ukraine's international agreements;

25) carries out the management of the National Centre for Space Resources Management and Testing;

26) within its competence, ensures state environmental monitoring;

27) conducts state scientific and technical policy in connection with creating and handling a United satellite information transmission system, satellite connection systems and *television and radio* systems in order to ensure the functioning of the State information space; also acts as state authority and coordinator on issues connected with the creation and handling of these systems;

28) represents the interests of the State in international organizations, whose activity is related to outer space research and use or operation with satellite systems;

29) ensures the adoptions of satellite telecommunication technologies for:

- creating a State system for outer space control and orbitography;

- development and maintenance of the integrity of the State navigation box and single time system;

- creating satellite connection system for the purposes of granting access to executive bodies, state enterprises and organizations to the global international information networks;

- deployment of satellite distribution radio and television systems;

- securing Ukrainian diplomatic missions and consular posts abroad through satellite connection and radio and television transmission;

30) in cooperation with the Ministry of Defense of Ukraine and other central executive bodies, in accordance with their competences, conducts state monitoring on the space activity safety;

31) in cooperation with the Ministry of Defense of Ukraine prepares and organizes the implementation of orders for producing and operating with dual-purpose space equipment on the grounds of the Ukrainian All-State (National) Space Program, also ensures the functioning and development of the relevant earth based and space infrastructure objects;

32) acts as state authority for delivering and buying production, carrying out activities and providing services for the needs of the space sector;

33) within its competences, ensures the implementation of the assignments for state mobilization and mobilization training;

34) keeps a register of contracts and

other agreements, subject to space activity, also contracts of sale between Ukrainian contractors and foreign business representatives;

35) takes measures to secure the legal rights of the intellectual property and to protect the State interests when resolving issues about operating with objects, produced in the space sector using budgetary funds;

36) in accordance with the applying legislation, ensures the development of the Insurance system against risks that may occur in NSAU's activity, its enterprises and organizations, ensures life, health and property insurance of its employees.

37) within its competences, keeps the state and commercial secrets;

38) carries out a united scientific and technological policy in the field of production of launchers and rocket complexes ordered by the Ministry of defense of Ukraine (Section 4 is supplemented with p.38 in accordance with Decree of the President № 594/99 dated 29.05.1999);

39) carries out activities related to operations with space rocket launchers, produced on the basis of strategic rocket complexes taken out of service due to depletion of their resources or subject of dissolution according to the international agreements (Section 4 is supplemented with p.39 in accordance with Decree of the President № 594/99 dated 29.05.1999);

40) ensures conversion in the space sector industrial enterprises in connection with the development and production of intercontinental ballistic missiles, their components and aggregates, using conversion facilities and the newest technologies issues high-technological civil-purpose products and attracts national and foreign investments (Section 4 is supplemented with p.40 in accordance with Decree of the President № 594/99 dated 29.05.1999);

41) keeps a State Register of the unique objects, subject to space activities, conducts State monitoring on their condition, takes measures to maintain them and keeping the routine order, implements the financing of the activity of these objects (Section 4 is supplemented with p.41 in accordance with Decree of the President № 594/99 dated 29.05.1999);

42) performs other functions in the area of space activities in conformity with the Ukrainian legislation currently in force.

5. NSAU may:

1) appoint specialists from the central and local executive bodies, enterprises, establishments and organizations (with their managers" consent) to resolve issues related to its competences;

2) represent the Cabinet of Ministers of Ukraine, by order, in international organizations and by the conclusion of international space activity agreements by Ukraine;

3) in accordance with the legislation, receive free information, documentation and materials from the ministries and the other central and local executive bodies and from the Ministry of Statistics of Ukraine-statistics necessary for the accomplishment of its assignments;

4) keeping the established order, convene meetings on issues under its competence;

5) conclude contracts for activities to be carried out by enterprises, establishments an organizations from the space or relative sectors, irrespective of the type of property;

6) control alone or together with specialist from others central and local executive bodies, enterprises, establishments and organizations, the handling and use the budgetary funds received from the con-

tracts with enterprises, establishments and organizations that are activity executors in the space sector;

7) appoint expert committees and organize complex examinations of the programs and projects in the space field, appoint these committees" members, consult and analyze the condition of the space rocket potential and order estimations by native or foreign scientists, specialists or experts from international organizations or foreign enterprises (p.7 sec.5 amended in accordance with Decree of the President № 943/2000 dated 01.08.2000);

8) suspend for a definite period of time the validity of licences issued by NSAU in case the subject of entrepreneurial activity does not comply with the licence conditions or in case of a failure to comply with the compulsory orders in time in connection with the licence conditions of the body specially authorized by the Cabinet of Ministers of Ukraine or NSAU (Section 5 is supplemented with p.8 in accordance with Decree of the President № 1019/98 dated 15.09.1998);

9) cancel licences issued by NSAU in case of revealing incorrect information in the application for licence granting or in the applied documents, in case the subject of the licence rights transfers his rights to a third party or in case of repeating or gross violation of the licence conditions (Section 5 is supplemented with p.10 in accordance with Decree of the President № 1019/98 dated 15.09.1998);

6. In the process of accomplishing it assignment NSAU interacts with other central and local executive bodies, with the Autonomous Republic of Crimea authorities, the Local Government authorities and with the relevant authorities of foreign countries.

7. NSAU issues orders and controls and organizes their application within its authorizations and in accordance with the applicable legislation of Ukraine.

NSAU's decisions on space activity issues, subject to its authorization, apply to the central and local executive bodies, the Local Government authorities, the enterprises, establishments and organizations and to the citizens irrespective of the property type.

When necessary, NSAU together with the central and local executive bodies may issue general regulations.

8. NSAU is headed by a General Director appointed by the President of Ukraine and recommended by the Prime-Minister.

General Director Deputies shall be appointed in accordance with the applying law of Ukraine. The duties of the deputies shall be allocated by the General Director.

The General Director of NSAU:

carries out the management of the activity areas assigned to him and is responsible to the President of Ukraine and the Cabinet of Ministers of Ukraine on the activities" condition in these areas, also defines the responsibility level for each of his deputies and for the heads of NSAU's divisions;

arranges the budget loans with specific purposes in connection with the activity and functioning of NSAU;

approves the status of enterprises, establishments and organizations related to the management filed of NSAU;

approves the amount limits of the loans with specific purposes, approved by the Cabinet of Ministers of Ukraine and the costs chart for maintenance of establishments financed by state budget;

appoints and puts in service the servicemen detached to NSAU and makes representations to the Ministry of defense of Ukraine for them to receive, according the

established order, next military rank;

organizes the work of NSAU's association and heads its meetings;

has other authorities according to the legislation.

9. For the coordinated resolving of issues related to NSAU's competence, for discussing its most important activity strands and development of the space sector in NSAU shall be appointed an association with members - the General Director, General Director Deputies and other NSAU heads.

In the structure of the association may also be the heads of other central executive bodies or of enterprises, establishments or organizations related to management filed of NSAU;

The association members are to be approved by the Cabinet of Ministers of Ukraine.

Association's decisions are to be applied through NSAU orders.

10. A NSAU shall be appointed a scientific-technical Council of scientists and highly qualified specialists that shall consider the most important programs, the scientific recommendations and other issues related to the main strands of the science and technology development.

The members of the scientific-technical Council and its regulations shall be approved by the General Director of NSAU.

In connection with the specifics of its activity, NSAU may appoint other advisory and consultative bodies. Their structure and regulations shall be approved by the General Director of NSAU.

11. The Cabinet of Ministers of Ukraine shall approve the number of employees and the salary funds for the workers in the NSAU's central apparatus.

NSAU's central apparatus structure shall be approved by the Deputy Prime Minister of Ukraine.

The General Director of NSAU approves the establishment plan of NSAU's central apparatus and the regulation for its structural divisions.

12. NSAU is a legal entity, has its own balance, different current accounts in bank institutions, a stamp containing the State coat of arms and its own name.

Head of the Presidential
Administration of Ukraine
E. Kushnaryov

OUTER SPACE ACT (United Kingdom, 1986) 1986 Chapter 38

An Act to confer licensing and other powers on the Secretary of State to secure compliance with the international obligations of the United Kingdom with respect to the launching and operation of space objects and the carrying on of other activities in outer space by persons connected with this country. [18th July 1986]

Be it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:-

Application of act

1. This Act applies to the following activities whether carried on in the United Kingdom or elsewhere-

(a) launching or procuring the launch of a space object;

(b) operating a space object;

(c) any activity in outer space.

