# MANFRED LACHS SPACE LAW MOOT COURT COMPETITION 1999

## The Mor-Toaler Sea-Launch Project (Brezonec vs. Mastodonia)

## 1. INTRODUCTION

The finals of the 8th Manfred Lachs Space Law Moot Court Competition (the "Mor-Toaler Sea-Launch project", Brezonec v. Mastodonia) were held on Thursday, 7 October 1999, in the Great Hall of Justice of the Peace Palace in The Hague. The Institute of Air & Space Law at Leiden University co-organized the event, which included a guided tour of the Peace Palace and was concluded with a dinner at a restaurant near Leiden. Judge Stephen Schwebel, President of the ICJ, gave a dinner speech and the majority of the ICJ Judges attended the dinner. Preliminary competitions were held in Europe and the USA, and the winners of those preliminaries met in the final round between the teams of Vanderbilt University (Bill Wade & Alan Mingledorff) and the University of Paris XI (Irene Aupetit & Mickael Torrado). Judges Guillaume, Koroma and Vereshchetin judged the finals. Prof. Kerrest wrote the 1999 Problem. The Award for the Best Oralist was sponsored by the Law offices of Sterns and Tennen. The Award for the Best Memorial was sponsored by the Journal of Space Law. Kluwer Law International donated several law books to the students, and the ICJ donated a book about the Court to the library of the winning university.

The results of the 1999 competition were:

- Winning Team: Vanderbilt University (USA)
- Best Memorial: University of Paris XI (France)
- Best Oralist: Alan Mingledorff (USA).

## 2. THE PROBLEM

STATEMENT OF FACTS

A private consortium, the "Mor-Toaler Company" (hereinafter "Mor-Toaler"), was created in 1992 to launch spacecraft from the sea. It is incorporated under the Law of Crocodilia, an island which is a dependent territory of Mastodonia. Mor-Toaler is owned by several investors, but there is no majority shareholder.[1]

In 1997, Mor-Toaler had a self-propelled semi-submersible North Sea oil-drilling platform converted into a launch platform. This conversion was done by the Norwegian company Renrek, a well-known ship builder and minority shareholder in Mor-Toaler. The platform, named "Freya", was registered in and now flies the flag of Freedonia. A number of Western European governmental reports have criticized Freedonia for its failure to meet the requirements of the International Maritime Organization both as to safety matters, and as to the qualifications of officers on board its vessels. The "Assembly and Control Ship" (ACS) from which command functions are performed is the "Nemo", which is also registered in Freedonia.

Mor-Toaler launches are conducted as follows. The first and second stages of the launch vehicle are purchased from the country of Oristan, a former part of the USSR. Stages-to-Go, a company incorporated in the nation of Diamondia, provides the third stage. Other elements for the final assembly are bought on the international industrial market. The various launch components are brought together in San Francisco, and loaded on the Nemo before the Nemo proceeds into international waters. Assembly of the launch vehicle is carried out on board the Nemo while in transit to the launch location. Mor-Toaler launches occur near the equator, in an area protected from poor weather. This launch site is in the Exclusive Economic Zone of the nation Brezonec, which has been properly proclaimed in accordance with the 1982 Convention on the Law of the Sea.

The Nemo provides accommodation for up to 300 crew members, as well as for representatives of the customers for a particular launch, and 'Very Important Persons' from other potential customers. On-board services include medical, dining, recreation and entertainment facilities.

On board the Nemo, the launch vehicle "Lega" is assembled and the payload is integrated with it. The launch vehicle with payload aboard is then passed from the Nemo to Freya, in a condition ready to launch. The Nemo then sails to a safe distance and acts as the launch command centre, using radio links. During the launch phase, all personnel are removed from the Freya platform and every operation is controlled from the command ship.

The first launch by Mor-Toaler occurred in January 1998. The payload on the first launch was a satellite named "Loki". It was designed to be used as part of a Global Maritime Safety and Communications System. At launch, Loki belonged to "Zeon", a company incorporated in the USA and the satellite itself was registered on the US Space Registry. Loki was to provide Command, Navigation and Surveillance, Air Traffic Management (CNS/ATM) services for the International Civil Aviation Organization for the use of aircraft in the Atlantic Ocean region.

The launch of Loki was successful. After the launch and almost three months of use without problem, Loki was sold to MastodSpace on April 1, 1998. MastodSpace is incorporated under the law of Mastodonia. The USA was informed of the sale. On April 8, 1998, notification was drafted to transfer Loki to the Mastodonian Space Registry, but this notice had not yet been transmitted to that Registry when, on April 15, 1998, an explosion occurred in the third stage of the vehicle which had placed Loki in orbit and much debris was created.

[1] The shareholders include: a Mastodonian company, MastodInvest (20%); the "Societe Internationale d'Activites Spatiales" (SIAS) (25%); the British "Outward Bound Company" (OBC) (20%); the "Company for Space Activities" (CSA, a Russian company) (15%); a Norwegian company, "Renrek" (10%); and the Order of Sicily (OS), an organization with charitable purposes and limited international personality, legally akin to the Order of Malta or the Knights of St John, which has its headquarters in Sicily (5%). The balance of the shareholding is held by minor investors in the USA and Europe.

From telemetry and radar data it is clear that on April 16, 1998, one large piece of the third stage of the launcher collided with Brezosat, a telecommunications satellite. Brezosat was part of an eight-satellite low-earth-orbit satellite telecommunication constellation operated by a Brezonec company, Brezoncom, which is 51% state-owned. Brezosat ceased to function as a result of the collision. Before the collision, the Brezoncom system had already been having problems. A number of its satellites had failed due to faulty manufacturing processes in Brezonec. Further, because of a series of launch accidents the satellites held in reserve for replacement of failing satellites in the Brezoncom system had already been used, and the whole system was considered generally unreliable. As a result of the collision, many customers of the Brezoncom System cancelled their contracts. A conservative estimate is that the loss of contracted business for Brezoncom amounts to US$90 million. In addition, Brezonec itself is now paying some US$50 million a year to foreign satellite systems to provide the services it otherwise would have carried on the Brezoncom system. Brezonec is highly dependent upon its Brezoncom satellite system for its internal and external telecommunication needs.

