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LIABILITY ARISING FROM ARTICLE VI OF THE OUTER SPACE TREATY: STATES, DOMESTIC LAW AND PRIVATE OPERATORS

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Article VI of the Outer Space Treaty

In the contemporary era of commercial and private space activities, the focus of much legal and regulatory attention has been placed on the Liability Convention and Article VII of the Outer Space Treaty. This has led to the view, somewhat erroneous, that only those treaty provisions deal with third party liability for damage caused by space activities under international law. This overlooks the importance and practical effects of Article VI of the Outer Space Treaty.

Specifically, Article VI of the Outer Space Treaty provides that:

> State 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 authorisation 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 organisation, responsibility for compliance with this Treaty shall be borne by the international organisation and by the State Parties to the Treaty participating in such organisation.

It is clear from this that Article VI imposes the following obligations on States:

(1) to bear "international responsibility" for *national* activities in outer space regardless of whether such activities are carried out by governmental, private or multinational entities;

(2) to assure that *national* activities are conducted in conformity with the Outer Space Treaty and, through Article III, with international law;

(3) where *appropriate*, to authorise and continually supervise the activities of private entities relating to space; and

(4) to share "international responsibility" for the activities of international organisations of which the State concerned is a participant.

The practical effects of these obligations are considered in more detail below.

Content of Responsibility

In the past, some commentators have sought to distinguish the "responsibility" prescribed under Article VI with "liability" as imposed under Article VII and the provisions of the Liability Convention. [1] From this view, Article VI would do no more than to prescribe a regulatory responsibility on States without the imposition of any liability on the State. In recent times, however, much

emphasis has been placed by some commentators on the use of terms in the other languages that are equally authentic for the purposes of interpreting the Outer Space Treaty.[2] Specifically, it was noted that the terms used in the Chinese, French, Russian and Spanish texts of the Outer Space Treaty use the same term for the English terms "responsibility" and "liability".[3] Accordingly, if there is to be no differentiation in meaning between "responsibility" under Article VI and "liability" under Article VII, then Article VI must be interpreted to mean that States are to be internationally liable for breaches of international law arising from *national* space activities that are conducted by both public and private entities.[4]

This is consistent with the customary principles of state responsibility in that liability for reparations must follow from a violation of international law. For example, in the much-cited dicta from *Chorzów Factory (Indemnity) (Merits)*, the Permanent Court of International Justice held that:

> ... it is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation. ... the Court has already said that reparation is the indispensable complement of a failure to apply a convention, and there is no necessity for this to be stated in the convention itself.[5]

Consequently, Article VI has the effect of imposing state responsibility, and thus liability, on a State for activities in outer space that may be attributable to the State.

Imputability to the State and the Duty to Authorise and Continually Supervise Private Space Activities

Article VI further provides for States to take international responsibility for "national" space activities conducted by both public and private entities. Generally, the space activities carried out by public entities are acts attributable to the State and, accordingly, they are activities for which the State must take international responsibility under international law.[6] Further, if any damage or harm is caused to other States, the State is liable to pay reparations to the extent of *restitutio in integrum*.[7] The issue, therefore, is whether Article VI is merely a restatement of the existing principle of state responsibility or if it expands the duty imposed on States.

The customary principles on state responsibility are commonly considered with reference to *Corfu Channel (Merits)* and the jurisprudence of the Iran-U.S. Claims Tribunal.[8] From these cases, the imputability of a "private" act to the State would appear to depend on an objective determination of any influence over or benefit derived from the activity that may be attributed to the State. If the acts are conducted by private persons or entities without the direction or influence of the State, then such acts are generally not imputable to the State.[9] In *Foremost Tehran Inc. v Iran*, a company decided not to pay dividends to its shareholders, one of which was the claimant U.S. company. The Tribunal imputed that decision to the State because the company acting under the influence of some of its directors, who were appointed by the Iranian Government and was implementing government policy concerning the financial interests of foreigners.[10] In *Flexi-Van Leasing Inc. v Iran*, it was held that, even if the entity was under the control of the State, it must be demonstrated that the specific conduct itself was directed or influenced by the State for it to be imputable to the State.[11]

The obligation under Article VI, with its qualification on "national" activities, may be seen as being no more than a restatement of the existing international law.[12] In other words, States are to bear international responsibility for activities in outer space that are conducted under the State's direction or influence, regardless of whether the activities are conducted by public or private entities. To some extent, this is a logical interpretation of Article VI, as States should not have to bear responsibility for acts beyond its control, direction or influence. For example,

the private acts in Mexico of a Belgian national who has no connections or ties with the Belgian State ought not to be attributable to the Government of Belgium.