2. (1) This Act applies to United Kingdom nationals, Scottish firms, and bodies incorporated under the law of any part of the United Kingdom.

(2) For this purpose „United Kingdom national" means an individual who is-

(a) a British citizen, a British Dependent Territories citizen, a British National (Overseas), or a British Overseas citizen,

(b) a person who under the British Nationality Act 1981 is a British subject, or

(c) a British protected person within the meaning of that Act.

(3) Her Majesty may by Order in Council extend the application of this Act to bodies incorporated under the law of any of the Channel Islands, the Isle of Man or any dependent territory.

Licensing of activities

3. (1) A person to whom this Act applies shall not, subject to the following provisions, carry on an activity to which this Act applies except under the authority of a licence granted by the Secretary of State.

(2) A licence is not required-

(a) by a person acting as employee or agent of an other; or

(b) for activities in respect of which it is certified by Order in Council that arrangements have been made between the United Kingdom and another country to secure compliance with the international obligations of the United Kingdom.

(3) The Secretary of State may by order except other persons or activities from the requirement of a licence if he is satisfied that the requirement is not necessary to secure compliance with the international obligations of the United Kingdom.

(4) An order shall be made by statutory instrument which shall be subject to annulment in pursuance of a resolution of either House of Parliament.

4. (1) The Secretary of State may grant a licence if he thinks fit.

(2) He shall not grant a licence unless he is satisfied that the activities authorised by the licence-

(a) will not jeopardise public health or the safety of persons or property,

(b) will be consistent with the international obligations of the United Kingdom, and

(c) will not impair the national security of the United Kingdom.

(3) The Secretary of State may make regulations-

(a) prescribing the form and contents

of applications for licences and other documents to be filed in connection with applications;

(b) regulating the procedure to be followed in connection with applications and authorising the rectification of procedural irregularities;

(c) prescribing time limits for doing anything required to be done in connection with an application and providing for the extension of any period so prescribed;

(d) requiring the payment to the Secretary of State of such fees as may be prescribed.

5. (1) A licence shall describe the activities authorised by it and shall be granted for such period, and may be granted subject to such conditions, as the Secretary of State thinks fit.

(2) A licence may in particular contain conditions-

(a) permitting inspection by the Secretary of State of the licensee's facilities, and inspection and testing by him of the licensee's equipment;

(b) requiring the licensee to provide the Secretary of State as soon as possible with information as to-

(i) the date and territory or location of launch, and

(ii) the basic orbital parameters, including modal period, inclination, apogee and perigee, and with such other information as the Secretary of State thinks fit concerning the nature, conduct, location and results of the licensee's activities;

(c) permitting the Secretary of State to inspect and take copies of documents relating to the information required to be given to him;

(d) requiring the licensee to obtain advance approval from the Secretary of State for any intended deviation from the orbital parameters, and to inform the Secretary of State immediately of any unintended deviation

(e) requiring the licensee to conduct his operations in such a way as to-

(i) prevent the contamination of outer space or adverse changes in the environment of the earth,

(ii) avoid interference with the activities of others in the peaceful exploration and use of outer space

(iii) avoid any breach of the United Kingdom's international obligations, and

(iv) preserve the national security of the United Kingdom;

(f) requiring the licensee to insure himself against liability incurred in respect of damage or loss suffered by third parties, in the United Kingdom or elsewhere, as a result of the activities authorised by the licence;

(g) governing the disposal of the payload in outer space on the termination of operations under the licence and requiring the licensee to notify the Secretary of State as soon as practicable of its final disposal; and

(h) providing for the termination of the licence on a specified event.

6. (1) A licence may be transferred with the written consent of the Secretary of State and in such other cases as may be prescribed.

(2) The Secretary of State may revoke, vary or suspend a licence with the consent of the licensee or where it appears to him-

(a) that a condition of the licence or any regulation made under this Act has not been complied with, or

(b) that revocation, variation or suspension of the licence is required in the interests of public health or national security, or to comply with any international obligation of the United Kingdom.

Other controls

7. (1) The Secretary of State shall maintain a register space of space objects.

(2) There shall be entered in the register such particulars of such space objects as the Secretary of State considers appropriate to comply with the international obligations of the United Kingdom.

(3) Any person may inspect a copy of the register on payment of such fee as the Secretary of State may prescribe.

8. (1) If it appears to the Secretary of State that an activity is being carried on by a person to whom this Act applies-

(a) in contravention of section 3 (licensing requirement), or

(b) in contravention of the conditions of a licence, he may give such directions to that person as appear to him necessary to secure compliance with the international obligations of the United Kingdom or with the conditions of the licence.

(2) He may, in particular, give such directions as appear to him necessary to secure the cessation of the activity or the disposal of any space object.

(3) Compliance with a direction may, without prejudice to other means of enforcement, be enforced on the application of the Secretary of State by injunction or, in Scotland, by interdict or by order under section 91 of the Court of Session Act 1968.

9. (1) If a justice of the peace is satisfied by information on oath that there are reasonable grounds for believing-

(a) that an activity is being carried on by a person to whom this Act applies in contravention of section 3 (licensing requirement) or in contravention of the conditions of a licence, and

(b) that a direction under section 8 has not been complied with, or a refusal to comply with such a direction is apprehended, or the case is one of urgency, he may issue a warrant authorising a named person acting on behalf of the Secretary of State to do anything necessary to secure compliance with the international obligations of the United Kingdom or with the conditions of the licence.

(2) The warrant shall specify the action so authorised.

(3) The warrant may authorise entry onto specified premises at any reasonable hour and on production, if so required, of the warrant.

(4) The powers conferred by the warrant include power to use reasonable force, if necessary, and may be exercised by the named person together with other persons.

(5) A warrant remains in force for a period of one month from the date of its issue.

(6) In Scotland the reference in subsection (1) to a justice of the peace shall be construed as a reference to a justice of the peace or a sheriff and the reference to information shall be construed as a reference to evidence.

10. (1) A person to whom this Act applies shall indemnify Her Majesty's government in the United Kingdom against any claims brought against the government in respect of damage or loss arising out of activities carried on by him to which this Act applies.

(2) This section does not apply-

(a) to a person acting as employee or agent of another; or

(b) to damage or loss resulting from anything done on the instructions of the Secretary of State.

General

11. (1) The Secretary of State may make regulations-

(a) prescribing anything required or authorised to be prescribed under this Act, and

(b) generally for carrying this Act into effect.

(2) Regulations under this Act shall be made by statutory instrument which shall be subject to annulment in pursuance of a resolution of either House of Parliament.

12. (1) A person commits an offence who-

(a) carries on an activity in contravention of section 3 (licensing requirement);

(b) for the purpose of obtaining a licence (for himself or for another) knowingly or recklessly makes a statement which is false in a material particular;

(c) being the holder of a licence, fails to comply with the conditions of the licence;

(d) fails to comply with a direction under section 8;

(e) intentionally obstructs a person in the exercise of powers conferred by a warrant under section 9; or

(f) fails to comply with such of the regulations under this Act as may be prescribed.

(2) A person committing an offence is liable on conviction on indictment to a fine and on summary conviction to a fine not exceeding the statutory maximum.

(3) Where an offence committed by a body corporate is proved to have been committed with the consent or connivance of, or to be attributable to neglect on the part of, a director, secretary or other similar officer of the body corporate, or a person purporting to act in any such capacity, he as well as the body corporate is guilty of the offence and liable to be proceeded against and punished accordingly.

In this subsection „director", in relation to a body corporate whose affairs are managed by its members, means a member of the body corporate.

(4) Proceedings for an offence committed outside the United Kingdom may be taken, and the offence may for incidental purposes be treated as having been committed, in any place in the United Kingdom.

(5) In proceedings for an offence under paragraph (a), (c), (d) or (f) of subsection (1) it is a defence for the accused to show that he used all due diligence and took all reasonable precautions to avoid the commission of the offence.

(6) A person other than a person to whom this Act applies is not guilty of an offence under this Act in respect of things done by him outside the United Kingdom, except-

(a) an offence of aiding, abetting, counselling or procuring conspiracy or incitement in relation to the commission of an offence under this Act in the United Kingdom; or

(b) an offence under subsection (3) (liability of directors, officers, &c.) in connection with an offence committed by a body corporate which is a person to whom this Act applies.

