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AUSTRALIA'S SPACE TREATY OBLIGATIONS

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ABSTRACT

The Australian Government has announced its intention to introduce legislation to authorise and regulate space activities. Australia is a country with significant space-related needs and a slowly emerging space industry. It is proposed that this legislation will give effect to its obligations under the space treaties to which Australia is a party. This paper considers those obligations and their possible impact on the development of a national space industry.

INTRODUCTION

The Australian Government has announced its intention to introduce legislation to regulate national space activities. Legislation has been drafted and is ready for presentation to the Australian Parliament. After many years of frustrating failures and delays, commercial space launch activity is at hand. The government has decided that this is an appropriate time to introduce legislation to implement Australia's space treaty obligations and to establish a regulatory system to safeguard individual and national interests.

The task of determining the extent to which those treaty obligations should be implemented in domestic law has proved difficult and contentious. This paper discusses some of these problems and considers the international academic debate over the interpretation of national obligations under those treaties. Some interpretations take into account the many changes in the nature and purpose of space activities that have occurred since the treaties were drafted. The increasing importance of the private sector in the development of a world space industry means that a fresh interpretation of the international legal rules governing space activities is needed. Ultimately, a revisiting of certain key provisions of those treaties is desirable.

THE TREATIES

The Australian Government is a signatory to all of the United Nations treaties on outer space. They are: -

- The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (Outer Space Treaty 1967)
- The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Rescue Agreement 1968)
- The Convention on International Liability for Damage Caused by Space Objects (Liability Convention 1972)
- The Convention on Registration of Objects Launched into Outer Space (Registration Convention 1975)
- The Agreement Governing the Activities of States on the Moon and other Celestial Bodies (The Moon Agreement 1979).

Under the general principles of international law, the states that are party to the treaties determine their own procedures to comply with the various obligations imposed by the treaties and their incorporation into domestic law. Countries such

as Sweden, the Russian Federation, the United Kingdom and the United States have already enacted domestic legislation to incorporate their international treaty obligations into municipal law and to provide a regulatory regime for space launch activities.

In order to understand the precise scope of Australia's treaty obligations, it is first necessary to consider the relevant treaty provisions.

Outer Space Treaty 1967

Under Article VI of the Outer Space Treaty, Australia would be responsible internationally for its "national activities" in outer space. The issue of the extent to which this applies to private activities as well as governmental activities will be dealt with later in this paper. The treaty further provides that, as the "appropriate State", Australia is required to undertake authorisation and continuing supervision of the activities of non-governmental entities. Australia would retain jurisdiction and control over a space object registered in the Australian registry.[1]

Under Article VII, if Australia launches or procures the launching of a space object into outer space which causes "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 or in outer space", Australia would be found liable for the damage caused. While the rules concerning third party liability are elaborated in the Liability Convention, this provision imposes obligations on states that are party to the Outer Space Treaty but not to the Liability Convention.

Other relevant provisions of the Outer Space Treaty include the prohibition against launching nuclear weapons and other weapons of mass destruction in outer space,[2] and the duty not to interfere detrimentally with the interests of other states in the exploration and use of outer space.[3]

Rescue Agreement 1968

Under the Rescue Agreement of 1968, Australia is obliged to inform the launching authority and the Secretary-General of the United Nations if it discovers that a space object has returned to Earth.[4] If requested by the launching authority, practical steps would be taken by Australia to recover and return a returned space object or its component parts, with the relevant expenses being borne by the launching authority. In this context, a launching authority is defined to include "a State responsible for launching".[5] With a continent the size of Australia and its geographical location relative to the Pacific, Indian and Southern Oceans, Australia can expect the occasional unplanned return of space objects (such as the return of parts of Skylab in Western Australia in 1980).