However, the analysis must not end there, as Article VI imposes a further requirement that the "appropriate" State is to authorise and continually supervise the space activities of private entities. This obligation is not qualified or confined by the use of the term "national" and, accordingly, is an obligation imposed on the State concerning all private activities, regardless of the existing degree of State control, direction or influence over the activity. Through the acts of authorisation and continuing supervision, the State would be asserting some degree of control, direction or influence over the private space activity, thus making it a "national" activity for which the State bears international responsibility. This produces the overall effect of requiring a State to bear international responsibility for all public or private space activities under its control, direction or influence, including those that it authorises and continually supervises as the "appropriate" State.

This conclusion has two ancillary effects. The first is that this international responsibility would apply to the State even if the relevant private space activity was conducted outside the territorial jurisdiction of the State. This is consistent with the position taken under general international law, as codified in Article 12 of the International Law Commission's Draft Articles on State Responsibility.[13] Further, this is also consistent with the approach adopted under the Liability Convention, which imposes liability on a State for the launch activities of its nationals, even if these activities took place outside the territory of that State.[14]

Authorisation and Continuing Supervision by the "Appropriate" State

The second ancillary effect is that the State of nationality may find itself in a situation where it is unable to supervise the space activities of its private nationals. For example, if the national, domiciled outside the territorial jurisdiction of his or her State of nationality, conducts his or her space activities within the territorial jurisdiction of another State, it would be difficult, if not impossible, for the State of nationality to authorise and continually supervise those space activities. Kerrest suggested that this difficulty is in itself a breach of international law:

> This is of course in total breach of international law. States have personal jurisdiction over their nationals. They must keep the capacity to implement international law in general and space law in particular and to make it applicable to their citizens whether they are natural or legal persons.[15]

When considered in the context of the duties imposed under Article VI being implemented through domestic legislation that carry criminal sanctions, this view does find some support in the existing body of international law. This is most notably the case in *S.S. Lotus*, in which the Permanent Court of International Justice held that Turkey was capable of extending its criminal jurisdiction over French nationals arrested in Turkey for committing a crime under Turkish law in the high seas.[16] As the Court stated:

> Though it is true that in all systems of law the principle of the territorial character of criminal law is fundamental, it is equally true that all or nearly all of these systems of law extend their action to offences committed outside the territory of the State that adopts them. ... The territoriality of criminal law, therefore, is not an absolute principle of international law and by no means coincide with territorial sovereignty.[17]

Further, Dickinson also supports this in his introductory comment on the Harvard Research Draft Convention on Jurisdiction with Respect to Crime, in which he stated that:

> The competence of the State to prosecute and punish its nationals on the sole basis of their nationality is based upon the allegiance which the

> person charged with crime owes to the State of which he is a national. ... If international law permits a State to regard the accused as its national, its competence is not impaired or limited by the fact that he is also a national of another State.[18]

However, it must be noted that it is not in the legal competence of the State of nationality, but rather its physical inability to enforce its laws over nationals domiciled within the territorial sovereignty of another State that causes difficulties for the State of nationality to act as the "appropriate" State. Even in *Lotus*, which Brierly suggested to be "based on the highly contentious metaphysical proposition of the extreme positivist school",[19] the Court suggested that the "exclusively territorial character of law relating to this domain constitutes a principle which, except as otherwise expressly provided, would *ipso facto*, prevent States from extending the criminal jurisdiction of their courts beyond their frontiers".[20] In other words, the personal jurisdiction that the State of nationality has over its nationals would allow for the later prosecution of any crimes committed by that national upon his or her return, but would not assist that State from fulfilling its duty to authorise and continually supervise the space activities of that national.