(7) Section 2 (person to whom this Act applies) shall not be construed as restricting the persons against whom proceedings for an offence may be brought.

13. (1) In this Act -

"dependent territory" means -

(a) a colony, or

(b) a country outside Her Majesty's dominions in which Her Majesty has jurisdiction in right of Her Government in the United Kingdom;

"outer space" includes the moon and other celestial bodies; and

"space object" includes the component parts of a space object, its launch vehicle and the component parts of that.

(2) For the purposes of this Act a per-

son carries on an activity if he causes it to occur or is responsible for its continuing.

14.- The following Table shows provisions defining or otherwise explaining expressions used in this Act (other than provisions defining or explaining an expression used in the same section):-

activities to which this Act applies section 1

carrying on an activity section 13(2)

dependent territory section 13(1)

outer space section 13(1)

person to whom this Act applies section 2

prescribed section 11(1)(a)

space object section 13(1)

15.- (1) This Act may be cited as the Outer Space Act 1986.

(2) This Act comes into force on such day as the Secretary of State may appoint by order made by statutory instrument.

(3) The Secretary of State may appoint a later day for the commencement of so much of section 2(2)(a) as refers to the status of British National (Overseas).

(4) Activities to which this Act applies begun before the commencement of this Act may be carried on without a licence under section 3 for six months after commencement; but sections 8 and 9 (directions and action to secure compliance with international obligations) apply to such activities as they apply to activities carried on in contravention of that section.

(5) This Act extends to England and Wales, Scotland and Northern Ireland.

(6) Her Majesty may by Order in Council direct that this Act shall apply, subject to such exceptions and modifications as may be specified in the Order, to the Channel Islands, the Isle of Man or any dependent territory.

Commercial Space Act of 1998

• • •

An Act

To encourage the development of a commercial space industry in the United States, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

• • •

SEC. 2. DEFINITIONS.

For purposes of this Act -

(1) the term "Administrator" means the Administrator of the National Aeronautics and Space Administration;

(2) the term "commercial provider" means any person providing space transportation services or other space-related activities, primary control of which is held by persons other than Federal, State, local, and foreign governments;

(3) the term "payload" means anything that a person undertakes to transport to, from, or within outer space, or in suborbital trajectory, by means of a space transportation vehicle, but does not include the space transportation vehicle itself except for its components which are specifically designed or adapted for that payload;

(4) the term "space-related activities" includes research and development, manufacturing, processing, service, and other associated and support activities;

(5) the term "space transportation services" means the preparation of a space transportation vehicle and its payloads for transportation to, from, or within outer space, or in suborbital trajectory, and the conduct of transporting a payload to, from, or within outer space, or in suborbital trajectory;

(6) the term "space transportation vehicle" means any vehicle constructed for the purpose of operating in, or transporting a payload to, from, or within, outer space, or in suborbital trajectory, and includes any component of such vehicle not specifically designed or adapted for a payload;

(7) the term "State" means each of the several States of the Union, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States; and (8) the term "United States commercial provider" means a commercial provider, organized under the laws of the United States or of a State, which is -

(A) more than 50 percent owned by United States nationals; or

(B) a subsidiary of a foreign company and the Secretary of Transportation finds that -

(i) such subsidiary has in the past evidenced a substantial commitment to the United States market through -

(I) investments in the United States in long-term research, development, and manufacturing (including the manufacture of major components and subassemblies); and

(II) significant contributions to employment in the United States; and

(ii) the country or countries in which such foreign company is incorporated or organized, and, if appropriate, in which it principally conducts its business, affords reciprocal treatment to companies described in subparagraph (A) comparable to that afforded to such foreign company's subsidiary in the United States, as evidenced by -

(I) providing comparable opportunities for companies described in subparagraph

(A) to participate in Government sponsored research and development similar to that authorized under this Act;

(II) providing no barriers, to companies described in subparagraph (A) with respect

to local investment opportunities, that are not provided to foreign companies in the United States; and

(III) providing adequate and effective protection for the intellectual property rights of companies described in subparagraph (A).

TITLE I -PROMOTION OF COMMERCIAL SPACE OPPORTUNITIES

SEC. 101. COMMERCIALIZATION OF SPACE STATION.

(a) POLICY- The Congress declares that a priority goal of constructing the International Space Station is the economic development of Earth orbital space.

The Congress further declares that free and competitive markets create the most efficient conditions for promoting economic development, and should therefore govern the economic development of Earth orbital space. The Congress further declares that the use of free market principles in operating, servicing, allocating the use of, and adding capabilities to the Space Station, and the resulting fullest possible engagement of commercial providers and participation of commercial users, will reduce Space Station operational costs for all partners and the Federal Government's share of the United States burden to fund operations.

(b) REPORTS- (1) The Administrator shall deliver to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, within 90 days after the date of the enactment of this Act, a study that identifies and examines -

(A) the opportunities for commercial providers to play a role in International Space Station activities, including operation, use, servicing, and augmentation;

(B) the potential cost savings to be derived from commercial providers playing a role in each of these activities;

(C) which of the opportunities described in subparagraph (A) the Administrator plans to make available to commercial providers in fiscal years 1999 and 2000;

(D) the specific policies and initiatives the Administrator is advancing to encourage and facilitate these commercial opportunities; and

(E) the revenues and cost reimbursements to the Federal Government from commercial users of the Space Station.

(2) The Administrator shall deliver to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, within 180 days after the date of the enactment of this Act, an independently conducted market study that examines and evaluates potential industry interest in providing commercial goods and services for the operation, servicing, and augmentation of the International Space Station, and in the commercial use of the International Space Station. This study shall also include updates to the cost savings and revenue estimates made in the study described in paragraph (1) based on the external market assessment.

(3) The Administrator shall deliver to the Congress, no later than the submission of the President's annual budget request for fiscal year 2000, a report detailing how many proposals (whether solicited or not) the National Aeronautics and Space Administration received during calendar years 1997 and 1998 regarding commercial operation, servicing, utilization, or augmentation of the International Space Station, broken down by each of these four categories, and specifying how many agreements the National Aeronautics and Space Administration has entered into in response to these proposals, also broken down by these four categories.

(4) Each of the studies and reports required by paragraphs (1), (2), and (3) shall include consideration of the potential role of State governments as brokers in promoting commercial participation in the International Space Station program.

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SEC. 104. PROMOTION OF UNITED STATES GLOBAL POSITIONING SYSTEM STANDARDS.

(a) FINDING- The Congress finds that the Global Positioning System, including satellites, signal equipment, ground stations, data links, and associated command and control facilities, has become an essential element in civil, scientific, and military space development because of the emergence of a United States commercial industry which provides Global Positioning System equipment and related services.

(b) INTERNATIONAL COOPERATION- In order to support and sustain the Global Positioning System in a manner that will most effectively contribute to the national security, public safety, scientific, and economic interests of the United States, the Congress encourages the President to -

(1) ensure the operation of the Global Positioning System on a continuous worldwide basis free of direct user fees;

(2) enter into international agreements that promote cooperation with foreign governments and international organizations to -

(A) establish the Global Positioning System and its augmentations as an acceptable international standard; and

(B) eliminate any foreign barriers to applications of the Global Positioning System worldwide; and

(3) provide clear direction and adequate resources to the Assistant Secretary of Commerce for Communications and Information so that on an international basis the Assistant Secretary can -

(A) achieve and sustain efficient management of the electromagnetic spectrum used by the Global Positioning System; and

(B) protect that spectrum from disruption and interference.

SEC. 105. ACQUISITION OF SPACE SCIENCE DATA.

(a) ACQUISITION FROM COMMERCIAL PROVIDERS- The Administrator shall, to the extent possible and while satisfying the scientific or educational requirements of the National Aeronautics and Space Administration, and where appropriate, of other Federal agencies and scientific researchers, acquire, where cost effective, space science data from a commercial provider.

(b) TREATMENT OF SPACE SCIENCE DATA AS COMMERCIAL ITEM UNDER ACQUISITION LAWS -

Acquisitions of space science data by the Administrator shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10, United States Code). For purposes of such law and regulations, space science data shall be considered to be a commercial item.