No public inquiry into the possible cause of the accident has been conducted, but a team formed by insurance companies involved has determined that the explosion likely occurred because the fuel tanks of the third stage of the launch vehicle had not been fully and properly emptied (vented) once Loki had been inserted into its orbit. Neither the law of Mastodonia, nor the terms under which it registers space objects, mention such a procedure. The venting of fuel tanks, however, is an industry standard and the licensing requirements of most other launching states require venting in order to avoid such occurrences.

On April 29, 1998, Loki itself suddenly stopped transmissions. Space surveillance systems have established that it also was hit by debris from the exploded stage three of its launch vehicle. As a result, the accuracy of the regional CNS/ATM system has been greatly diminished and an accident happened to an aircraft relying on the system. The aircraft was owned by Brezonec-Air. It was on a flight from Brezonec-City to Gravascar, a well-known place of pilgrimage in Mastodonia. It crashed with 200 people on board. Most of the passengers were Brezonec citizens. Also among the dead were seven young executives from Oil-Croc, a major privatized oil company incorporated in Crocodilia. Three of these were British, and two Danish. Brezonec-Air, which is wholly owned by the Brezonec government, recently acceded to the International Air Transport Association sponsored revision to the Warsaw Convention system, and therefore faces large claims in respect of these deaths. The current sum claimed in respect of the deaths amounts to US$250 million, and the aircraft itself cost US$17 million. It has been determined that the accident was wholly attributable to the failure of Loki.

Following these events, Brezonec requested full compensation from Mastodonia which it held responsible for the damage. An exchange of letters between the Parties concerning the claims, and attempts to settle the matter though diplomatic channels as called for by the Liability Convention failed. Neither Party has requested the establishment of a Claims Commission under the Liability Convention. To resolve the matter, the Parties have agreed to refer the case to the International Court of Justice (ICJ). Brezonec seeks reparation from Mastodonia for the damage caused by the space debris to the Brezosat telecommunication satellite, and for the crash of the Brezonec-Air aircraft. Both Brezonec and Mastodonia have ratified the Outer Space Treaty, the Agreement on Rescue and Return of Astronauts, the Liability Convention, the Registration Convention and the Moon Agreement. Both are members of the International Civil Aviation Organization and the International Telecommunication Union.

ISSUES

The ICJ has determined that any questions of quantum - the amount of the claims - shall be deferred until after the Court decides the liability issues. Briefs and argument should not speculate as to quantum. Furthermore, students should not elaborate on the Warsaw System but assume that the amount of damages with respect to the victims of the crashed aircraft is settled.

The following issues are reserved for briefing and argument to the Court under the agreed compromis. There are no issues of jurisdiction or standing, and briefs and arguments with regard to the issues or remedies are to be confined solely to legal principle.

1. Whether Mastodonia is liable under international law for:
a) the damage to the Brezosat satellite,
b) the loss of business contracts on the Brezoncom system, and
c) costs incurred by Brezonec to procure replacement services on other satellite systems.

2. Whether Mastodonia is liable under international law for:
a) the loss of the Brezonec-Air aircraft, and
b) all or some of the damages which Brezonec-Air may be required to pay under the contractual revision to the Warsaw system of damages in air transport.

## 3. WINNING BRIEFS

### A. MEMORIAL FOR BREZONEC

#### AGENTS

Irene Aupetit & Mickael Torrado (University of Paris XI)

#### ARGUMENT

The case presently in front of the International Court of Justice is neither an unique case nor a fiction. It is based, on events and facts fully foreseeable. Rockets upper stages represents 16% of the objects polluting space.[1] The risks of explosion due to non venting of the upper stages propellants are evident for all cautious operators.[2] The situation is particularly critical in Low Earth Orbit which was Brezosat's orbit.[3]

The dangers linked to the negligence of launching States, polluting Outer Space and Earth's orbits, are so important that for the United Nations to raise the question.[4] Attitude of launching States is contradiction with the co-operation principle which must prevail in the use of Outer Space. In the present case the liability regime for damages caused by space objects is provided by two international conventions: The Outer Space Treaty[5] and The Liability Convention ;[6] since both treaty are in force between Mastodonia and Brezonec they are bind by it and must perform the obligation in good faith.[7] When delivering its judgement, the court has not only to remember the co-operation principle which is at the base of Space Law but also offer a safe legal framework to States willing to develop satellite networks in Low Earth Orbit or make benefits from Earth.

[1] W. FLURY, *The space debris problem*, General Meeting Dutch NPOC ECSL, Leiden, May 8 1988, p.4.

[2] UNCOPUOS, Scientific and Technical Subcommittee, 35th Session, Vienna, 9-20 February 1998, Agenda item 9, *Space Debris, Working Paper Submitted by the International Academy of Astronautics*, A/AC.105/C.1/L.217, 12 January 1998, p. 1. As the example of the third stage of Tsyklon which fragmented on the 15th of February in more than 80 pieces.

[3] W. FLURY, supra 1, p.7.

[4] A session of UNISPACE III was on the matter.

[5] *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 January 1967, 18 UST 2410; TIAS 6347; 610 UNTS 205 - Hereafter, *Outer Space Treaty*.