In any event, if the "appropriate" State is intended to be the State of nationality, then it is doubtful that the drafters of the Outer Space Treaty would have found it necessary to invent a new term to describe it. Indeed, the term "appropriate" is best read with reference to the context in which it is placed, namely the act of authorising and continually supervising the space activities of private entities. The *travaux préparatoires* of the Principles Declaration, an U.S. proposal contained the following provision:

> A state or international organisation from whose territory or with whose assistance or permission a space vehicle is launched bears international responsibility for the launching, and is internationally liable for personal injury, loss of life or property damage caused by such vehicle on the Earth or in air space.[21]

Therefore, it may be concluded that the "appropriate" State is better defined as the State in the best position to assert direct and immediate jurisdiction over the private entity to authorise and continually supervise its activities. In the case of a space activity conducted by a private entity within the territory of its State of nationality, the "appropriate" State is clearly that State. In the case of a private entity operating outside its State of nationality, however, the State in the best position to authorise and continually supervise is the State with territorial jurisdiction over the activities of that private entity. Consequently, in most circumstances, it may be able to designate the territorial State as the "appropriate" State, a view that is supported by some eminent commentators of space law.[22]

In defining "appropriate" State as the territorial State, there are three implications that should be noted:

(1) this is a fairer outcome as the State of nationality should not be placed in a position where it must fulfil an impossible legal obligation;

(2) the problem of "double jeopardy" is avoided as the "appropriate" State and only that State is responsible for authorising and continually supervising the space activities conducted by private entities within its territorial jurisdiction; and

(3) this definition does not affect or prejudice the effect of Article VII of the Outer Space Treaty or the provisions of the Liability Convention in imposing liability on the State of nationality, regardless of whether it had authorised and continually supervised the activity or otherwise.

Enactment of Domestic Laws

The first State to enact domestic legislation specifically on private space activities was Norway, with the enactment of the *Act on Launching Objects from Norwegian Territory etc. into Outer Space* in 1969 (hereinafter the "**Norwegian Act**").[23] It was not until 1982 that a second State, Sweden, legislated on private space activities with its *Act on Space Activities* (hereinafter the "**Swedish Act**") and its associated *Decree on Space Activities* (hereinafter the "**Swedish Decree**").[24] The Scandinavian laws tended to be narrow in scope and dealt only with the core issue of international third party liability.

Since the early 1980s, however, subsequent States have tended to enact more comprehensive legislation on private launch activities. In 1984, the Congress of the United States enacted the *Commercial Space Launch Act 1984* (hereinafter the "**U.S. Code**").[25] This was soon followed in 1986 with the *Outer Space Act 1986* of the United Kingdom (hereinafter the "**U.K. Act**").[26] In the 1990s, a further four States have legislated on private launch activities to varying degrees of coverage, namely the *Space Affairs Act 1993* of South Africa (hereinafter the "**South African Act**"), the *Law about Space Activity 1993* and the associated *Statute on Licensing Space Operations 1996* of Russia (hereinafter the "**Russian Law**" and the "**Russian Statute**", respectively) and the *Ordinance on Space Activity 1996* of the Ukraine (hereinafter the "**Ukrainian Ordinance**").[27]

In 1998, the Australian Government began a comprehensive process of legislating and regulating private launch activities with the enactment of the *Space Activities Act 1998* (hereinafter the "**Australian Act**") and the subordinate *Space Activities Regulations 2001* (hereinafter the "**Australian Regulations**").[28] The Brazilian Government has also adopted the *Resolution on Commercial Launching Activities from Brazilian Territory* in 2001 (hereinafter the "**Brazilian Resolution**") and the *Regulation on Procedures and on Definition of Necessary Requirements for the Request, Evaluation, Issuance, Follow-up and Supervision of Licenses for Carrying out Launching Space Activities on Brazilian Territory* in 2002 (hereinafter the "**Brazilian Regulation**"). In 2005, Belgium enacted the *Law on the Activities of Launching, Flight Operations or Guidance of Space Objects* (hereinafter the "**Belgian Law**").

Of peripheral interest to the present study is the enactment by the Legislative Council of the Hong Kong of the *Outer Space Ordinance 1997* to localise the effects of the U.K. Act after the handover of Hong Kong from the United Kingdom to the People's Republic of China (hereinafter the "**H.K. Ordinance**").[29]

The legal and regulatory effects of these domestic legislation on private launch services operators in implementing the requirements of the Liability Convention (as well as Article VI of the Outer Space Treaty) are considered in further detail below.