Liability Convention 1972

The Liability Convention imposes a liability for damage incurred by another state in the form of "loss of life, personal injury or other impairment of health, or loss or damage to property of States or of persons, natural or juridical, or property of international governmental organisations".[6] This liability is imposed on a "launching State" expressly defined as "a State which launches or procures the launching of a space object or a State from whose territory or facility a space object is launched," regardless of whether the launch was in fact successful or otherwise."[7]

There are two distinct regimes of liability established by the Liability Convention. If the damage is caused by the space object on the surface of the Earth or to an aircraft in flight, the liability to pay compensation is absolute.[8] However, if the damage caused by a space object is to another space object not on the surface of the

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1 Article VIII of the Outer Space Treaty

2 Article IV of the Outer Space Treaty

3 Article IX of the Outer Space Treaty

4 Article 5 of the Rescue Agreement

5 Article 6 of the Rescue Agreement

6 Article I of the Liability Convention

7 Article I of the Liability Convention

8 Article II of the Liability Convention

Earth, then the launching state would be liable only if it can be established that the damage caused is due to fault on the part of the launching state or its responsible nationals.[9]

Where the space object of one launching state causes damage to a space object of another launching state that was not on the surface of the Earth and subsequently causes damage to a third state, then the launching states of the two space objects are jointly and severally liable to the third state.[10] Similarly, when two or more states jointly launch a space object, the launching states would also be jointly and severally liable for any damage caused.[11] In the case of two or more launching states with joint and several liability, the burden of compensation would be apportioned between them in accordance with the extent of the respective fault[12] or otherwise it would be apportioned equally between them, unless there is an agreement to the contrary.[13]

How the mechanisms for settling such international claims would work under the Convention has been actively debated in academic circles but has never been put to the test in practice.[14] The only notable international compensation claim for damage to date, the case of Cosmos-954 where the Soviet satellite unexpectedly returned and landed in Canada, was resolved without explicit reference to any particular provision of the Liability Convention.[15]

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9 Article III of the Liability Convention

10 Article IV of the Liability Convention

11 Article V of the Liability Convention

12 Article IV of the Liability Convention

13 Article V of the Liability Convention

14 See Böckstiegel, "Beilegung von weltraumrechtlichen Streitigkeiten, in *Handbuch des Weltraumrechts* (1991), pp 806-808

15 See Dunk, "Commercial Space Activities: An Inventory of Liability — An Inventory of Problems" [1994] IISL 161 at 165

Registration Convention 1975

Australia is obliged under the Registration Convention to register all space objects for which it is the launching state and provide the Secretary-General of the United Nations with information of every space object in its registry as soon as it is practicable.[16] This information must include the name of the launching states, a designator or registration number, date and location of launch, general function and the basic orbital parameters (including the nodal period, inclination, apogee and the perigee) of a space object.[17]

Moon Agreement 1979

This treaty aims to regulate the manner in which states may conduct exploration of the moon and other celestial bodies and exploit their resources. It prohibits the militarisation of those bodies and the use of force in relation to them as well as to spacecraft and personnel.[18] Weapons testing and the development of weapons of mass destruction are prohibited. The benefits of research on the moon are to be shared, as are its natural resources.

The treaty also deals with conduct on and in relation to the moon and other celestial bodies. It creates obligations on and creates rights in favour of states involved in exploration. The treaty repeats the principle stated on the Outer Space Treaty that states bear international responsibility for the acts of their nationals.[19] The treaty operates by reference to the state which itself or whose nationals are involved in the exploration and exploitation of outer space. If and when Australia or an Australian national becomes involved in such activities, consideration will need to be given to regulation aimed at ensuring that treaty obligations are fulfilled. However, no such obligations arise under the Moon Agreement merely by virtue of the launching of spacecraft destined for the moon from Australia.

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16 Article II of the Registration Convention

17 Article IV of the Registration Convention

18 Article 3 of the Moon Agreement

19 Article 14 of the Moon Agreement

THE IMPLEMENTATION OF AUSTRALIA'S TREATY OBLIGATIONS

One of the difficult issues for legislators relates to the interpretation of the extent of the government's obligation to regulate the activities of non-governmental entities. Clearly, a launch activity from Australian soil should be subject to licensing and control by Australian authorities. However, the obligation to license and control space activities by Australian nationals outside Australian territories is more contentious.