[6] *Convention on International Liability for Damaged Caused by Space Objects*, 29 March 1972, 24 UST 2389; TIAS 7762; 961 UNTS 187 - Hereafter, *Liability Convention*.

[7] Article 26 of the *Vienna Convention on the Law of Treaties*, 1969 [hereinafter *Vienna Convention*].

#### Question 1(a): Is Mastodonia liable under international law for the damage to the Brezosat Satellite?

Mastodonia is clearly liable for the damage caused to the Brezosat satellite after the collision with the piece of the third stage of the launch rocket of the Mor-Toaler company, registered in Mastodonia.

The Outer Space Treaty is a lex generalis, the Liability Convention is a lex specialis. Therefore, the Liability Conventions provisions prevail over those in the Outer Space Treaty. This is to say that we will first base our arguments on the Liability Convention, but if the conditions for its application are not fulfilled, we can nevertheless use the Outer Space Treaty. However, the constitutive elements of liability are quite similar in both texts: the damage caused must be in the scope of the space law treaties (I), the State must be held accountable according to space law conventional criteria (II) and the latter must have committed a fault (III). In the present case, all these conditions point out Mastodonia as liable.

##### I. THE COLLISION IS A CASE OF LIABILITY ACCORDING TO INTERNATIONAL SPACE LAW

In international space law, States are liable for damages caused by their space objects. This principle is proclaimed in the Outer Space Treaty and more especially in the Liability Convention. In the latter, the idea of "the space object" as cause of liability is not only within the title and the preamble but also in the core of the Treaty, in each article.

The piece of the third stage of Lega that collided with the Brezosat satellite is considered as a space object and therefore we can invoke the Outer Space liability regime (A). Even if the International Court of Justice requalifies the piece of the Lega third stage as a space debris, we will show that this so-called space debris is assimilated to a space object and even in that case the State of Brezonec is fully within it's right to ask for compensation (B).

###### A. The third stage of the launcher is a space object, so the international liability regime is applicable

The definition of the notion of space object is contained in article 1 (d) of the Liability Convention which states: "The term "space object" includes component parts of a space object as well as its launch vehicle an parts thereof". Article 1 (d) definitely applies to the piece of the third stage of the launcher by applying the means and the methods of treaty interpretation established by the International Court of Justice. First this application is in accordance with the principle of the interpretation according to the *most evident* solution (1). Secondly it is fully compatible with the principle of the *effet utile* interpretation (2).

1. An interpretation in accordance with the principle of the most evident solution.

In the *Temple case* the ICJ recalls a well established jurisprudence according to which one must interpret the words of a treaty depending on their ordinary and natural meaning in the context where they are.[8]

First a reading of the prioritary means of interpretation as defined by article 31 of the Vienna Convention, allows a literal interpretation.[9] The body of the text, article 1(d) of the Liability Convention, as much as its preamble in the paragraph 3[10] allows the inclusion of the piece of the third stage of the launcher in the notion of a space object. The relating treaty as complementary interpretation means[11] which is the Registration Convention, more especially its article 1 (b)[12] and the revelant rules of international law applicable, in the matter article VII[13] and VIII[14] of the Outer Space Treaty, fully confirms this interpretation.

Secondly, the analysis of the *travaux préparatoires* (preparatory works), confirms that the piece of the third stage is a space object. Resorting to the *travaux préparatoires* as a complementary means of interpretation is a constant practice from the ICJ[15] codified in article 32 of the Vienna Convention.[16] According to the preparatory work of the Legal Subcommittee of the UNCOPUOS the term « space object » has to be interpreted an extensive way. It is important to underline that all the definitions included in the four drafts of convention on liability are quite similar on this point.[17] With this in mind, the Legal Subcommittee adopted the following text in 1971 :[18] "the term « space object » includes components part of a space object as well as its launch vehicle and parts thereof. ». Article I (d) of the Liability Convention of 1972 will use exactly the same expression.

2. A solution in conformity with the interpretation according to the "effet utile" principle

The rule of the "effet utile" allows an efficient interpretation of the clause. According to this method we must suppose, as did the International Court of Justice notably in *the Channel case,*[19] that a disposition is included in a

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[8] International Court of Justice, *Temple of Preah Vihear case*, 26 May 1948, preliminary exceptions, ICJ reports, 1961, p. 32.

[9] Article 31 paragraph 1 states "A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose". Its paragraph 2 specifies that the context for the purpose of the interpretation of treaty shall comprise in addition to the text, including its preamble and annexes; any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty; any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty. Its paragraph 3 specifies that you have to take into account any relevant rules of international law applicable in the relation between the parties.

[10] Paragraph 3: "Taking into consideration that, notwithstanding the precautionary measures to be taken by States and international intergovernmental organisations involved in the launching of space objects, damage may on occasion be caused by such objects,"

[11] see Article 31 of the Vienna Convention on treaty interpretation. Above mentioned n° 9.

[12] Article I (b) : "The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof." (underlined by the author)

[13] Article VII: "Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the moon and other celestial bodies". (underline by the author )

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

[15] International Court of Justice, *The Admission case*, 28 May 1948, ICJ Reports, 1947-1948, p.63; *Ambatelios case*, 1July 1952, ICJ Reports 1952, p.45.

[16] Article 32: "Recourse may be had to be supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meanings resulting from the application of article 31, (...)."

[17] *Article 2 of the Belgium Draft* (UNGA, Official Records, 24th session, UN Doc A/7621, suppl. N°21 New York, 1969, Legal Sub-Committee report, VIII session, UN Doc A/AC.105/58, Belgium Draft, UN doc A/AC.105/C.2/L. 7/Rev.3, p39), *article 1 (3) of the Hungarian Draft* ( Idem, UN doc A/AC.105/C.2/L.24, Add. 1, p 49), *article 1(c) of the Indian Draft* (UN Doc. A/AC.105 /C.2/L.32/Rev.1 and Corr. I), *article 2, al 4 of the Italian Draft* ( UN Doc. A/AC.105/C.2/L.40, Rev.1, Suppl. N°21, p 53).