Coverage for Article VI Liability

Overview

It is notable at the outset that the applicability of most of the domestic laws enacted by the States tends to be limited to launch activities and to liability arising under the Liability Convention or Article VII of the Outer Space Treaty. Article VI, on the other hand, applies not only to launch activities but also to operations of space objects in orbit or on other celestial bodies.

Consequently, it is interesting to consider to what extent these domestic enactments cover liability arising from Article VI of the Outer Space Treaty. Specifically, these domestic laws may need to provide for:

(1) the "authorisation" and "continuing supervision" of all private space activities where the State is the "appropriate State"; and

(2) the imposition of international liability arising from Article VI (or generally) on the private operator.

The effectiveness of the domestic laws in meeting both of these legal and policy objectives is considered in detail below.

Norway

The Norwegian Act appears to apply only to launch activities that are conducted within the territorial jurisdiction of Norway and those by Norwegian *residents* outside the territorial jurisdiction of *any* State. Section 1 of the Norwegian Act states:

> Without permission from the Norwegian Ministry concerned, it is forbidden to launch any object into outer space from:
> (a) Norwegian territory, also include Avalbard, Jan Mayen and the Norwegian external territories;
> (b) Norwegian vessels, aircrafts, etc.; and
> (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.

Within the context of Article VI, therefore, the Norwegian Act does not apply to space activities that do not involve launching. However, it is interesting that Norway appears to consider itself the "appropriate State" where the launch activities are conducted by Norwegian residents, even though they may be nationals of the State from which they are operating.

Sweden

The Swedish Act extends its coverage to "space activities" rather than the narrower scope of launch activities, which clearly places it in a better position in relation to liability under Article VI. The Swedish Act defines "space activities" as being activities carried out in outer space and all measures to manoeuvre or in any other way affect objects launched into space.[30]

Section 2 of the Swedish Act provides for its coverage as the "appropriate State" under Article VI by stating that:

> 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.

Russia and the Ukraine

Both the Russian Law and the Ukrainian Ordinance appear to follow closely the definition of "launching States" under the Liability Convention, though the Russian Law specifies the further types of activities to be licensed while the Ukrainian Ordinance defers that determination to a later enactment. Specifically, Article 9(2) of the Russian Law states that:

> Subject to licensing shall be space activities of organisations and citizens of the Russian Federation or space activities of foreign organisations and citizens under the jurisdiction of the Russian Federation, if such activity includes tests, manufacture, storage, preparation for launching and launching of space objects, as well as control over space flights.

Article 10 of the Ukrainian Ordinance provides that:

> Any space facility engaging or intending to engage in space activities in the Ukraine or under the jurisdiction of the 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 activities subject to licensing shall be established by the laws of Ukraine.

Accordingly, although this may be unclear on the terms of the provisions, it appears that any Russian or Ukrainian private entity that is engaged in space activities or foreign entities conducting space activities in Russia or the Ukraine will require some form of licensing under the Russian Law or the Ukrainian Ordinance, respectively.

United Kingdom

The United Kingdom has a unique approach to the applicability of its domestic launch legislation, as the express terms of the U.K. Act has produced an outcome that the Parliament may not have intended. The main provision concerning the coverage of the U.K. Act is found in Section 3(1), which provides that:

> 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.[31]

Section 2(1) defines a "person to whom this Act applies" as:

> United Kingdom nationals, Scottish firms and bodies incorporated under the law of any part of the United Kingdom.

Further, Section 1 defines an "activity to which this Act applies" as:

> (a) launching or procuring the launch of a space object;
> (b) operating a space object; and
> (c) any activity in outer space.

In this way, only United Kingdom nationals would be subject to the provisions of the U.K. Act, requiring all space activities conducted by U.K. nationals to be licensed under the U.K. Act. In other words, a foreign national that conducts space activities in the United Kingdom technically would be excluded from regulation under the U.K. Act, although the United Kingdom is clearly liable under the Liability Convention as a "launching State" in the case of launch activities and may be internationally responsible for all space activities under Article VI of the Outer Space Treaty.

South Africa

The most comprehensive coverage attempted of domestic launch legislation is found in the South African Act. Section 11 of the South African Act provides that the following activities require a licence:

> (a) any launching from the territory of the Republic;
> (b) any launching from the territory of another State by or on behalf of a juristic person incorporated or registered in the Republic;
> (c) the operation of a launch facility;
> (d) the participation by any juristic person incorporated or registered in the Republic, 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; or
> (ii) which may affect national interests;
> (e) any other space or space-related activities prescribed by the Minister.

