



COMMERCIAL ACTIVITIES AND THE IMPLEMENTATION OF SPACE LAW

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INTRODUCTION :

All the space activities operate within a framework of international law which includes bi lateral and multilateral treaties as well as conventional international law. All the countries, except North Korea, which are space competent are the party to the Outer Space Treaty¹. Other than this treaty, most of the nations are party to the ARRA², the Liability Convention³ and the Registration Convention⁴. Apart from these treaties, there are several soft laws including UN Resolution and agreements. How well these states implement these treaties is of great concern.

No new space law treaty has been adopted since 1979. This clearly indicates that the age of formal space law have been closed. In such a situation, commercial use of space, by both governmental and non governmental entities, requires regulation by national legislations not inconsistent with international law. Countries that do not have specific space legislation are also encouraged to enact such space regulation through OOSA⁵ and

COPUOS⁶. In this article, an attempt has been made to analyse how, within the constraints of their constitution, some space states have arranged such matters.

OUTER SPACE TREATY AND ITS OBLIGATION

In contrast with the traditional expectations, space activities at present are carried by both state and private entities, purpose ranging from scientific research to highly commercial. Even so, the farsightedness of the drafters of Outer Space Treaty has helped to counter such a change.

Outer Space Treaty Article I provides for the freedom of exploration of space by all states without discrimination of any kind on the basis of equality and in accordance with international law.

Article II excludes sovereignty in outer space or as to celestial bodies.

Article VI of Outer Space Treaty⁷ provides "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,

¹ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including Moon and Other Celestial Bodies, 1968

² Agreement on the Rescue of Astronauts, the Return of Astronauts, the Return of Astronauts and Return of Objects Launched into Outer Space, 1968

³ Convention on International Liability for Damage Caused by Space Objects, 1972

⁴ Convention on registration of Objects Launched into Outer Space

⁵ *United Nations Office for Outer Space Affairs*

⁶ Committee On Peaceful Use of Outer Space

⁷ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including Moon and Other Celestial Bodies, 1968



including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.” It is clear that the concept is in singular and the drafters intended only one state to authorise and supervise and therefore be responsible for a particular private activity.

Article VII of the treaty states “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”. This provision for further extended by the Liability Treaty⁸. This liability extends only between the parties to Outer Space Treaty, which is 109 at present.

According to Article VIII, an OST state retains jurisdiction and control over a space object and their personnel that have been entered in its registry while object is in outer space. Such objects are to be returned to the state of registry if found elsewhere. Article XI requires the users of space shall be careful and protective of interests of other users.

USE OF SPACE BY PRIVATE PARTIES

When a state permits private users to have access to outer space, that access will be subject to numerous restrictions including licensing. The date, time, and the location of launch, the orbit and radiofrequency are usually determined by the state. Countries

such as US, UK and Australia have adopted legislations conferring rights of access to qualified private launch operators. But in India there are no such national legislations and they provide license to private operators based solely on international treaties.

Certain issues were not foreseen by the drafters of international treaties. One such issue is transfer of private ownership of satellite in orbit. A huge problem can be caused if a privately owned satellite is transferred to a new owner located in a state different from the launching state. This problem was experienced during privatisation of INTELSAT when ownership of several satellites of INTELSAT was acquired by New Skies NV of Netherland and Netherland refused to register the satellite under the Registration Act.⁹

The international space treaty arrangement was framed to deal with rights and duties of single integral ownership of satellites. In the modern time, the concept of multiple ownership or joint ownership arises where the owners are of different nationalities. This issue could be solved by making necessary amendment in the multilateral treaties or by entering into bilateral treaties by which all the owner state can assume responsibility under the Article VI of OST and other liabilities under the Liability Act.

REGULATION BY PARTICULAR STATES

Several articles have been cited which provides information about the attitudes of states in regulating the space activities.