[18] Text adopted at the 166th session of the Legal Sub-Committee on the 29 June 1971, UN Doc A/AC. 105/C.2/10.

[19] International Court of Justice, *Channel of Corfou Case*, "It would indeed be incompatible with the generally accepted rules of interpretation to admit that a provision of this sort occurring in a special agreement should

treaty to be effective, therefore between several possible meanings we must choose the one that allows the best application (*ut res magis valeat quam pereat*).
The purpose of the Liability Convention and of the Registration Convention is expressly to set rules governing liability concerning the damage that would occur in outer space by space objects especially launcher and its different parts which are used during the orbital transfer. To make this rule efficient, the space object must compulsorily include the launcher and its elements as whole or in several parts. To interpret it differently would negate the purpose of the convention because the launch produces a breaking up of the launch vehicle and parts of it.
In conclusion we can affirm that in view of the term and the purpose of the Liability Convention, it is necessary to interpret space object according to article I (d) in the largest scope possible including its different components. So the piece of the third stage is a space object even if it was separated after the explosion. The fact that it is non-functional is irrelevant. There is no reason to think that non-functional space objects are no longer space objects. Neither in international conventional law, nor in the doctrine,[20] is the definition of space objects related to the object's use or usefulness, either actual or potential. This extensive conventional definition has given birth to a custom according to he interaction between treaties and customs as defined in the North Sea Continental Shelf cases of 1969.[21] Finally our assumption that the component parts of the launcher are included in the term space object is confirmed by the doctrine[22] which is a source of international law.[23]

B. Even if the Court decides that the third stage is a space debris, the international liability regime is still applicable

Even if the court decides that the third stage of the launcher is a space debris and not a space object when it hit the Brezosat satellite it does not exclude Mastodonia liability in our case. According to the doctrine the Liability Convention may also be applied to the damage caused by space debris.[24]

Three conditions are required for the enlargement of the term of reference of liability as understood in the Convention of 1972. The first of these is that space debris has to be included, at least generically, in the term « space object » and this is the case in the present situation concerning the piece of the third stage as this is undeniably a part of the launcher. Secondly, it is necessary that the debris can be tracked down to the original object of which the debris was a part, and therefore from the object to it's owner by the means of the registration of the said item. In the present case, the origin of the piece is clearly established by telemetry and radar data.[25] The accuracy of these data cannot be cast in doubt. Lastly, the liability can only be applied to damage caused to other space objects and not to space environment. In fact the article I of the Liability Convention defines the damage as the loss of human lives, personal damage or other prejudices to health, or the loss of goods of the States. As the damaged Brezosat satellite belongs exclusively to a State-owned company, Brezocom, the third condition is fulfilled.
The argument according to which space debris cannot be included in the scope of the Liability Convention for legal security matter because of their number and size is not relevant. The successful activities of the orbital debris control organisation[26] have rendered possible the tracking of very small debris and therefor they have to be included in the legal framework of the liability. Even if the legal security matter can be considered as being relevant, we can fully apply the theory of the ESA expert, Mr W. Flury. He makes a distinction of category between catalogued debris (owner and orbit known) to which the liability would apply and uncatalogued debris (owner unknown) for which there is no liability issue.[27]
Therefore the State of Mastodonia cannot escape from the responsability by arguing that the damage was caused by a space debris.

## II. MASTODONIA'S STATUS MAKES IT ACCOUNTABLE

To apply the Liability Convention, the State concerned must be a launching State and to apply the Outer Space Treaty, the State concerned must be an appropriate State.[28] Mastodonia is accountable under international

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be devoid of purport or effect.", 9 April 1949, CIJ reports, 1949, p.24.

[20] BIN CHENG, *Studies on International Space Law*, Clarendon Press, Oxford, 1997, p. 506.

[21] Judgement of the International Court of Justice, *North Sea Continental Shelf cases*, 20 February 1969, ICJ reports 1969,p 3 and following.

[22] BIN CHENG, *Studies on International Space Law*, supra 20, p. 500; M. G. MARCOFF, *Traité de droit international public de l'espace*, Fribourg, Editions Universitaires Fribourg Suisse, 1973, p. 410; Claudio ZANGHI, "Aerospace Object", in *Outlook on Space Law over the Next Thirty Years*, edited by G. Lafferranderie and D. Crowther, Kluwer Law International, 1997, p. 115.

[23] Article 38 paragraph 1 of the International Court of Justice Statutes.

[24] Gabriella Catalano SGROSSO, "Liability for Damage caused by Space Debris", in *Proceeding of the 38th Colloquium of the Law of the Outer Space*, IISL, Norway, 1995, p.81.

[25] *Manfred Lachs Space Law Moot Court Competition*, 1999, Statement of facts, p 2, §6.

[26] For instance, regular lists edited by the European Space Operation Centre of the European Space Agency shows the capacity to identity, position and know the exact size of space debris, European Space Operation Centre, *Log of Objects Near the Geostationary Ring*, Issue 19, Produced with the DISCOS Database, February 1999.

[27] W. FLURY, supra , p.17.

[28] In the Outer Space Treaty, two articles concern the responsability and liability: the article VI which provide a general principle of responsability of the appropriate State and the article VII which specially concern the pro-

law because it is a launching State (A). If the Court refuses this argument, Mastodonia is nevertheless accountable as an appropriate State (B).