Nothing in this subsection shall be construed to preclude the United States from acquiring, through contracts with commercial providers, sufficient rights in data to meet the needs of the scientific and educational community or the needs of other government activities.

(c) DEFINITION- For purposes of this section, the term "space science data" includes scientific data concerning -

(1) the elemental and mineralogical resources of the moon, asteroids, planets and their moons, and comets;

(2) microgravity acceleration; and

(3) solar storm monitoring.

(d) SAFETY STANDARDS- Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(e) LIMITATION- This section does not authorize the National Aeronautics and Space Administration to provide financial assistance for the development of commercial systems for the collection of space science data.

SEC. 106. ADMINISTRATION OF COMMERCIAL SPACE CENTERS.

The Administrator shall administer the Commercial Space Center program in a coordinated manner from National Aeronautics and Space Administration headquarters in Washington, D.C.

SEC. 107. SOURCES OF EARTH SCIENCE DATA.

(a) ACQUISITION- The Administrator shall, to the extent possible and while satisfying the scientific or educational requirements of the National Aeronautics and Space Administration, and where appropriate, of other Federal agencies and scientific researchers, acquire, where cost-effective, space-based and airborne Earth remote sensing data, services, distribution, and applications from a commercial provider.

(b) TREATMENT AS COMMERCIAL ITEM UNDER ACQUISITION LAWS- Acquisitions by the Administrator of the data, services, distribution, and applications referred to in subsection (a) shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10, United States Code). For purposes of such law and regulations, such data, services, distribution, and applications shall be considered to be a commercial item.

Nothing in this subsection shall be construed to preclude the United States from acquiring, through contracts with commercial providers, sufficient rights in data to meet the needs of the scientific and educational community or the needs of other government activities.

(c) STUDY- (1) The Administrator shall conduct a study to determine the extent to which the baseline scientific requirements of Earth Science can be met by commercial providers, and how the National Aeronautics and Space Administration will meet such requirements which cannot be met by commercial providers.

(2) The study conducted under this subsection shall -

(A) make recommendations to promote the availability of information from the National Aeronautics and Space Administration to commercial providers to enable commercial providers to better meet the baseline scientific requirements of Earth Science;

(B) make recommendations to promote the dissemination to commercial providers of information on advanced technology research and development performed by or for the National Aeronautics and Space Administration; and

(C) identify policy, regulatory, and legislative barriers to the implementation of the recommendations made under this subsection.

(3) The results of the study conducted under this subsection shall be transmitted to the Congress within 6 months after the date of the enactment of this Act.

(d) SAFETY STANDARDS- Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(e) ADMINISTRATION AND EXECUTION- This section shall be carried out as part of

the Commercial Remote Sensing Program at the Stennis Space Center.

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TITLE II - FEDERAL ACQUISITION OF SPACE TRANSPORTATION SERVICES

SEC. 201. REQUIREMENT TO PROCURE COMMERCIAL SPACE TRANSPORTATION SERVICES.

(a) IN GENERAL- Except as otherwise provided in this section, the Federal Government shall acquire space transportation services from United States commercial providers whenever such services are required in the course of its activities. To the maximum extent practicable, the Federal Government shall plan missions to accommodate the space transportation services capabilities of United States commercial providers.

(b) EXCEPTIONS- The Federal Government shall not be required to acquire space transportation services under subsection (a) if, on a case-by-case basis, the Administrator or, in the case of a national security issue, the Secretary of the Air Force, determines that -

(1) a payload requires the unique capabilities of the Space Shuttle;

(2) cost effective space transportation services that meet specific mission requirements would not be reasonably available from United States commercial providers when required;

(3) the use of space transportation services from United States commercial providers poses an unacceptable risk of loss of a unique scientific opportunity;

(4) the use of space transportation services from United States commercial providers is inconsistent with national security objectives;

(5) the use of space transportation services from United States commercial providers is inconsistent with international agreements for international collaborative efforts relating to science and technology;

(6) it is more cost effective to transport a payload in conjunction with a test or demonstration of a space transportation vehicle owned by the Federal Government; or

(7) a payload can make use of the available cargo space on a Space Shuttle mission as a secondary payload, and such payload is consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

Nothing in this section shall prevent the Administrator from planning or negotiating agreements with foreign entities for the launch of Federal Government payloads for international collaborative efforts relating to science and technology.

(c) DELAYED EFFECT- Subsection (a) shall not apply to space transportation services and space transportation vehicles acquired or owned by the Federal Government before the date of the enactment of this Act, or with respect to which a contract for such acquisition or ownership has been entered into before such date.

(d) HISTORICAL PURPOSES- This section shall not be construed to prohibit the Federal Government from acquiring, owning, or maintaining space transportation vehicles solely for historical display purposes.

SEC. 202. ACQUISITION OF COMMERCIAL SPACE TRANSPORTATION SERVICES.

(a) TREATMENT OF COMMERCIAL SPACE TRANSPORTATION SERVICES AS COMMERCIAL ITEM UNDER ACQUISITION LAWS-

Acquisitions of space transportation services by the Federal Government shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10, United States Code). For purposes of such law and regulations, space transportation services shall be considered to be a commercial item.

(b) SAFETY STANDARDS- Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

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SEC. 204. SHUTTLE PRIVATIZATION.

(a) POLICY AND PREPARATION- The Administrator shall prepare for an orderly transition from the Federal operation, or Federal management of contracted operation, of space transportation systems to the Federal purchase of commercial space transportation services for all nonemergency space transportation requirements for transportation to and from Earth orbit, including human, cargo, and mixed payloads. In those preparations, the Administrator shall take into account the need for short-term economies, as well as the goal of restoring the National Aeronautics and Space Administration's research focus and its mandate to promote the fullest possible commercial use of space. As part of those preparations, the Administrator shall plan for the potential privatization of the Space Shuttle program. Such plan shall keep safety and cost effectiveness as high priorities. Nothing in this section shall prohibit the National Aeronautics and Space Administration from studying, designing, developing, or funding upgrades or modifications essential to the safe and economical operation of the Space Shuttle fleet.

(b) FEASIBILITY STUDY- The Administrator shall conduct a study of the feasibility of implementing the recommendation of the Independent Shuttle Management Review Team that the National Aeronautics and Space Administration transition toward the privatization of the Space Shuttle. The study shall identify, discuss, and, where possible, present options for resolving, the major policy and legal issues that must be addressed before the Space Shuttle is privatized, including -

(1) whether the Federal Government or the Space Shuttle contractor should own the Space Shuttle orbiters and ground facilities;

(2) whether the Federal Government should indemnify the contractor for any third party liability arising from Space Shuttle operations, and, if so, under what terms and conditions;

(3) whether payloads other than National Aeronautics and Space Administration payloads should be allowed to be launched on the Space Shuttle, how missions will be prioritized, and who will decide which mission flies and when;

(4) whether commercial payloads should be allowed to be launched on the Space Shuttle and whether any classes of payloads should be made ineligible for launch consideration;

(5) whether National Aeronautics and Space Administration and other Federal Government payloads should have priority over non-Federal payloads in the Space Shuttle launch assignments, and what policies should be developed to prioritize among payloads generally;

(6) whether the public interest requires that certain Space Shuttle functions continue to be performed by the Federal Government; and

(7) how much cost savings, if any, will be generated by privatization of the Space Shuttle.

(c) REPORT TO CONGRESS- Within 60 days after the date of the enactment of this Act, the National Aeronautics and Space Administration shall complete the study required under subsection (b) and shall submit a report on the study to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

SEC. 205. USE OF EXCESS INTERCONTINENTAL BALLISTIC MISSILES.

(a) IN GENERAL- The Federal Government shall not -

(1) convert any missile described in subsection (c) to a space transportation vehicle configuration; or

(2) transfer ownership of any such missile to another person, except as provided in subsection (b).

(b) AUTHORIZED FEDERAL USES- (1) A missile described in subsection (c) may be converted for use as a space transportation vehicle by the Federal Government if, except as provided in paragraph (2) and at least 30 days before such conversion, the agency seeking to use the missile as a space transportation vehicle transmits to the Committee on National Security and the Committee on Science of the House of Representatives, and to the Committee on Armed Services and the Committee on Commerce, Science, and Transportation of the Senate, a certification that the use of such missile -

(A) would result in cost savings to the Federal Government when compared to the cost of acquiring space transportation services from United States commercial providers;

(B) meets all mission requirements of the agency, including performance, schedule, and risk requirements;

(C) is consistent with international obligations of the United States; and

(D) is approved by the Secretary of Defense or his designee.