It must be noted that Section 11(c) of the South African Act does not specify where and by whom the launch facility is to be operated for it to be subject to the scope of the law. However, the scope of Section 11(d) by extending the coverage of the law to any space activity that may cause the South African Government to incur international obligations would mean that any activity for which South Africa would be a "launching State" or be responsible under Article VI of the Outer Space Treaty would require licensing under the South African Act.

Belgium

The Belgian Law appears to take maximum advantage of its jurisdiction to apply itself to space activities as broadly as possible. Article 2 of the Belgian Law provides that:

> (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 paragraph 1 and carried out by natural or legal persons of Belgian nationality, irrespective of the location where such activities are carried out.

It is apparent from this that the Belgian Law would apply if there is any jurisdictional connection between the space activity and the Belgian State, such as territory or nationality. The broad applicability of the Belgian Law, regulating not only launch activities but also in-orbit operations and the ground segment of guidance and control makes it probably the domestic law of the broadest application, thus ensuring maximum coverage for all activities that may be subject to Article VI.

Australia

The Australian position differs from the laws considered above in one crucial way that is pivotal to our present study. It is that the Australian Act applies only to launch activities and does not cover the operation or manoeuvring of space objects in orbit or other space activities. Further, the Australian Act extends its coverage to returns of space objects to Australian territory, even though such activities may be covered under Article VI but not under the Liability Convention. The Australian Act also does not apply to an Australian national owning or operating a launch facility outside Australia, which may be within the scope of Article VI.

Such specificity in defining the coverage of the Australian Act has caused it to exclude from its coverage possible international responsibility under Article VI. This, along with the other domestic laws considered below, poses significant legal problems for those States in the event that an accident involving a private space activity occurs.

Brazil

The Brazilian Regulation has adopted the approach taken by the U.K. Act, though in this case it is deliberately done, as the focus of the law is to facilitate the commercial use of launch facilities in Brazil. Accordingly, the scope of the Brazilian Regulation is restricted to space launch activities that are conducted from Brazil.[32]

What is of particular interest in the Brazilian Regulation is its restriction to launch activities in Brazil conducted by Brazilian nationals or companies based in Brazil. To begin with, Article 2 of the Brazilian Regulation defines a "licence" issued under the law as:

> The administrative deed, within the competence of the Brazilian Space Agency, authorised by a Resolution of its Higher Council, granted to a legal person, single, an association or consortium, for the purpose of carrying out launching space activities on Brazilian territory, in compliance with the terms and conditions established in this Regulation.

Similarly, the Brazilian Regulation defines an "authorisation" issued under the law as:

> The administrative act, within the competence of the Brazilian Space Agency, issued by a Resolution of its High Council, to operate a specific space launch in the Brazilian territory, in compliance with the terms and conditions established in this Regulation and pertinent laws.

Further, the Brazilian Regulation requires the licensee conducting launch activities to be a Brazilian national or a company based in Brazil. Specifically, Article 6 states that:

> A licence shall only be granted to legal persons, single as well as associations or consortia, having headquarters or representation in Brazil ...

Effectively, this means that the Brazilian Regulation applies only to launch activities conducted in Brazil and foreign entities seeking to launch from Brazilian facilities must at least have legal representation in Brazil. Accordingly, Brazilian nationals conducting space activities overseas and anyone conducting any non-launch space

activities in Brazil would not be subject to the regulation of Brazilian law.

United States

The U.S. Code applies to all launch activities that would cause the United States to be liable as a "launching State" under the Liability Convention, but goes further to regulate launch activities of foreign companies operating outside the territorial jurisdiction of the United States where U.S. nationals hold a "controlling interest" in such foreign companies.

Specifically, Section 70104 of the U.S. Code requires the licensing of any launch of a launch vehicle or the operation of a launch facility in the United States, as well as the launch of a launch vehicle or the operation of a launch facility outside the United States by a "citizen of the United States". Section 70102(1) of the U.S. Code defines, for the purposes of licensing launch activities, a "citizen of the United States" as:

> (1) an individual who is a citizen of the United States;
> (2) an entity organised or existing under the laws of the United States or a State; or
> (3) an entity organised or existing under the laws of a foreign country if the controlling interest ... is held by an individual who is a citizen of the United States or an entity organised or existing under the laws of the United States or a State.