AUSTRALIA

⁸ Convention on International Liability for Damage Caused by Space Objects, 1972

⁹ Convention on registration of Objects Launched into Outer Space



The progress of Australia towards space has been erratic. But the Australian Space Industry Centre for Commerce (ASICC) is active in the support of the development of an Australian space industry. The **Australian Space Activities Act** was passed in 1998 and amended in 2002. The purpose of this act is to implement the Australian obligations under the space treaties, to attract investors in outer space, to offset the liability of the Australian government under the Liability Convention by transferring much of it to private launch operators, and to create a safe environment for launches.

The Space Launch Act specifically applies to launches or attempted launches to an altitude of at least 100km above the sea level.¹⁰ It provides for authorisation and supervision of private space activities through the issue of licenses, permits and exemptions. Launches are registered according to the Registration Convention. Australia has entered into a number of bilateral co-operation agreements which are also implemented by the act. Violation of the act may result in penalties. Launch accidents will be investigated.

An applicant for a space launch license must also comply with a number of other legislative provisions, including

1. The Australian Radio communications Act, 1992 : to obtain authorisation of necessary radio frequency
2. The Civil Aviation Safety Regulation 1998: for access to clean air space for the launch or re-entry route.

3. The Transport Safety Investigation, 2002: regarding investigation of accidents
4. Special regulations regarding Christmas Island Launch Centre¹¹

The act regulates commercial launches by Australian nationals both in Australia and abroad and launches from Australian territory by non-Australian entities. The act governs both launches to and re-entry from outer space, and it requires an overseas launch certificate for a launch outside of Australia by an Australian national. Special authorisation is required for the return to Australia of a space object launched overseas. Finally, a launch operator may obtain an exemption certificate for emergency launches.

CHINA
The Chinese space programme is funded completely by the government. It is administered through the **China National Space Administration**.¹² China also provides launch services at cheap and favourable prices in its launch centre at Xichang, which attracts many foreign operators.

Though China has ratified the four basic international space law treaties, it has not yet ratified the 1979 Moon Agreement. It has not yet adopted any national space legislation as in Australia and US and completely relies on international treaties for the regulation of commercial space.

China has promulgated national procedures for the registration of space objects. The registration office is maintained by the **Chinese Commission for Science, Technology and Industry** which in turn

¹⁰ Sec 8, 'Definition to "launch" a space object means launch the object into an area beyond the distance of 100km above the sea level or attempt to do so.

¹¹ A spaceport in Christmas Island to be used by an Asia-Pacific Space Centre.

¹² <http://www.cnsa.gov.cn/n615709/cindex.html>



passes the registration information to the ministry of foreign affairs for registration with the United Nations, as required by the Registration Convention.

The commission has also issued interim regulations under which the commission issues licenses for non-military launches. An application for the non-military launches and the launch permit itself must contain the following information:

1. Time of launch
2. Place of launch
3. Duration for which the permit is requires
4. Office issuing the permit

The licensee must first obtain a permit for the space object to leave the point of manufacture. The permit must be obtained six months before the planned launch. The Science, Technology and Industry Commission's interim measures are linked to possible civil and criminal penalties for fraud, for unauthorised launches and for abuses leading to liability of and damage to the state.

INDIA

An **Indian Space Commission** and **Department of Space** were first set up in 1972. Now the Indian Space Programme is administered directly by the Office of Prime Minister. Within this framework, the Indian Space Commission establishes national space policy which is implemented by the Department of Space through four agencies :

1. Indian Space Research Organisation(ISRO)
2. National Remote Sensing Agency(NRSA)
3. Physical Research Laboratory(PRL)

4. National Mesosphere-Stratosphere-Troposphere Radar Facility (NMRF)
In 1992, the Indian government established the **Antrix Corporation** as a government corporation to facilitate commercialization of space activities.

ISRO has built appropriate launch vehicles in a favourable budget compared to remaining space competent countries. India operates a significant number of diversified satellites for communications, education, and military purposes. It also provides reliable remote sensing data.

Under Article 73.1(b) of the Indian Constitution, the Indian government has power to implement its rights and obligations under the international treaties without the requirement of further national legislations. However, if a financial liability arises to the government under the Liability Convention, a national legislation would be required.

