

Resumee of the presentation on the regulation of commercial launching in Space Law

TATSUZAWA Kunihiko*

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I. Introduction

Launch services are established relatively earlier than other market areas, nevertheless, the narrowness of such a new market area needs certain institution building in such away as to encourage its development. Therefore, certain government support is required. In addition, since private entities can enjoy the rights stemming from the principle of freedom of

* Professor, Doctor. Chuo Gakuin University, Japan.

Chuo Gakuin University, Japan

outer space only through government authorization and continuing supervision and international responsibility for national private or public space activities is directly assumed by a State, government role is not only anticipated but also required.

In domestic law system, a Government envisages commercial space launching under two aspects : accordance of domestic law with international space law and international regulatory tendency : Measures encouraging and developing space industry. Under the first aspect, a Government implements its international obligations in a way proportionate to its strength and with due account of international regulatory tendency. Fundamental elements for domestic regulation in accordance with space treaties and international regulatory tendency should be examined. Under the second aspect, such measures as government procurement, the use of government of property and transfer of government-developed technology, the enhancement of space infrastructure, the establishment of free and fair trade services order should be deal with. In both aspect, a State must pay due attention to the common interest of international community as a whole.

II. **Section 1.** Fundamental elements for domestic regulation in accordance with space treaties and international regulatory tendency

1. The definition of space launching

In international space law, there is no definition of “launching” neither in positive law nor in doctrine. In domestic law, only American Act defines “launch” as placing or attempting to place, “a launch vehicle and payload, if any, in a suborbital trajectory, in Earth orbit in outer space, or otherwise in outer space”.

It seems so reasonable that, with reference to space treaties, flexibility and clearness should be mixed in the definition. I am of opinion that space

launching may be defined as placing or attempting to place a spacecraft (including space shuttle, future space plane), launch vehicle and/or a payload in a suborbital trajectory, in earth orbit, or other orbit or trajectories beyond earth orbit.

2. State obligation of authorization and continuing supervision

According to Article 6 of the Outer Space Treaty, private entities can carry out commercial space launching only under the authorization and continuing supervision of an appropriate State.

Authorization means the "recognition under certain condition of the effectuation of any act which is generally prohibited by law". "Supervision" means "securing the observance of laws and regulation".

With respect to "authorization", the conditions enumerated by various domestic laws concern the protection of public health and safety, the safety of property and national security interest, observation of international obligations, peaceful character etc.

In connection with "continuing supervision", there are two issues to be considered. One is to include a prior notice concerning a launch plan and its modification by a private entity in the procedure of authorization and continuing supervision, and the other is to impose the measures of the environmental protection. In particular, as for latter, the problems arises of how to deal with space debris and to assess the impact of launch on nature.

3. Registration Procedures

There are two registration regime : domestic registration and international registration.

As for the former, the State of registry determines "the contents of registry

and the conditions under which it is maintained". As for the latter, the State of registry has an obligation to furnish certain information prescribed by Article 4 of 1975 Registration Convention as well as additional information to the U.N. Secretary General. In case of a joint launch, States participant in joint launch must designate a State of registry.

In case of a joint launch by two or more private enterprises, the procedure of joint registration should be prescribed in domestic law.

4. The extraterritoriality of national jurisdiction

According to Article 6 of the Outer Space Treaty, A State bears international responsibility based on fault for its national space activities, and, for assuring the conformity of its national space activities with the provisions of the Outer Space Treaty. This responsibility is based on personal jurisdiction. A State has the power of legislating domestic rules to govern the activities of its juridical persons outside its territory. However, the exercise of extraterritorial jurisdiction is restricted by the territorial jurisdiction of a foreign State, and, hence require the active and voluntary cooperation of the foreign State concerned.

The U.S. Commercial Space Launch Act extends its jurisdiction to legal persons of a foreign State, the controlling interest of which is held by its nationals, may cause a problem from the viewpoint of general international law.

5. Responsibility and insurance

These are important problems in the application of space treaties. By virtue of 1972 Liability Convention, the following rules were established :

- a) States regarded as launching States in the private commercial launches are the States from whose territory a space object is launched and the

State from whose facility a space objects is launched. b) Such States bear absolute liability for damage caused by their space objects on the surface of the Earth or to aircraft in flight and fault liability for damage caused elsewhere than on the surface of the Earth or an aircraft in flight. c) In case of joint launching, States participating in joint launching hold joint and several liability. d) If a private enterprise of the State A entrusts the launch of a space object to a private launching company of the State B, the State A bears liability based on fault only when the activities of its private enterprise do not conform to the Outer Space Treaty and when it does not exercise the power of authorization and continuing supervision within the limit admitted by the State B.

In any case international liability is assumed only by a State, and, the reparation of damage must be made at the interstate level. However, various domestic laws impose an obligation of a private entity to indemnify its Government against any claims resulting from damage or loss caused by the spaceactivities of the said entity.

The limit of responsibility is not established in international space law, but in domestic space law. For example, the U.S. Act establishes this limit at 1.5 billion dollars.

As for insurance, Each Act requires the third party insurance. Such insurance is used to indemnify the Government against any claim brought against it in respect of damage caused by a private launch.