In this way, the U.S. Code applies to foreign entities of which there is a substantial holding by a United States citizen or entity, even though such an entity may not cause the Government of the United States to be liable as a "launching State". For example, a company incorporated under the laws of the British Virgin Islands would nevertheless be subject to the licensing requirements of the U.S. Code if its "controlling interest" is held by U.S. nationals. However, this expansion of coverage merely extends the protection of the U.S. Government for liability arising from the Liability Convention and Article VII of the Outer Space Treaty, but not under Article VI as it applies only to launches.

Provisions Dealing with International Liability

Overview

Most of the existing domestic legislation in force concerning private space activities imposes some regime of indemnification of the States by their private entities in order to transfer the liability risk from the government to the private operators. It should be noted that the existence of domestic legislation dealing with liability does not affect the rights and obligations of the State at an international level.

Accordingly, the domestic legislation does no more than to provide a legal basis by which the State can then seek to recover any compensation paid from the private operator through domestic legal channels.

Norway

The Norwegian Act does not specifically require a private launch services operator to indemnify the Norwegian Government for claims for damage under the Liability Convention or otherwise under international law. In effect, the Norwegian Act does no more than to provide for the authorisation and continuing supervision of private activities in accordance with the requirements under Article VI of the Outer Space Treaty to authorise and continually supervise the space activities of its private entities.

Effectively, a private launch services operator subject to the Norwegian Act may, through full compliance with the licensing and regulatory requirements of the domestic law, avail itself of a full indemnity from the Norwegian Government for its international third party liability under the Liability Convention.

Russia

Determining the liability of a private launch services operator subject to the Russian Law

is a three-step process. First, as a starting point, the Russian Government accepts its international liability under the Outer Space Treaty, but only in accordance with its own interpretation of its terms.

Specifically, Article 30(1) of the Russian Law provides that:

> The Russian Federation shall guarantee full compensation for *direct* damage inflicted as a result of accidents while carrying out space activities in accordance with Russian legislation.[33]

It is clear that this reflects the Russian view that only direct damage caused by a space object is covered under the space treaties. However, such a provision would serve as no more than an example of interpreting the space treaties and would not have effect on confining the international obligations of the Russian Government.

Second, the Russian Law intends for this "full compensation for direct damage" to be paid for by the private launch services operators responsible. Article 30(2) of the Russian Law provides that:

> Compensation for damage inflicted as a result of accidents while carrying out space activities shall be paid by the organisations 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 or fully laid upon the appropriate organisations and citizens.

Presumably, the language of Article 30(2) is intended to approportion liability between the launch operator and the manufacturers of the launch vehicle and the payload, wherever and whenever appropriate.

Third, the Russian Law appears to limit the compensation payable by the private operator to the amount insured, as Article 30(4) states:

> The liability of organisations and citizens participating in the creation and use of space technology for damage inflicted as a result of accidents while carrying out space activities shall be limited to the amount of the insured sum of insurance indemnity provided in contracts of insurance of space technology and risks involved in space activities.

If the insured sum or insurance indemnity is insufficient for compensation for the damage inflicted as a result of accidents while carrying out space activities, recourse may be taken against the property of relevant organisations and citizens in the manner specified in the legislation of the Russian Federation.

The international third party liability of a private operator that is subject to the Russian Law is thus apparently limited to the coverage of insurance policies purchased and, where and when appropriate, this liability is to be divided between the operator and manufacturers. However, it is unclear under what circumstances and to what extent recourse may be taken against the property of the private operator in the event that the compensation payable exceeds the insurance coverage.

Sweden and the United Kingdom

The Swedish Act provides for a comprehensive statutory indemnity for any liability arising under the space treaties or otherwise under general international law. Specifically, Section 6 of the Swedish Act provides 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 other than the Swedish State, the 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.

Further, Hedman suggested that special Swedish statutes exist to deal with the strict liability of private operators to reimburse liability incurred by the State.[34]

This is similar to the position adopted by the U.K. Act. Specifically, Section 10(1) of the U.K. Act states:

> A person to whom this Act applies shall indemnify Her Majesty's government in the United Kingdom against any claim brought against the government in respect of damage or loss arising out of activities carried on by him to which this Act applies.