Article VI of the Outer Space Treaty states as follows:-

> *States Party 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 authorisation and continuing supervision by the appropriate State Party to the Treaty...*

It should be observed that this article deals only with activities in outer space. The drafters of the Outer Space Treaty used the phrase "appropriate State Party" and not "the state of nationality". Legal commentators have frequently speculated on the meaning of "appropriate State Party". Some commentators believe that the term is sufficiently vague to allow several interpretations. One commentator has suggested that it could be interpreted to mean the following or any combination of the following: -

- the state which exercises jurisdiction and control over the non-governmental entity
- the state from whose territory the mission is launched
- the state of registration under the Registration Convention
- the state which owns the space object.[20]

The history of the drafting of the Outer Space Treaty would suggest that there was a deliberate distinction drawn between the appropriate state, responsible for authorisation and continuing supervision, and the launching state, responsible for damage caused by the space activity.

According to a leading space law authority, Dr Karl-Heinz Böckstiegel, director of the Institute of Air and Space Law at Cologne University:

> *... one may first state that indeed, Article VI [of the Outer Space Treaty] leaves room for a number of different arguments leading into different directions regarding the definition of what is the "appropriate" state and that not one single argument and interpretation is sufficiently overwhelming to exclude all other interpretations as acceptable. This vagueness and flexibility may be unsatisfactory from an academic point of view, but may prove to be helpful in the future to deal with the growing number of private space activities in many different circumstances. One will have to keep in mind the intention of Article VI to provide for all necessary authorisation and supervision by a State in view of his responsibility "for national activities in outer space". Keeping this intention in mind a functional interpretation may be the relatively best solution defining the "appropriate state" from case to case.*[21]

Professor Böckstiegel does not define what he means by 'functional interpretation'. One interpretation is that individual states have the opportunity to apply their own interpretation of this obligation according to the nature and purpose of the space activity, particularly when deciding the extent they wish to extend the extra-territorial

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[20] Michel Bourély, Proceedings of the 29th Colloquium on the Law of Outer Space, IISL. 1986

[21] Proceedings of the 34th Colloquium on the Law of Outer Space, IISL, October 1991

reach of legislation implementing their obligations under Article VI of the Outer Space Treaty.[22]

The next provision of the Outer Space Treaty to consider is Article VII. This article provides:-

> *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 or in outer space, including the moon and other celestial bodies.*

Whereas Article VI refers to international *responsibility* for activities in outer space, article VII refers to international *liability*. The concept of the launching state is introduced. This concept also appears in the Liability Convention. Article VIII of the Outer Space Treaty provides that a state Party to the treaty shall retain jurisdiction and control over those objects and personnel launched into space that are registered with that state.

Some commentators consider that this obligation, together with the obligation to authorise and continuously supervise non-governmental activities, impose upon states the responsibility to regulate commercial space activities.[23] The laws of the Russian Federation, South Africa, Sweden, the United Kingdom and the United States all contain clear provisions assuming state responsibility in ensuring that the activities of their private entities are carried out in accordance with the provisions of the applicable international treaties, including the Outer Space Treaty.[24]

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[22] In another context, 'functionalists' are distinguished from 'spatialists'. Spatialists stress the need of a clear internationally agreed upon demarcation between air space and outer space, so that activities would be regulated according to the legal regime application to the "place" where they occur. On the other hand, functionalists see no need for such demarcation because all activities should be regulated according to their nature and purpose rather than the "place" of their occurrence.

[23] See Jakhu, R., "Application and Implementation of the 1967 Outer Space Treaty", paper presented to Legal Symposium Celebrating the 30th Anniversary of the 1967 Outer Space Treaty, Vienna 1997

[24] The Law of Russian Federation on Space Activity (20 August 1993) Article 4 (1) states that "Space activity shall be carried out in conformity with the following principles: .... international responsibility of the state for space activity under its jurisdiction". Under section 11 of the 1993 Space Act of South Africa (Act no 14917 of 23 June 1993), a licence is required for "the participation by any juristic person incorporated or registered in the Republic [of South Africa], in space activities : (i) entailing obligations to the State in terms of international conventions, treaties or agreements entered into or ratified by the Government of the Republic". Furthermore, "A licence shall be issued subject to such conditions as the Council may determine for that particular licence, taking into account : .....(c) the international obligations and responsibilities of the Republic". The Swedish Act on Space Activities (1982:963) in its Section 6 specifies that "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". The Decree on Space Activities (1982:1069), which was issued under this Act, in its Section 4 states that "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". The 1986 United Kingdom Act on Space Activities (1986 Ch. 38) was enacted "to confer licensing and other powers on the Secretary of State to secure compliance with the international obligations