(2) The requirement under paragraph (1) that the certification described in that paragraph must be transmitted at least 30 days before conversion of the missile shall not apply if the Secretary of Defense determines that compliance with that requirement would be inconsistent with meeting immediate national security requirements.

(c) MISSILES REFERRED TO- The missiles referred to in this section are missiles owned by the United States that -

(1) were formerly used by the Department of Defense for national defense purposes as intercontinental ballistic missiles; and

(2) have been declared excess to United States national defense needs and are in compliance with international obligations of the United States.

SEC. 206. NATIONAL LAUNCH CAPABILITY STUDY.

(a) FINDINGS- Congress finds that a robust satellite and launch industry in the United States serves the interest of the United States by -

(1) contributing to the economy of the United States;

(2) strengthening employment, technological, and scientific interests of the United States; and

(3) serving the foreign policy and national security interests of the United States.

(b) DEFINITIONS- In this section:

(1) SECRETARY- The term "Secretary" means the Secretary of Defense.

(2) TOTAL POTENTIAL NATIONAL MISSION MODEL- The term "total potential national mission model" means a model that -

(A) is determined by the Secretary, in consultation with the Administrator, to assess the total potential space missions to be conducted in the United States during a specified period of time; and

(B) includes all launches in the United States (including launches conducted on or off a Federal range).

(c) REPORT-

(1) IN GENERAL- Not later than 180 days after the date of enactment of this Act, the Secretary shall, in consultation with the

Administrator and appropriate representatives of the satellite and launch industry and the governments of States and political subdivisions thereof -

(A) prepare a report that meets the requirements of this subsection; and

(B) submit that report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

(2) REQUIREMENTS FOR REPORT- The report prepared under this subsection shall -

(A) identify the total potential national mission model for the period beginning on the date of the report and ending on December 31, 2007;

(B) identify the resources that are necessary or available to carry out the total potential national mission model described in subparagraph (A), including -

(i) launch property and services of the Department of Defense, the National Aeronautics and Space Administration, and non-Federal facilities; and

(ii) the ability to support commercial launch-on-demand on short notification, taking into account Federal requirements, at launch sites or test ranges in the United States;

(C) identify each deficiency in the resources referred to in subparagraph (B); and

(D) with respect to the deficiencies identified under subparagraph (C), include estimates of the level of funding necessary to address those deficiencies for the period described in subparagraph (A).

(d) RECOMMENDATIONS- Based on the reports under subsection (c), the Secretary, after consultation with the Secretary of Transportation, the Secretary of Commerce, and representatives from interested private sector entities, States, and local governments, shall -

(1) identify opportunities for investment by non-Federal entities (including States and political subdivisions thereof and private sector entities) to assist the Federal Government in providing launch capabilities for the commercial space industry in the United States;

(2) identify one or more methods by which, if sufficient resources referred to in subsection (c)(2)(D) are not available to the Department of Defense and the National Aeronautics and Space Administration, the control of the launch property and launch services of the Department of Defense and the National Aeronautics and Space Administration may be transferred from the Department of Defense and the National Aeronautics and Space Administration to -

(A) one or more other Federal agencies;

(B) one or more States (or subdivisions thereof);

(C) one or more private sector entities; or

(D) any combination of the entities described in subparagraphs (A) through (C); and

(3) identify the technical, structural, and legal impediments associated with making launch sites or test ranges in the United States viable and competitive.

United States Code, Title 42 (The Public Health and Welfare), Chapter 26 (National Space Program)

NATIONAL SPACE PROGRAM

Subchapter I: General Provisions

Sec. 2451. Congressional declaration of policy and purpose

(a) Devotion of space activities to peaceful purposes for benefit of all mankind The Congress declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind.

(b) Aeronautical and space activities for welfare and security of United States; control by civilian agency; exceptions

The Congress declares that the general welfare and security of the United States require that adequate provision be made for aeronautical and space activities. The Congress further declares that such activities shall be the responsibility of, and shall be directed by, a civilian agency exercising control over aeronautical and space activities sponsored by the United States, except that activities peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the defense of the United States) shall be the responsibility of, and shall be directed by, the Department of Defense; and that determination as to which such agency has responsibility for and direction of any such activity shall be made by the President in conformity with section 2471(e) of this title.

(c) Commercial use of space

The Congress declares that the general welfare of the United States requires that the National Aeronautics and Space Administration (as established by subchapter II of this chapter) seek and encourage, to the maximum extent possible, the fullest commercial use of space.

(d) Objectives of aeronautical and space activities

The aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives:

(1) The expansion of human knowledge of the Earth and of phenomena in the atmosphere and space;

(2) The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles;

(3) The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space;

(4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes;

(5) The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere;

(6) The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value or significance to that agency;

(7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this chapter and in the peaceful application of the results

thereof;

(8) The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment; and

(9) The preservation of the United States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes.

(e) Ground propulsion systems research and development

The Congress declares that the general welfare of the United States requires that the unique competence in scientific and engineering systems of the National Aeronautics and Space Administration also be directed toward ground propulsion systems research and development. Such development shall be conducted so as to contribute to the objectives of developing energy and petroleum-conserving ground propulsion systems, and of minimizing the environmental degradation caused by such systems.

(f) Development of advanced automobile propulsion systems

The Congress declares that the general welfare of the United States requires that the unique competence in scientific and engineering systems of the National Aeronautics and Space Administration also be directed toward the development of advanced automobile propulsion systems. Such development shall be conducted so as to contribute to the achievement of the purposes set forth in section 2701(b) of title 15.

(g) Bioengineering research, development, and demonstration programs

The Congress declares that the general welfare of the United States requires that the unique competence of the National Aeronautics and Space Administration in science and engineering systems be directed to assisting in bioengineering research, development, and demonstration programs designed to alleviate and minimize the effects of disability.

(h) Purpose of chapter

It is the purpose of this chapter to carry out and effectuate the policies declared in subsections (a), (b), (c), (d), (e), (f), and (g) of this section.

Sec. 2452. Definitions

As used in this chapter -

(1) the term „aeronautical and space activities" means (A) research into, and the solution of, problems of flight within and outside the earth's atmosphere, (B) the development, construction, testing, and operation for research purposes of aeronautical and space vehicles, (C) the operation of a space transportation system including the Space Shuttle, upper stages, space platforms, and related equipment, and (D) such other activities as may be required for the exploration of space; and

(2) the term „aeronautical and space vehicles" means aircraft, missiles, satellites, and other space vehicles, manned and unmanned, together with related equipment, devices, components, and parts.

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Sec. 2456a. Arrest authority

Under regulations to be prescribed by the Administrator and approved by the Attorney General of the United States, those employees of the Administration and of its contractors and subcontractors authorized to carry firearms under section 2456 of this title may arrest without warrant for any offense against the United States committed in their presence, or for any felony cognizable under the laws of the United States if they have reasonable grounds to believe that the person to be arrested has commit-

ted or is committing such felony. Persons granted authority to make arrests by this section may exercise that authority only while guarding and protecting property owned or leased by, or under the control of, the United States under the administration and control of the Administration or one of its contractors or subcontractors, at facilities owned by or contracted to the Administration.

Sec. 2457. Property rights in inventions

(a) Exclusive property of United States; issuance of patent

Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that -

(1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or

(2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1), such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section.

(b) Contract provisions for furnishing reports of inventions, discoveries, improvements, or innovations

Each contract entered into by the Administrator with any party for the performance of any work shall contain effective provisions under which such party shall furnish promptly to the Administrator a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the performance of any such work.

(c) Patent application No patent may be issued to any applicant other than the Administrator for any invention which appears to the Commissioner of Patents and Trademarks to have significant utility in the conduct of aeronautical and space activities unless the applicant files with the Commissioner, with the application or within thirty days after request therefor by the Commissioner, a written statement executed under oath setting forth the full facts concerning the circumstances under which such invention was made and stating the relationship (if any) of such invention to the performance of any work under any contract of the Administration. Copies of each such statement and the application to which it relates shall be transmitted forthwith by the Commissioner to the Administrator.