A. Mastodonia is the main launching State

The conventional definition of the term "launching State" is provided both by article I (c) of the Liability Convention and by article I (a) of the Registration Convention[29] with exactly the same wording : "The term "launching State" means: (i) A State which launches or procures the launching of a space object; (ii) A State from whose territory or facility a space object is launched".[30]

The fulfilment of one of the four criteria is sufficient to make a State a "launching State".[31] None of these criterion can be applied to Brezonec, so it is not a launching State (1), whereas three of them can be applied to Mastodonia (2).

1. Brezonec is not a launching State

No criterion provided by the definition of a launching State can be used in the situation of Brezonec, therefore the Liability Convention cannot be applied.

a) Brezonec is not a State which launches

To launch would involve "perpetration" or "execution".[32] But the launch was done by the Mor-Toaler Company which is incorporated under the law of Crocodilia, an island which is a dependent territory of Mastodonia. Moreover, among the shareholders of the company no one comes from Brezonec.[33] Then, through the Mor-Toaler Company, the State which launches is Mastodonia[34] and not Brezonec.

Even if we refer to Doyle's description of some 49 "launch services", no one have been provided by Brezonec. Then we cannot qualify any participation from Brezonec to the launching.[35]

b) Brezonec did not procure the launching

A State has to be actively involved by "requesting, initiating or at least promoting the launching" of a particular space object in order to consider him as having "procured" the launching.[36] In our situation, according to the statements of facts, Brezonec's situation does not correspond to this definition and it did not supply even a small minor component to the launching. Then, Brezonec cannot be considered as having procured the launching.

c. The launching did not occur from Brezonec's territory

One could argue that because the launching occurred on Brezonec's EEZ,[37] it would be considered as "a State from whose territory a space object is launched". Article 55 of the Montego Bay Convention[38] provides the legal definition of the EEZ: "The exclusive economic zone is an area beyond and adjacent to the territorial sea subject to the specific legal regime [...], which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provision of this Convention". The assimilation between the term "jurisdiction", expressly mentioned within this article, and the concept of "territorial sovereignty" must be denied because of the following arguments.

First, the territorial sovereignty means "plenitude" and "exclusive" competence of the State in regard to its own territory,[39] while competences on the EEZ are only exclusive for specific economic purposes. Second, even if one tries to use terminology of article 56 which expressly mentions the term "sovereign rights" it is not relevant in our situation.[40] Third the will to extend the

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ceeding of the launch. We are aware of being far away from the launching, that's why we will only refer to the former.

[29] *Convention on Registration of Objects Launched into Outer Space*, 12 November 1974, 1023 U.N.T.S. 15 (here after *Registration convention*).

[30] The Outer Space Treaty, even if it is not as clear as the two treaties above mentioned, also provides the same criteria which are: "**launches**", "**procures**", "**territory**", and "**facility**" – supra 6. Article VII: "Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the moon and other celestial bodies." (underline by the author).

[31] K-H. BOCKSTIEGEL, "The Term «Launching» State in International Space Law", in *Proceeding of the 37th Colloquium of the Law of the Outer Space,* IISL, Jerusalem, Israël, 1994, p. 81.

[32] Supra 31 p. 81.

[33] Manfred Lachs Space Law Moot Court Competition, 1999, *Statement of Facts*, p. 1.

[34] See infra § a) « Mastodonia is a State which launches »

[35] E. DOYLE, "Legal Aspects of International Competition in Provision of Launch Services", in *IISL 30th Colloquium*, Brighton, 1987, p. 204 and 205.

[36] Definition accepted by most authors, cited by K-H. BOCKSTIEGEL, supra 31, p. 81.

[37] Economic Exclusive Zone.

[38] *Convention on the Law of the Sea*, UNTS, 10 December 1982 [ hereinafter *Montego Bay Convention*].

[39] *Island of Palmas case*, 4 April 1928, Permanent Court of Arbitration, sole arbitrator: M. HUBER, ASR, vol. 2, p. 281.

[40] Article 56 of *the Montego Bay Convention* establishes a distinction between "sovereign rights" and "jurisdiction". The first expression only concern the exploration, exploitation conservation and managing the natural resources (article 56 1 (a)), which is not relevant in our situation. The second one concerns the establishment and

notion of territory on the EEZ, using the concept of geography adjacency had never been accepted by the ICJ.[41] Then, because the EEZ is neither a State territory, nor an extension of it, the launching did not occurred from Brezonec's territory.

d.Brezonec's facilities have not been used in the launching

The launching occurred from Freya, a self-propelled semi-submersible North Sea oil-drilling platform converted into a launch platform. Command functions are performed from Nemo, the Assembly and Control Ship. All these facilities are registered in Freedonia.[42] Then, no Brezonec's facilities are used in the launching.

2. Mastodonia is a launching State

In the case under discussion, three of the four criteria provided by article I of the Liability Convention can be applied and make Mastodonia liable.[43]

a) Mastodonia is a State which launches

The State which launches is Mastodonia, through the Mor-Toaler Company.[44] This term means specially the State defining the mission and planning support.[45] In the matter under discussion, Mastodonia is necessary implied in the definition of missions and planning support because the Mor-Toaler is incorporated under the law of a dependent territory of Mastodonia[46] and because it has an important part of the capital (20%). More generally, consortium shareholders are considered as entities which launches and, even if a State has not a majority shareholder, it still can be the State which launches.[47] Then, Mastodonia is definitely a State which launches.