III. **Section 2.** Measures encouraging and developing space launch industry

1. The procurement of private commercial launch by a government

The most important policy reinforcing the international competitiveness of national launch industry is the encouragement of governmental procure-

ment of private commercial launch. The U.S. Government adopts so-called “by American policy” according to which Government payloads must be launched by U.S. manufactured launch vehicles except in case of specific exemption by the President. It is just the same with the ESA. The participants in the Ariane program must take the Ariane launcher into account when defining and executing their national program and grant preference to its utilization except where such use compared to the of other launchers or space transport facilities available at the envisaged time is unreasonably disadvantageous with regard to cost, reliability or mission compatibility.

In international economic law, GATT Uruguay Round Agreement does not include launch services. Therefore, the measures taken by the U.S. and France are not illegal. However, such policy is not so desirable, because the principle of non-discrimination in public procurement for the supply of goods and services progressively becomes established. In order to form a competitive space industry and to establish orderly, open and fair market, such policy should be abolished.

2. The use of governmental assets, services and facilities and the transfer of technologies

In the U.S and Europe, one of the most important point of space commercialization policy is to make available governmental unused assets, services and facilities for private sector use.

The American Commercial Space Launching Act requires, in its Article 15 a), the Secretary of the DOT to take “such actions as may be necessary to facilitate and encourage the acquisition by the private sector of the U.S. launch property which is excess or is otherwise not needed for public use and of launch services otherwise not needed for public use”. According to the same Article b), the amount to be paid for the acquisition of launch property or launch services is essentially the “direct cost” incurred by

the U.S Government. It does not include recovery rate of investment cost, just as in the case of the transfer of technology.

As for the transfer of technology, 1980 amendment of patent law and 1984 amendment of public procurement regulation authorize private entities to get intellectual property right to invention resulted in the performance of R & D contract with the U.S. Government.

U.S. Commercial Space Policy Guidelines of February 12, 1991 also specifies the transfer of government-developed, unclassified technology to U.S. commercial sector "in timely a manner as possible and in ways that protect its commercial value".

Transferred technology must be categorized in two : Missile-related technology and other technology. With respect to the former, the transfer must be submitted to MTCR.

From the legal point of view, taking its character of public assets into account, government-developed technology should be transferred in such a way that : it should promote the utilization of outer space by private enterprises : it must be generally utilized, in devoiding the exclusive possession by a specific person or discrimination among users without any reasonable motif : it must be effectively used for general interest. Under the point, transferee's technological and economical capability of appropriate charge and use should be identified.

In addition, the Government should the peaceful use of technology transferred, information about its further amelioration, the prevention or restriction of its transfer to third party etc.

3. The reinforcement of space infrastructure

Here, we should examine particularly the problem of spaceport. In spite of certain objection with respect to the need of new launch facility, it is

said that the demand of small rocket is increasing because of the development of mobile satellite communication. In addition, it is anticipated that the development of spaceport revitalizes and develops local economy by attracting highly advanced technology.

In the U.S. National Space Launch Strategy of June 1991 specifies the encouragement of "commercial, state, and local government investment and participation in the development and improvement of U.S. launch systems and facilities". In June 1989, Spaceport Florida Authority (SFA) was established as public corporation, body politic, and subdivision of the State by virtue of the Spaceport Florida Authority Act of 5 June 1989. Other States like Hawaii and Alaska established Space Development Agency and Aerospace Development Corporation, respectively in 1988 and in 1991 in order to deal with the growing interest in space commercialization.

At the international level, the Cape York International Spaceport Program that aimed at constructing an international spaceport in Australia only with private funds, in utilizing Soviet launch vehicle (Zenit) and technology, was proposed.

4. The establishment of free and fair trade order

In the international of free and fair trade market, there are many factors to be considered in the option of launch vehicles. For example, price, technological performance, reliability, insurance coverage, launch schedule, necessary logistics, protection of transferred technology and political restrictions. There is the case in which a customer purchases launch services not from a single provider but from several providers. Therefore, even if the perfect market based on the regulation of direct subsidies and cost is established, the value of a launch vehicle is varied according to the purchaser's policy. This means that the establishment of free and fair order of service trades does not work in favor of a specific launch vehicle or

launch provider. The establishment of such order becomes a prerequisite for healthy function of market mechanism and common interest for all States.

The “Rules of the Road” negotiation is going on between the U.S. and the E.S.A. since the affairs of “two-tier pricing policy” was put into question before the U.S.T.R. It deals with the entry of NMEs into commercial launch service business, the subsidization of a State and the access of foreign enterprises to public procurement of launch services.

With respect to the entry of NMEs(Non Market Economy Countries), it concluded the Agreements regarding international trade in commercial space launch services with Russia in September 2, 1993 and the Memorandum of Agreement regarding international trade in commercial launch services with China in December 17, 1988. Those Agreements aim at market share arrangements and the establishment of a pricing standard till market-oriented adaption of NMEs have no market-oriented pricing and cost structures. In my option, such negotiation concerns the world launch market as a whole, and it should be essentially a multilateral negotiation. Therefore, it is desirable to hold the negotiation among the States, including the States potentially capable of participating in launch service market and potential user States, within, for example, the framework of WTO, taking into account the character of launch services as service trade.

IV. Conclusion

Any State has an obligation to pay due attention to the interest of the entire international community in enacting its laws and regulations in case normative efficiency is in conflict with economic efficiency, it should give priority to the former, because space activities, including commercial launch services, are essentially regarded as international public services which are defined as activities aiming at attainment of such idea as “peace and

well-being” through realization of common interest and carried out or controlled directly by States or indirectly by international organizations or any other institutions. Two principal aspects of domestic regulation need to be considered and examined from this viewpoint.