(d) Issuance of patent to applicant; request by Administrator; notice; hearing; determination; review

Upon any application as to which any such statement has been transmitted to the Administrator, the Commissioner may, if the invention is patentable, issue a patent to the

applicant unless the Administrator, within ninety days after receipt of such application and statement, requests that such patent be issued to him on behalf of the United States. If, within such time, the Administrator files such a request with the Commissioner, the Commissioner shall transmit notice thereof to the applicant, and shall issue such patent to the Administrator unless the applicant within thirty days after receipt of such notice requests a hearing before the Board of Patent Appeals and Interferences on the question whether the Administrator is entitled under this section to receive such patent. The Board may hear and determine, in accordance with rules and procedures established for interference cases, the question so presented, and its determination shall be subject to appeal by the applicant or by the Administrator to the United States Court of Appeals for the Federal Circuit in accordance with procedures governing appeals from decisions of the Board of Patent Appeals and Interferences in other proceedings.

(e) False representations; request for transfer of title to patent; notice; hearing; determination; review

Whenever any patent has been issued to any applicant in conformity with subsection (d) of this section, and the Administrator thereafter has reason to believe that the statement filed by the applicant in connection therewith contained any false representation of any material fact, the Administrator within five years after the date of issuance of such patent may file with the Commissioner a request for the transfer to the Administrator of title to such patent on the records of the Commissioner. Notice of any such request shall be transmitted by the Commissioner to the owner of record of such patent, and title to such patent shall be so transferred to the Administrator unless within thirty days after receipt of such notice such owner of record requests a hearing before the Board of Patent Appeals and Interferences on the question whether any such false representation was contained in such statement. Such question shall be heard and determined, and determination thereof shall be subject to review, in the manner prescribed by subsection (d) of this section for questions arising thereunder. No request made by the Administrator under this subsection for the transfer of title to any patent, and no prosecution for the violation of any criminal statute, shall be barred by any failure of the Administrator to make a request under subsection (d) of this section for the issuance of such patent to him, or by any notice previously given by the Administrator stating that he had no objection to the issuance of such patent to the applicant therefor.

(f) Waiver of rights to inventions; Inventions and Contributions Board

Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agree-

ment with the United States. Each proposal for any waiver under this subsection shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for hearing, and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.

(g) Repealed. Pub. L. 96-517, Sec. 7(b), Dec. 12, 1980, 94 Stat. 3027

(h) Protection of title

The Administrator is authorized to take all suitable and necessary steps to protect any invention or discovery to which he has title, and to require that contractors or persons who retain title to inventions or discoveries under this section protect the inventions or discoveries to which the Administration has or may acquire a license of use.

(i) Administration as defense agency

The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35.

(j) Definitions

As used in this section -

(1) the term „person" means any individual, partnership, corporation, association, institution, or other entity;

(2) the term „contract" means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder; and

(3) the term „made", when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

(k) Objects intended for launch, launched, or assembled in outer space

Any object intended for launch, launched, or assembled in outer space shall be considered a vehicle for the purpose of section 272 of title 35.

(l) Use or manufacture of patented inventions incorporated in space vehicles launched for persons other than United States

The use or manufacture of any patented invention incorporated in a space vehicle launched by the United States Government for a person other than the United States shall not be considered to be a use or manufacture by or for the United States within the meaning of section 1498(a) of title 28, unless the Administration gives an express authorization or consent for such use or manufacture.

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Sec. 2458a. Malpractice and negligence suits against United States

(a) Exclusive remedy

The remedy against the United States provided by sections 1346(b) and 2672 of title 28, for damages for personal injury, including death, caused by the negligent or wrongful act or omission of any physician, dentist, nurse, pharmacist, or paramedical or other supporting personnel (including medical and dental technicians, nursing assistants, and therapists) of the Administration in the performance of medical, dental, or related health care functions (including clinical studies and investigations) while acting within the scope of his duties or employment therein or therefor shall hereafter be exclusive of any other civil action or proceeding by reason of the same subject matter against such physician, dentist, nurse, pharmacist, or paramedical or other supporting personnel (or the estate of such person) whose act or omission gave rise to such action or proceeding.

(b) Attorney General to defend any civil action or proceeding for malpractice or neg-

ligence; service of process

The Attorney General shall defend any civil action or proceeding brought in any court against any person referred to in subsection (a) of this section (or the estate of such person) for any such injury. Any such person against whom such civil action or proceeding is brought shall deliver within such time after date of service or knowledge of service as determined by the Attorney General, all process served upon such person or an attested true copy thereof to such person's immediate superior or to whomever was designated by the Administrator to receive such papers and such person shall promptly furnish copies of the pleading and process therein to the United States Attorney for the district embracing the place wherein the proceeding is brought to the Attorney General and to the Administrator.

(c) Removal of actions; certification by Attorney General; remand to State court

Upon a certification by the Attorney General that any person described in subsection (a) of this section was acting in the scope of such person's duties or employment at the time of the incident out of which the suit arose, any such civil action or proceeding commenced in a State court shall be removed without bond at any time before trial by the Attorney General to the district court of the United States of the district and division embracing the place where- in it is pending and the proceeding deemed a tort action brought against the United States under the provisions of title 28, and all references thereto. Should a United States district court determine on a hearing on a motion to remand held before a trial on the merits that the case so removed is one in which a remedy by suit within the meaning of subsection (a) of this section is not available against the United States, the case shall be remanded to the State court.

(d) Compromise or settlement of claims

The Attorney General may compromise or settle any claim asserted in such civil action or proceeding in the manner provided in section 2677 of title 28, and with the same effect.

(e) Applicability of other provisions of law

For purposes of this section, the provisions of section 2680(h) of title 28, shall not apply to any cause of action arising out of a negligent or wrongful act of omission in the performance of medical, dental, or related health care functions (including clinical studies and investigations).

(f) Liability insurance for persons assigned to foreign countries or non-Federal agencies

The Administrator or his designee may, to the extent that the Administrator or his designee deem appropriate, hold harmless or provide liability insurance for any person described in subsection (a) of this section for damages for personal injury, including death, caused by such person's negligent or wrongful act or omission in the performance of medical, dental, or related health care functions (including clinical studies and investigations) while acting within the scope of such person's duties if such person is assigned to a foreign country or detailed for service with other than a Federal department, agency, or instrumentality or if the circumstances are such as are likely to preclude the remedies of third persons against the United States described in section 2679(b) of title 28, for such damage or injury.

Sec. 2458b. Insurance and indemnification

(a) Authorization

The Administration is authorized on such terms and to the extent it may deem

appropriate to provide liability insurance for any user of a space vehicle to compensate all or a portion of claims by third parties for death, bodily injury, or loss of or damage to property resulting from activities carried on in connection with the launch, operations or recovery of the space vehicle. Appropriations available to the Administration may be used to acquire such insurance, but such appropriations shall be reimbursed to the maximum extent practicable by the users under reimbursement policies established pursuant to section 2473(c) of this title.

(b) Indemnification

Under such regulations in conformity with this section as the Administrator shall prescribe taking into account the availability, cost and terms of liability insurance, any agreement between the Administration and a user of a space vehicle may provide that the United States will indemnify the user against claims (including reasonable expenses of litigation or settlement) by third parties for death, bodily injury, or loss of or damage to property resulting from activities carried on in connection with the launch, operations or recovery of the space vehicle, but only to the extent that such claims are not compensated by liability insurance of the user: Provided, That such indemnification may be limited to claims resulting from other than the actual negligence or willful misconduct of the user.

(c) Terms of indemnification agreement; notice; United States control of or assistance in defense

An agreement made under subsection (b) of this section that provides indemnification must also provide for -

(1) notice to the United States of any claim or suit against the user for the death, bodily injury, or loss of or damage to the property; and

(2) control of or assistance in the defense by the United States, at its election, of that suit or claim.

(d) Certification of just and reasonable amount

No payment may be made under subsection (b) of this section unless the Administrator or his designee certifies that the amount is just and reasonable.

(e) Payments

Upon the approval by the Administrator, payments under subsection (b) of this section may be made, at the Administrator's election, either from funds available for research and development not otherwise obligated or from funds appropriated for such payments.