If the Court refuses this argument, Mastodonia is nevertheless a State which procured the launching.

b) Mastodonia procured the launching

Many elements point out Mastodonia as a State which procured the launching.[48] First, the Mor-Toaler is registered in Mastodonia, through the Law of Crocodilia and, a space activity is impossible without the consent of, at least, the State of registration. Then, Mastodonia procured the launching through the Mor-Toaler. Second, the State which have a satellite, and ask to another State to launch it is considered as procuring the launching.[49] In the matter under discussion, if it is true that the satellite Loki belonged to an American company, only three months after the launch, it was sold to a Mastodonian company. Moreover, MastodSpace decided alone to switch Loki to the Mastodonian registry, and the US complied.[50] All these element show that Mastodonia is present at all the steps of the launching. Then there is no doubt on the fact that Mastodonia procured the launching.

c) Mastodonia's facilities have been used in the launching

On the one hand, Freya and Nemo fly the flag of Freedonia, but they never visited ports of Freedonia.[51] On the other hand, Freya and Nemo belong to the Mor-Toaler Company which is incorporated in Mastodonia and, among the shareholders of this company, there is no natives from Freedonia which could explain such a registration. We can affirm that facilities belong to Mastodonia through the Mor-Toaler Company, therefore it is a convenience registration.

If the Court still considers that Mastodonia is not a launching State, Mastodonia is nevertheless an appropriate State and is still liable under the Outer Space Treaty according to article VI.

B. Mastodonia is an "appropriate State"

The notion of «appropriate State» cannot be identified with the notion of «launching State». It is confirmed by the draft Treaty presented by the USSR in 1966.[52] It is also confirmed by the fact that the Outer Space Treaty dealt with it in two different articles. But, neither the text, nor the travaux préparatoires lead to a clear answer

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use of artificial islands, installations and structures (article 56 1 (b) (i)), which could be argue against Brezonec.

[41] In the *Gulf of Maine* judgement, Canada concentrated its efforts on the concept of geographic adjacency, since it was convinced that this concept constituted the «basis of the title » of the coastal State to the partial extension of its jurisdiction to certain maritime areas. In the Court's opinion, it is « correct to say that international law confers on the coastal State a legal title [...] to a maritime zone *adjacent* to its coasts; it would not be correct to say that international law recognises the title conferred on the State by the adjacency of [...] that zone, as if the mere fact of adjacency produced legal consequences. » 12 October 1984, ICJ report, p. 242.

[42] Manfred Lachs Moot Court Competition, 1999, Statement of Facts, p. 1.

[43] Supra 31: « the fulfilment of one of the four criteria is sufficient to make a State a launching State ».

[44] Supra § a) « Brezonec is not a State which launches ».

[45] Supra 35, p. 204 and 205.

[46] Manfred Lachs Moot Court Competition, 1999, Statement of Facts, p. 1.

[47] A. KERREST, "Les aspects juridiques du projet sea launch de lancement de satellites depuis la haute mer ", Droit et Défense, 1997, p. 45.

[48] For a definition of the term « procured the launching », supra § b) « Brezonec did not procured the launching »

[49] Supra 31, p. 81.

[50] Manfred Lachs Space Law Moot Court Competition 1999, *Questions to the Court*, question 6.

[51] Manfred Lachs Space Law Moot Court Competition 1999, *Questions to the Court*, question 4.

[52] UN Doc. A/6352, 16 June 1966.

to define the term «appropriate State». According to article 38 of the Statute of the ICJ, international legal literature may be referred to as a subsidiary means of interpretation of Public International Law. For Galloway, there may be several appropriate States and one of the appropriate States may be a State «whose only connection with the particular space activity was that some components or space instruments were produced on its territory».[53] Herczeg confirm this position and precise that the State where is the seat of the «entity» carrying on space activities, and the State where the production of the space instrument takes place are both obviously States which have to assume authorisation and continuing supervision. In other words, they are all «appropriate States».[54] This is confirmed by the analogy which can be found in Article VII of the Outer Space Treaty which extend the international liability to all the States in connection with one launching. Bourély and Böckstiegel explain that the notion of «appropriate State» is sufficiently vague and flexible to allow several interpretations.[55] Finally, Bartos synthesises saying that the appropriate State can be any State which played a role in the launching of a payload, which include the State of the non-governmental entity.[56]

In the present instance, the Mor-Toaler Company is incorporated under the Law of Crocodilia which is a dependent territory of Mastodonia.[57] The latter has then to be considered as a «State of registry»[58] and therefore as an «appropriate State». As such, it has to provide the «authorisation and continuing supervision» required by article VI and therefore is liable under article VII of the Outer Space Treaty.

[53] Position developed by GALLOWAY in the Working Group on the theme of «Problems in the Interpretation of the Space Treaty of 27th January 1967», formed at the occasion of the IISL 10th Colloquium on the Law of Outer Space, Belgrade, 1967, Proceedings, p. 108.

[54] I. HERCZEG, «Introductory Report on the Problems of Interpretation of the Space Treaty of 27 January 1967», in *Proceeding of the 10th Colloquium of the Law of the Outer Space*, IISL, 24-29 September 1967, Yugoslavia, Belgrade, p. 107.

[55] M. BOURÉLY cited by K.-H. Böckstiegel, « The Term « Appropriate State » in International Space Law », in *Proceeding of the 37th Colloquium of the Law of the Outer Space*, IISL, Jerusalem, Israel, 1994, p. 79.

[56] BARTOS, «Summary of Discussions on the Problems of Interpretation of the Space Treaty of 27 January 1967», in *Proceeding of the 10th Colloquium of the Law of the Outer Space*, IISL, 24-29 September 1967, Yugoslavia, Belgrade, p. 116.

[57] Manfred Lachs Space Law Moot Court Competition, 1999, *Statement of Facts*, p. 1.