Further, it is perhaps not surprising that the same position is adopted by Hong Kong, as the H.K. Ordinance requires a private entity subject to the Ordinance to indemnify both governments of Hong Kong and the People's Republic of China. [35]

There appears to be no linkage between these provisions in the Swedish Act and the U.K. Act and any compulsory insurance requirements in the respective domestic laws. Accordingly, the liability of the private operators to indemnify their respective governments under both Swedish and U.K. laws is unlimited and is not confined by the insurance coverage that they have purchased for the relevant launches.

South Africa

The South African Act has adopted a unique position, for the extent of the indemnity appears to be one to be determined unilaterally by the South African Government rather than one to be negotiated between the government and the private operator. Section 14(1) of the South African Act states that:

> A licence issued under Section 11 may, in addition to conditions determined under that section, contain conditions relating to:
> (a) (i) liability of the licensee for damages;
> (ii) security to be given to the licensee for such damages and the manner in which it shall be given,
> as the Council, with the concurrence of the Minister, may determine; and
> (b) liability of the licensee resulting from international conventions, treaties and agreements entered into or ratified by the Government of the Republic.

Belgium

Article 15(1) of the Belgian Law provides that the Belgian State has the "right to institute a claim against the operator involved up to the amount of compensation" for damage caused to a third party State or foreign nationals. As further protection for the Belgian State, Article 15(7) provides that it may have direct recourse against the insurer of the operator. Further, Article 15(5) states that the operator may be required to pay up to half of the compensation to be paid to the victim State before it is paid, with the balance payable immediately after the compensation is paid. This represents the most aggressive enactment in protecting a government's legal liability for private space activities.

Concluding Observations

It is clear from the above discussion that the States that have enacted domestic laws have varying degrees of effectiveness in ensuring their coverage over all space activities for which international responsibility under Article VI may arise.

It is noteworthy that Norway, Sweden, Russia, Ukraine, South Africa and Belgium may have sufficient coverage in their domestic laws to ensure that their international obligations under Article VI are covered by them. Australia and the United States, on the other hand, have no coverage over any non-launch activities for which they may be responsible for under Article VI. The United Kingdom and Brazil are unique in that they exclude foreigners from the application of their laws, even though they may be responsible under Article VI if such activities were carried out within their territories.

Consequently, it may become necessary for States with existing domestic laws to enact amending legislation to extend their coverage and for States presently considering the

enactment of domestic space laws to take the full effects of Article VI into consideration.

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[1] See, for example, Awford, *Commercial Space Activities: Legal Liability Issues*, in Mani, Bhatt and Reddy (eds.), RECENT TRENDS IN INTERNATIONAL SPACE LAW AND POLICY (1997) at 388.

[2] Article XVII of the Outer Space Treaty provides that the Chinese, English, French, Russian and Spanish texts are equally authentic. For example of recent commentaries that have made this observation, see Kerrest, *Remarks on the Responsibility and Liability for Damage other than Those Caused by the Fall of a Space Object* (1997) 40 PROC. COLL. L. OUTER SP. 134; and Lee, *Commentary Paper on Discussion Paper Titled "Commercial Use of Space, Including Launching" by Prof. Dr. Armel Kerrest* (2004) SPACE LAW CONFERENCE: PAPER ASSEMBLE 220.

[3] In the French text, the term "responsabilité internationale" is used in both Articles VI and VII in place of both international "responsibility" and "liability" in the English text. Similarly, the Chinese term 「国际责任」, the Russian term "международную ответственность" and the Spanish term "responsables internacionalmente" are used as the equivalent term for both "international responsibility" and "international liability" under Articles VI and VII.

[4] Some commentators have also noted that the *travaux préparatoires* and many domestic laws in civil law jurisdictions do not draw a distinction between "responsibility" and "liability". See, for example, Cheng, *Article VI of the Outer Space Treaty Revisited: "International Responsibility", "National Activities" and "The Appropriate State"* (1998) 26 J. SP. L. 10; and Uchitomi, *State Responsibility / Liability for "National" Space Activities: Towards Safe and Fair Competition in Private Space Activities* (2001) 44 PROC. COLL. L. OUTER SP. 51.