(f) Definitions

As used in this section -

(1) the term „space vehicle" means an object intended for launch, launched or assembled in outer space, including the Space Shuttle and other components of a space transportation system, together with related equipment, devices, components and parts;

(2) the term „user" includes anyone who enters into an agreement with the Administration for use of all or a portion of a space vehicle, who owns or provides property to be flown on a space vehicle, or who employs a person to be flown on a space vehicle; and

(3) the term „third party" means any person who may institute a claim against a user for death, bodily injury or loss of or damage to property.

Sec. 2459. Appropriations

(a) Authorization; limitations for uses of capital nature

There are authorized to be appropriated such sums as may be necessary to carry out this chapter, except that nothing in this chapter shall authorize the appropriation of any amount for (1) the acquisition or

condemnation of any real property, or (2) any other item of a capital nature (such as plant or facility acquisition, construction, or expansion) which exceeds $250,000. Sums appropriated pursuant to this subsection for the construction of facilities, or for research and development activities, shall remain available until expended.

(b) Use of funds for emergency repairs of existing facilities

Any funds appropriated for the construction of facilities may be used for emergency repairs of existing facilities when such existing facilities are made inoperative by major breakdown, accident, or other circumstances and such repairs are deemed by the Administrator to be of greater urgency than the construction of new facilities.

(c) Termination

Notwithstanding any other provision of law, the authorization of any appropriation to the Administration shall expire (unless an earlier expiration is specifically provided) at the close of the third fiscal year following the fiscal year in which the authorization was enacted, to the extent that such appropriation has not theretofore actually been made.

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Sec. 2465a. Space Shuttle use policy

(a) Use policy

(1) It shall be the policy of the United States to use the Space Shuttle for purposes that (i) require the presence of man, (ii) require the unique capabilities of the Space Shuttle or (iii) when other compelling circumstances exist.

(2) The term „compelling circumstances" includes, but is not limited to, occasions when the Administrator determines, in consultation with the Secretary of Defense and the Secretary of State, that important national security or foreign policy interests would be served by a Shuttle launch.

(3) The policy stated in subsection (a)(1) of this section shall not preclude the use of available cargo space, on a Space Shuttle mission otherwise consistent with the policy described under subsection (a)(1) of this section, for the purpose of carrying secondary payloads (as defined by the Administrator) that do not require the presence of man if such payloads are consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

(b) Implementation plan

The Administrator shall, within six months after November 16, 1990, submit a report to the Congress setting forth a plan for the implementation of the policy described in subsection (a)(1) of this section. Such plan shall include -

(1) details of the implementation plan;

(2) a list of purposes that meet such policy;

(3) a proposed schedule for the implementation of such policy;

(4) an estimate of the costs to the United States of

implementing such policy; and

(5) a process for informing the Congress in a timely and

regular manner of how the plan is being implemented.

(c) Annual report

At least annually, the Administrator shall submit to the Congress a report certifying that the payloads scheduled to be launched on the space shuttle for the next four years are consistent with the policy set forth in subsection (a)(1) of this section. For each payload scheduled to be launched from the space shuttle, which do not require the presence of man, the Administrator shall, in the certified report to Congress, state the specific circumstances which justified the

use of the space shuttle. If, during the period between scheduled reports to the Congress, any additions are made to the list of certified payloads intended to be launched from the Shuttle, the Administrator shall inform the Congress of the additions and the reasons therefor within 45 days of the change.

(d) NASA payloads

The report described in subsection (c) of this section shall also include those National Aeronautics and Space Administration payloads designed solely to fly on the space shuttle which have begun the phase C/D of its development cycle.

Sec. 2465b. Repealed. Pub. L. 105-303, title II, Sec. 203(1), Oct. 28, 1998, 112 Stat. 2855

Sec. 2465c. Definitions

For the purposes of sections 2465b to 2465f of this title -

(1) the term „launch vehicle" means any vehicle constructed for the purpose of operating in, or placing a payload in, outer space; and

(2) the term „payload" means an object which a person undertakes to place in outer space by means of a launch vehicle, and includes subcomponents of the launch vehicle specifically

designed or adapted for that object.

Sec. 2465f. Other activities of National Aeronautics and Space Administration

Commercial payloads may not be accepted for launch as primary payloads on the space shuttle unless the Administrator of the National Aeronautics and Space Administration determines that -

(1) the payload requires the unique capabilities of the space shuttle; or

(2) launching of the payload on the space shuttle is important for either national security or foreign policy purposes.

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Sec. 2467. Science, Space, and Technology Education Trust Fund; annual report to Congress

There is appropriated, by transfer from funds appropriated in this Act for „Construction of facilities", the sum of $15,000,000 to the „Science, Space, and Technology Education Trust Fund" which is hereby established in the Treasury of the United States: Provided, That the Secretary shall invest such funds in the United States Treasury special issue securities, that such interest shall be credited to the Trust Fund on a quarterly basis, and that such interest shall be available for the purpose of making grants for programs directed at improving science, space, and technology education in the United States: Provided further, That the Administrator of the National Aeronautics and Space Administration, after consultation with the Director of the National Science Foundation, shall review applications made for such grants and determine the distribution of such available funds on a competitive basis: Provided further, That such grants shall be made available to any awardee only to the extent that said awardee provides matching funds from non-Federal sources to carry out the program for which grants from this Trust Fund are made: Provided further, That of the funds made available by this Trust Fund, $250,000 shall be disbursed each calendar quarter hereafter to the Challenger Center for Space Science Education: Provided further, That the Administrator of the National Aeronautics and Space Administration shall submit to the Congress an annual report on the grants made pursuant to this paragraph.

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Sec. 2472. National Aeronautics and Space Administration

(a) Establishment; appointment and duties of Administrator

There is established the National Aeronautics and Space Administration (hereinafter called the „Administration"). The Administration shall be headed by an Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate. Under the supervision and direction of the President, the Administrator shall be responsible for the exercise of all powers and the discharge of all duties of the Administration, and shall have authority and control over all personnel and activities thereof.

(b) Deputy Administrator; appointment and duties

There shall be in the Administration a Deputy Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate and shall perform such duties and exercise such powers as the Administrator may prescribe. The Deputy Administrator shall act for, and exercise the powers of, the Administrator during his absence or disability.

(c) Restriction on engaging in any other business, vocation, or employment

The Administrator and the Deputy Administrator shall not engage in any other business, vocation, or employment while serving as such.

Sec. 2473. Functions of Administration

(a) Planning, directing and conducting aeronautical and space activities; participation by scientific community; dissemination of information

The Administration, in order to carry out the purpose of this chapter, shall -

(1) plan, direct, and conduct aeronautical and space activities;

(2) arrange for participation by the scientific community in planning scientific measurements and observations to be made through use of aeronautical and space vehicles, and conduct or arrange for the conduct of such measurements and observations;

(3) provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof;

(4) seek and encourage, to the maximum extent possible, the fullest commercial use of space; and

(5) encourage and provide for Federal Government use of commercially provided space services and hardware, consistent with the requirements of the Federal Government.

(b) Research, development, etc., in ground propulsion technologies and solar heating and cooling technologies

(1) The Administration shall, to the extent of appropriated funds, initiate, support, and carry out such research, development, demonstration, and other related activities in ground propulsion technologies as are provided for in sections 2503 through 2509 of title 15.

(2) The Administration shall initiate, support, and carry out such research, development, demonstrations, and other related activities in solar heating and cooling technologies (to the extent that funds are appropriated therefor) as are provided for in sections 5503, 5504, and 5507 of this title.