On the other hand, there is a body of opinion that the phrase in Article VI of the Outer Space Treaty "whether such activities are carried on by governmental agencies or by non-governmental entities" refers to non-governmental entities carrying out the national activities of the state on behalf of the state.[25] This theory is based upon the proposition that international law binds states and not individuals. Therefore, according to the theory, international law as implemented in the various space treaties does not prevent private entities from doing what states are prohibited to do. On this reading of the treaty, the obligation to authorise and continually supervise the activity of non-governmental entities in outer space is read as applying only to "national activities" and not the activities of non-governmental entities which are acting on their own behalf and not on behalf of their national governments.

Once again, individual states must chose from opposing academic interpretations of the extent of their obligation to authorise and supervise the activities of commercial space organisations in outer space. Professor Böckstiegel's 'functional interpretation' is the suggested solution.

CONCLUSION

Australia is in a unique situation. It is still in the early stages of developing a commercial space launch industry and its indigenous expertise in space-related technologies such as satellite development and manufacturing is not advanced compared with many other industrialised countries. However, Australia has certain geographical, logistic and political advantages which will continue to interest potential investors in commercial launch services.

Australia is a significant user of satellite communications and other space applications such as earth observation and geographic positioning. There are important economic, social and strategic reasons why an Australian space technology industry should be developed and encouraged.

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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". Under section 3.(1) of the Act, "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". Section 5 of the Act specifies that, a licence may be granted subject to such conditions, as the Secretary of State thinks fit, and in particular, may contain conditions (e) requiring the licensee to conduct his operations in such a way as to ..(iii) avoid any breach of the United Kingdom's international obligations". The US Act to Facilitate Commercial Space Launches, and for Other Purposes of 1984, as Amended 1988 (Public Law 98.575, 98th Congress, H.R. 3942, October 30, 1984. 98 Stat. 3055), in its Section 6 (a) (1) states that "No person shall launch a launch vehicle or operate a launch site within the United States, unless authorised by a license issued or transferred under this Act". Section 16 of the Act requires "Each person who launches a launch vehicle or operates a launch site under a license issued or transferred under this Act shall have in effect liability insurance at least in such amount as is considered by the Secretary to be necessary for such launch or operation, considering the international obligations of the United States". Further more section 21 (d) states that "The Secretary shall carry out this Act consistent with any obligation assumed by the United States in any treaty, convention, or agreement that may be in force between the United States and any foreign nation. In carrying out this Act, the Secretary shall consider applicable laws and requirements of any foreign nation".

[25] See Wassenbergh, H., "Responsibility and Liability for Non-Governmental Activities in Outer Space", in ECSL Summer Course on Space Law and Policy : Basic Materials, Martinus Nijhoff Publishers, 1994, pp. 198 et seq. Also, Gorove, S., "Interpreting Article II of the Outer Space Treaty", in 37, Fordham Law Review, 1969, p. 349 at p. 351.

The Australian space industry welcomes the proposed regulation and licensing of launches from Australia. However, it is concerned about the additional regulatory burdens that Australian organisations involved in foreign launches may face. Globally, the commercial satellite industry is growing rapidly. It would be an undesirable and unintended outcome if Australia were considered to be an unfavourable location for any company involved or planning to be involved in the ownership or operation of satellites.

One possible solution to this dilemma has been proposed by the Australian Space Industry Chamber of Commerce. It has suggested a two-stage process in which the government first enacts legislation regulating launch and re-entry activities from Australia. The government is then encouraged to take a leading role in addressing and amending the relevant space treaties to remove the anomalies and uncertainties outlined above, to take account of the modern reality of commercial space activities.

Clearly, national legislation that not only regulates but also facilitates space activities is needed. Our legislators will soon have the opportunity to enact such legislation that will protect the national interest and, of equal importance, facilitate the growth of an important new industry for Australia.

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