[5] *Case Concerning the Factory at Chorzów (Indemnities) (Merits) (Poland v. Germany)* (1928) P.C.I.J. REP., Ser. A, No. 17, at 29.

[6] International Law Commission's Draft Articles on State Responsibility, Articles 5-7. See also *Massey (United States v Mexico)* (1927) 4 R.I.A.A. 155.

[7] *Chorzów Factory*, *supra* note 5, at 46-48.

[8] *Corfu Channel (Merits) (United Kingdom v. Albania)* [1949] I.C.J. Rep. 4.

[9] International Law Commission's Draft Articles on State Responsibility, Article 11.

[10] *Foremost Tehran Inc. v Iran* (1986) 10 Iran-U.S.C.T.R. 228.

[11] *Flexi-Van Leasing Inc. v Iran* (1986) 12 Iran-U.S.C.T.R. 335. In that case, a private Iranian company under the control of the Iranian Government committed acts of expropriation, but the Tribunal held that they were not imputable to the State as it could not be demonstrated that the acts themselves were under the direction or influence of the State.

[12] See, for example, Back-Impallomeni, *The Article VI of the Outer Space Treaty*, in United Nations, PROCEEDINGS OF THE UNITED NATIONS / REPUBLIC OF KOREA WORKSHOP ON SPACE LAW (2003), 348-351.

[13] Article 12 provides that "The conduct of an organ of a State acting in that capacity, which takes place in the territory of another State or in any other territory under its jurisdiction, shall not be considered as an act of the latter State under international law."

[14] Liability Convention, Article I.

[15] Kerrest, *Commercial Use of Space, including Launching* (2004), in China Institute of Space Law, 2004 SPACE LAW CONFERENCE: PAPER ASSEMBLE 199.

[16] *S.S. Lotus (France v Turkey)* (1927) P.C.I.J. REP., Ser. A, No. 10.

[17] *Ibid.*, at 20.

[18] Dickinson, *Introductory Comment to the Harvard Research Draft Convention on Jurisdiction with Respect to Crime* (1935) 29 AM. J. INT'L. L. SUPP. 443 at 519 *et seq.*

[19] Brierly, *The Lotus Case* (1928) 44 L.Q.R. 154 at 155.

[20] *Lotus*, *supra* note 16, at 20.

[21] U.N. Doc. A/C1/881 (14 October 1962).

[22] See, for example, Herczeg, *Interpretation of the Space Treaty of 1967 (Introductory Report)* (1967) 10 PROC. COLL. L. OUTER SP. 105 at 107; Gorove, *Liability in Space Law: An Overview* (1983) 8 ANNALS AIR & SP. L. 373 at 377; and Bourély, *Rules of International Law Governing the Commercialisation of Space Activities* (1986) 29 PROC. COLL. L. OUTER SP. 157 at 159.

[23] No. 38 of 1969, enacted 13 June 1969.

[24] *Act on Space Activities* (1982:963) of Sweden; and *Decree on Space Activities* (1982:1069) of Sweden.

[25] This became, along with some legislative changes, Title 49, Subtitle IX, Chapter 701 of the *United States Code*.

[26] Act No. 38 of 1986.

[27] *Space Affairs Act 1993* (South Africa), Act No. 84 of 1993; *Law of the Russian Federation about Space Activity*, Decree 5663-1 of the Russian House of Soviets of 1993; *Statute on Licensing Space Operations*, Resolution No. 104 of the Russian Federation Government of 2 February 1996; and *Ordinance of the Supreme Soviet of the Ukraine on Space Activity*, Law of Ukraine of 15 November 1996.

[28] Act No. 123 of 1998, subsequently amended in 2001 and 2002; and Statutory Rules No. 186 of 2001, subsequently amended in 2003.

[29] No. 65 of 1997.

[30] Swedish Act, Section 1.

[31] Emphasis added.

[32] Brazilian Regulation, Article 1.

[33] Emphasis added.

[34] Hedman, *Presentation of the Swedish Legislation on Space Activities*, in PROCEEDINGS OF THE PROJECT 2001 WORKSHOP ON NATIONAL SPACE LEGISLATION: NEEDS AND PROSPECTS FOR NATIONAL SPACE LEGISLATION 136 at 137.

[35] H.K. Ordinance, Section 12.