[58] See article I (c) of the Convention on Registration of Objects Launched into Outer Space provides : « The term «State of registry» means a launching State on whose registry a space object is carried in accordance with article II. »

## III. MASTODONIA HAS COMMITTED A FAULT

First, as regards article VII of the Outer Space Treaty,[59] the spirit of liability under it may be assumed to be absolute and not based on fault.[60] Therefore, Mastodonia is liable even if it did not commit any fault. If the Court still consider that a fault have to be proved under the Outer Space liability regime, this fault exists and consists in the failure of the "continuing supervision" obligation regarding to Outer Space Treaty provisions.

Second, article III of the Liability Convention provides: "in the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible". So, a fault have to be proved. In the case in hand, the explosion occurred because the fuel tanks of the third stage of the launch vehicle had not been fully and properly emptied and that this practice "is an industry standard".[61]

Then, whatever way we use the Outer Space Treaty or the Liability Convention, by such behaviour, Mastodonia has committed a fault. Thus, through MastodSpace,[62] it violated the obligation of passivation (A), but also the obligation of due diligence (B).

### A. Mastodonia, through MastodSpace, violated the specific obligation of passivation

Passivation denotes "the removal of all stored energy from the space craft or upper stage by depleting and/or venting propellants and pressurants and open circuit the batteries so that the object becomes inert".[63] This is not only a standard but also a customary obligation recognised by the ESA Space Debris Working Group and the Inter-Agency Space Debris Co-ordination Committee[64] as indicated in the proceedings of the First and Second European Space Debris Conferences.[65]

[59] supra 30

[60] B. CHENG, *Studies in International Space Law*, Clarendon Press, Oxford, 1997, p. 291.

[61] Manfred Lachs Space Law Moot Court Competition, 1999, *Statement of Facts*, p. 3.

[62] Manfred Lachs Space Law Moot Court Competition, 1999, *Statement of Facts*, p. 2 : « MastodSpace is incorporated under the law of Mastodonia ».

[63] UNCOPUOS, *Space Debris, Working Paper submitted by the International Academy of Astronautics*, supra 2 p. 5.

[64] The IADC includes: representatives of NASA, the Russian Space Agency, Japan and ESA. For an historic of the IADC and the ESA activities for space debris, see G. Lafferranderie, "ESA Activities - Status and Organisation of the Inter-Agency Space Debris Co-ordination Committee (IADC)", IISL - ECSL Symposium, 18 March 1996, 9 p.

[65] ESA, *Proceedings of the First European Conference on Space Debris*, ESOC, Darmstadt, Germany, 5-7 April

We have to reject all attempts trying to deny the customary value of the passivation obligation because of the following arguments. First, the fact that this obligation was created by practice of industry and international organisations has no effect on the reality of the custom. International law recognises that the practice of both private entities and international organisations can be considered as the *consuetudo* constitutive element of the custom.[66] Second, even if some professionals and launching States governments deny certain recommended measures of object control because they are not technically relevant, the passivation obligation has been fully accepted, which proves the *opinio juris*[67]. In the facts, contrary to other object control options,[68] the *constant* and *uniform* practice of passivation is performed with success by the concerned States.[69] According to the International Academy of Astronautics "for LEO rocket bodies, the expulsion of propellants and pressurants has been used successfully in the past and provides a significant measure of safety for the future".[70]
So, because the obligation of passivation is an established custom, its scope is erga omnes[71] and therefore binds MastodSpace even if this rule is not incorporated under the law of Mastodonia[72]. Moreover, Mastodonia cannot invoke the theory of the consistent objector proclaimed by the ICJ in the Fisheries case[73] confirmed in North Sea Continental Shelf case[74] putting forward his national law. To be able to benefit from this exceptional exoneration , the country must express clear and continuous objection to this rule since its creation , which Mastodonia has not done. Then, Mastodonia, through MastodSpace, has committed a fault when it did not respect the customary obligation of passivation.
In any case, even if Mastodonia did not violated this obligation, it committed a negligence.

B. Mastodonia violated the general obligation of due diligence

Mastodonia is liable for the Mor-Toaler Company's activities because of its obligation of due diligence.[75] The due diligence, which is under discussion at the Commission on International Law,[76] is "the obligation for a State, its organs or agents not to commit any negligence, omission or to allow any delay in the accomplishment of the various duties provided under international law towards foreign nationals".[77] The special reporter of the Commission on the International Law precised that a State has to reduce to the minimum the risk of accident which could reach an other State.[78]
Moreover, article IX of the Outer Space Treaty implies that in the use of outer space, States "shall be guided by the principle of co-operation and mutual assistance [...] with due regard to interest of all other States". So, there is an obligation to all States to refrain to plan activities, that would cause "potentially harmful interferences with activities with other States". This statement is no more than a customary obligation of due diligence always confirmed by the international jurisprudence, since the *Alabama award*, 1872.[79]
In the present instance, Mastodonia did not proceed to the passivation of its launch, and therefore did not try to reduce to the minimum the risk of accident with Brezonec, it violated its obligation of due diligence. Finally, Mastodonia is effectively at the origin of the direct damage to the Brezosat satellite, and then is liable under international law for the damage to the Brezosat Satellite.

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1993, 807 p. - ESA, *Proceedings of the Second European Conference on Space Debris*, ESOC, Darmstadt, Germany, 17-19 March 1997, 745 p. - See also Inter-Agency Debris Co-ordination Committee (IADC), *Proceedings of the 14th IADC Meeting*, ESOC, Darmstadt, Germany, 20-21 March 1997.

[66] For private entities: *Aminoil award* (Aminoil v. Koweit), 24 March 1982, JDI, 1982, p. 869. For international organisations: International Court of Justice, *Namibian case*, 21 June 1971, ICJ Reports, 1971, p. 16.