India provides launch vehicle to private operators. For example in 2002, the Indian government issued a private launch license to communication satellite which was never used. Usually private commercial communications operators lease capacity from ISRO. The private commercial satellite system must obtain a security clearance from the Ministry of Home Affairs. Indian space policy is therefore developing towards allowing greater private enterprises in space activities and appropriate national legislation is under preparation.

RUSSIA

Russia was the main inheritor to the USSR space launch capability. During the economic crisis in Russia post cold war, its unique space launch capability provided a great



economic advantage. Its space launch capability was offered to the Western commercial operators at very attractive prices. Ultimately, Russia became a major commercial launch operator aggressively marketing private launches.

The Russian Federation Law on Space Activity entered into force in 1993. Its primary purpose is to implement and enforce the International space treaties to which Russia is a party. Other purposes include the development of entrepreneurial activity, the maintenance of safety, environmental protection, the protection of intellectual property and the promotion of science and national security.

The Russian law differs significantly from the Australian and US commercial space laws as to the licensing of private operators. The focus of Russian law is to give legislative authority to state agencies to engage in state activities and to control participation by non-Russians.

The **Russian Space Agency** is responsible for space activities. In conjunction with the Russian Ministry of defence the agency allocates all budgetary resources for use in outer space activities. The Agency has authority to license outer space activities. The **Ministry of defence** is responsible for military uses of outer space and, in co operation with the agency, establishes and implements the Russian Space Programmes.

Liability is extensively regulated under the Russian law. Compulsory insurance is required for space activities in order to cover possible liability to third persons and private

parties. Operators of space object must therefore obtain liability insurance in the amounts required by the Russian government. The proceeds of insurance policies will be applied to compensate for direct damage resulting from outer space activities. Full compensation must be paid by the responsible commercial companies and individuals. The purpose of this compulsory insurance requirement is to cover Russia's potential liability as the launching state under the contracts to launch foreign space objects.

UNITED STATES

In the US two strands of regulation deal with space. One strand governs the governmental agency, which is the **National Aeronautical and Space Administration** established by the **National Aeronautical and Space Administration Act** of 1958. NASA deals with the authorisation and supervision of US governmental space activities. it does promote a number of private activities in outer space where these are of governmental interest. For example, in 2010, when the Space Shuttle retired, NASA has awarded US \$500 million to two companies to develop private spacecraft to replace the shuttle.¹³

The **US Commercial Space Launch Act** as amended requires the **Secretary of Transportation** not only to regulate commercial launches and re-entries, but also to promote the commercial launch industry. The statutory functions of the Secretary of Transportation under the Commercial Space Launch act have been delegated to the **Federal Aviation Administration (FAA)**, the largest administration within the **Department of Transportation (DoT)**. The

¹³ Berger, 'NASA Places \$500 million bet on two very different firms', Space news, 28 august 2006



FAA has extensive resources and expertise regarding aviation safety, much of which can inform safety regulation of space vehicles.

Last we note that the US Commercial Space Launch Act only regulates the launch and de-orbiting of space objects. It does not regulate operations in outer space after a launch in the absence of a clear causal connection to a licensed launch or re-entry, operations or occurrences in orbit would not be part of FAA statutory responsibilities.

CONCLUSION

It has been observed that the Outer Space Treaty requires the State Parties to the treaty to exercise continuing supervision over the activities of their nationals in engaging in commercial parties in outer space. The national legislation of some countries like Australia and US do not regulate space objects while in space, thus leaving a possible vacuum in their national oversight.

Also, the boundary issue in commercial activities in space has not been fully solved. COPUOS has not arrived at a consensus on the matter. Knowing where the space legislation applies would add a useful legal certainty and predictability for commercial space activities

It is suggested that steps should be taken adequately to cope with the transfer of Outer Space Treaty duties and authority between states in the event of a change of ownership of a space object in space. This should be done on a universal basis with the help of multilateral agreement. If not, the individual states involved must sort this issue out by bilateral treaty between them.