(c) Powers of Administration in performance of its functions

In the performance of its functions the Administration is authorized -

(1) to make, promulgate, issue, rescind, and amend rules and regulations governing the manner of its operations and the exercise of the powers vested in it by law;

(2) to appoint and fix the compensation of such officers and employees as may be necessary to carry out such functions. Such officers and employees shall be appointed in accordance with the civil-service laws and their compensation fixed in accordance with chapter 51 and subchapter III of chapter 53 of title 5, except that (A) to the extent the Administrator deems such action necessary to the discharge of his responsibilities, he may appoint not more than four hundred and twenty-five of the scientific, engineering, and administrative personnel of the Administration without regard to such laws, and may fix the compensation of such personnel not in excess of the highest rate of grade 18 of the General Schedule, and (B) to the extent the Administrator deems such action necessary to recruit specially qualified scientific and engineering talent, he may establish the entrance grade for scientific and engineering personnel without previous service in the Federal Government at a level up to two grades higher than the grade provided for such personnel under the General Schedule, and fix their compensation accordingly;

(3) to acquire (by purchase, lease, condemnation, or otherwise), construct, improve, repair, operate, and maintain laboratories, research and testing sites and facilities, aeronautical and space vehicles, quarters and related accommodations for employees and dependents of employees of the Administration, and such other real and personal property (including patents), or any interest therein, as the Administration deems necessary within and outside the continental United States; to acquire by lease or otherwise, through the Administrator of General Services, buildings or parts of buildings in the District of Columbia for the use of the Administration for a period not to exceed ten years without regard to section 34 of title 40; to lease to others such real and personal property; to sell and otherwise dispose of real and personal property (including patents and rights thereunder) in accordance with the provisions of the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 471 et seq.); and to provide by contract or otherwise for cafeterias and other necessary facilities for the welfare of employees of the Administration at its installations and purchase and maintain equipment therefor;

(4) to accept unconditional gifts or donations of services, money, or property, real, personal, or mixed, tangible or intangible;

(5) without regard to section 3324(a) and (b) of title 31, to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, Territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution. To the maximum extent practicable and consistent with the accomplishment of the purpose of this chapter, such contracts, leases, agreements, and other transactions shall be allocated by the Administrator in a manner which will enable small-business concerns to participate equitably and proportionately in the conduct of the work of the Administration;

(6) to use, with their consent, the services, equipment, personnel, and facilities of Federal and other agencies with or without reimbursement, and on a similar basis to cooperate with other public and private agencies and instrumentalities in the use of services, equipment, and facilities. Each department and agency of the Federal Government shall cooperate fully with the Admin-

istration in making its services, equipment, personnel, and facilities available to the Administration, and any such department or agency is authorized, notwithstanding any other provision of law, to transfer to or to receive from the Administration, without reimbursement, aeronautical and space vehicles, and supplies and equipment other than administrative supplies or equipment;

(7) to appoint such advisory committees as may be appropriate for purposes of consultation and advice to the Administration in the performance of its functions;

(8) to establish within the Administration such offices and procedures as may be appropriate to provide for the greatest possible coordination of its activities under this chapter with related scientific and other activities being carried on by other public and private agencies and organizations;

(9) to obtain services as authorized by section 3109 of title 5, but at rates for individuals not to exceed the per diem rate equivalent to the rate for GS-18;

(10) when determined by the Administrator to be necessary, and subject to such security investigations as he may determine to be appropriate, to employ aliens without regard to statutory provisions prohibiting payment of compensation to aliens;

(11) to provide by concession, without regard to section 303b of title 40, on such terms as the Administrator may deem to be appropriate and to be necessary to protect the concessioner against loss of his investment in property (but not anticipated profits) resulting from the Administration's discretionary acts and decisions, for the construction, maintenance, and operation of all manner of facilities and equipment for visitors to the several installations of the Administration and, in connection therewith, to provide services incident to the dissemination of information concerning its activities to such visitors, without charge or with a reasonable charge therefor (with this authority being in addition to any other authority which the Administration may have to provide facilities, equipment, and services for visitors to its installations). A concession agreement under this paragraph may be negotiated with any qualified proposer following due consideration of all proposals received after reasonable public notice of the intention to contract. The concessioner shall be afforded a reasonable opportunity to make a profit commensurate with the capital invested and the obligations assumed, and the consideration paid by him for the concession shall be based on the probable value of such opportunity and not on maximizing revenue to the United States. Each concession agreement shall specify the manner in which the concessioner's records are to be maintained, and shall provide for access to any such records by the Administration and the Comptroller General of the United States for a period of five years after the close of the business year to which such records relate. A concessioner may be accorded a possessory interest, consisting of all incidents of ownership except legal title (which shall vest in the United States), in any structure, fixture, or improvement he constructs or locates upon land owned by the United States; and, with the approval of the Administration, such possessory interest may be assigned, transferred, encumbered, or relinquished by him, and, unless otherwise provided by contract, shall not be extinguished by the expiration or other termination of the concession and may not be taken for public use without just compensation;

(12) with the approval of the President, to enter into cooperative agreements under which members of the Army, Navy, Air Force, and Marine Corps may be detailed by the appropriate Secretary for services in the per-

formance of functions under this chapter to the same extent as that to which they might be lawfully assigned in the Department of Defense;

(13)

(A) to consider, ascertain, adjust, determine, settle, and pay, on behalf of the United States, in full satisfaction thereof, any claim for $25,000 or less against the United States for bodily injury, death, or damage to or loss of real or personal property resulting from the conduct of the Administration's functions as specified in subsection (a) of this section, where such claim is presented to the Administration in writing within two years after the accident or incident out of which the claim arises; and

(B) if the Administration considers that a claim in excess of $25,000 is meritorious and would otherwise be covered by this paragraph, to report the facts and circumstances thereof to the Congress for its consideration.

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Sec. 2475. International cooperation

The Administration, under the foreign policy guidance of the President, may engage in a program of international cooperation in work done pursuant to this chapter, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate.

Sec. 2476. Reports to Congress

(a) Presidential report; transmittal

The President shall transmit to the Congress in January of each year a report, which shall include (1) a comprehensive description of the programed activities and the accomplishments of all agencies of the United States in the field of aeronautics and space activities during the preceding calendar year, and (2) an evaluation of such activities and accomplishments in terms of the attainment of, or the failure to attain, the objectives described in section 2451(c) [1] of this title.

(b) Recommendations for additional legislation

Any report made under this section shall contain such recommendations for additional legislation as the Administrator or the President may consider necessary or desirable for the attainment of the objectives described in section 2451(c) (FOOTNOTE 1) of this title.

(c) Classified information

No information which has been classified for reasons of national security shall be included in any report made under this section, unless such information has been declassified by, or pursuant to authorization given by, the President.

Sec. 2476a. Disposal of excess land; approval by Congressional committees

Notwithstanding the provisions of this or any other law, the Administration may not report to a disposal agency as excess to the needs of the Administration any land having an estimated value in excess of $50,000 which is owned by the United States and under the jurisdiction and control of the Administration, unless (A) a period of thirty days has passed after the receipt by the Speaker and the Committee on Science, Space, and Technology of the House of Representatives and the President and the Committee on Commerce, Science, and Transportation of the Senate of a report by the Administrator or his designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such action, or (B) each such committee before the expiration of such period has transmitted to the Ad-

ministrator written notice to the effect that such committee has no objection to the proposed action.

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Subchapter III: Upper Atmosphere Research

Sec. 2481. Congressional declaration of purpose and policy

(a) The purpose of this subchapter is to authorize and direct the Administration to develop and carry out a comprehensive program of research, technology, and monitoring of the phenomena of the upper atmosphere so as to provide for an understanding of and to maintain the chemical and physical integrity of the Earth's upper atmosphere.

(b) The Congress declares that it is the policy of the United States to undertake an immediate and appropriate research, technology, and monitoring program that will provide for understanding the physics and chemistry of the Earth's upper atmosphere.

Sec. 2482. „Upper atmosphere" defined

For the purpose of this subchapter the term „upper atmosphere" means that portion of the Earth's sensible atmosphere above the troposphere.

Sec. 2483. Program authorized

(a) In order to carry out the purposes of this subchapter the Administration in cooperation with other Federal agencies, shall initiate and carry out a program of research, technology, monitoring, and other appropriate activities directed to understand the physics and chemistry of the upper atmosphere.

(b) In carrying out the provisions of this subchapter the Administration shall -

(1) arrange for participation by the scientific and engineering community, of both the Nation's industrial organizations and institutions of higher education, in planning and carrying out appropriate research, in developing necessary technology and in making necessary observations and measurements;

(2) provide, by way of grant, contract, scholarships or other arrangements, to the maximum extent practicable and consistent with other laws, for the widest practicable and appropriate participation of the scientific and engineering community in the program authorized by this subchapter; and

(3) make all results of the program authorized by this subchapter available to the appropriate regulatory agencies and provide for the widest practicable dissemination of such results.

Sec. 2484. International cooperation

In carrying out the provisions of this subchapter, the Administration, subject to the direction of the President and after consultation with the Secretary of State, shall make every effort to enlist the support and cooperation of appropriate scientists and engineers of other countries and international organizations.

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