[67] The governmental launch industry "accepted" the following ECSS passivation proposal: "propellant, pressurised fluids, and stored electrical and mechanical energy which remains in orbital systems and elements at the end of missions shall be safely dissipated". European Cooperation for Space Standardisation, Space Product Assurance, ECSS-Q-40A, 19 April 1996, p. 24, proposal d.

[68] Like launch vehicle sub-orbital stages equipped with tracking aids to permit monitoring.

[69] For example : Europe (all Ariane upper stages from flight V59), China (Long March upper stages), USA(Delta upper stages), Japan (H-1 and H-2), Russia (Proton), supra 2, p. 5.

[70] Supra 2, p.5.

[71] International Court of Justice, *Case concerning Military and Paramilitary Activities in and against Nicaragua*, (jurisdiction) 26 November 1984, ICJ Reports 1984, p. 392; *Case concerning Military and Paramilitary Activities in and against Nicaragua*, (admissibility) 27 June 1986, ICJ Reports 1986, p. 14.

[72] Manfred Lachs Space Law Moot Court Competition, 1999, Statement of Facts, p. 3.

[73] International Court of Justice, *Anglo-Norwegian Fisheries case*, ICJ Reports, 1951.

[74] International Court of Justice, *North Sea Continental Shelf cases*, 20 February 1969, ICJ reports 1969, p. 3.

[75] B. STERN, «La responsabilitité internationale », in *Répertoire International Dalloz*, 1998, pp. 8-9.

[76] Commission on the International Law, 45ème session.

[77] G. CORNU, "Vocabulaire juridique", Association Henri Capitant, PUF, 6th edition, Paris, September 1996, p. 278.

[78] « Responsabilité internationale pour les conséquences préjudiciables d'activités non-interdites », in *Rapport de la Commission du droit international sur les travaux de sa quarante-cinquième session*, p. 24.

[79] *Alabama Award*, 14 September 1872, RAI, volume 2, p. 780.

**Questions 1 (b) and (c) : Whether Mastodonia is liable under international law for the loss of business contracts on the Brezocom system, and costs incurred by Brezonec to procure replacement services on other satellite systems.**

The existence of a wrongful act (the explosion of the third stage), a damage (the cessation of function of Brezosat and their consequences upon Brezonec) and a causal link (the collision between the object and the satellite) has been underlined.[80]
Since all three elements are found in this case, it follows that all the damages which arise as a consequence of the collision of the launcher object with the Brezosat satellite are founded under the liability of Mastodonia and therefore it must comply with the Liability Convention.[81]
The damage is defined in the latter as "meaning the 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 intergovernmental organisations".[82] The damages to be taken into account are the loss of business (I) and the replacement of service (II).

I. MASTODONIA HAS TO REPAIR FOR THE LOSS OF BUSINESS CONTRACT

Following the impact Brezosat became unsuitable for the purpose it was achieve. The words property damages in the Convention means "it has rendered less suitable for those human purposes for which it was originally valued".[83] So there is no possible doubt that the damage and subsequent loss suffered by Brezonec are included in the scope of the Liability Convention. Consequently Mastodonia is liable for it, and must pay compensation under it to Brezonec. The damage is to be considered primarily as loss of gain (A) and if the Court believes it to be necessary as indirect but proximate to the wrongful act (B).

A. The nature of the damage is a loss of profit

As loss of gain, furthermore totally certain and present, the damage is direct.[84] Since it is the logical and direct result of the act of Mastodonia. Then, all direct damage is always recoverable. Therefore the damage suffered by Brezonec must be compensated by Mastodonia.
Courts take loss of gain into consideration without qualifying it as direct or indirect, and also for prospective financial damage.[85] So it would be inconceivable not to compensate the certain ones. A presumption in favour of the prospected earning exist when circumstances allow us to foresee that profit will not arise or at least not allowing with enough certainty that profit will arise,[86] so *a contrario* it means certain profit must be covered in compensatable damage.

B. Even if the loss of contract is an indirect damage it still is recoverable

In the case the damage is to be considered indirect,[87] the Liability Convention is applicable in all its articles since "damages" includes "indirect" damages.
As the terms of the convention are silent in this matter, we have to examine the *travaux préparatoires*.[88] It is clear that consensus has been raised by the end of the negotiation to understand damages as including indirect damages, even if proposition of express wording of this principle had been rejected earlier.[89] In practice, in other

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[80] International law principle : any breach of an engagement involves an obligation to make reparation in accordance with the principle of "*restitio in integrum*". Permanent Court of International Justice, *Chorzow factory*, 13 September 1928, Serie A, n°17.
[81] Article III, of the *Liability Convention*: "In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible".
[82] Article 1 (a) of the *Liability Convention*, and W.H. SCHWARZCHILD: all definitions in it have to be seen as "broad and attempt to place an injured party in the most favourable legal position", cited in B. HURWITZ, *Space Liability for Outer Space Activities in accordance with the 1972 Convention on International Liability for Damage caused by Space Objects*, Utrecht Space Law, 1992, p 14.
[83] SCHWARTZ and BERLIN, quoted in HURWITZ, *ibid* 82, p 14.
[84] Sentential Award, *Cap Horn Pigeon,* 1902, R.S.A., IX, p 669, In it the arbitrator Asser has declared ""it is sufficient to show that the act complained of has prevented the making of a profit which would have been possible in the ordinary course of event... In such way there is no question of indirect damage but of direct damage".
[85] In the *Alabama award* the Tribunal has declared that prospective earnings "would not be compensate since it is future and uncertain". However in practice it did allow indemnity to for them on subsidiary level. The final result is the compensation of the prospective earning. 1872, Moore International Arb., I, p 658.
[86] This principle was worded in the Sentential Award *Canada case*, 1870, Hale's Report, p 252.
[87] An indirect damage has been defined as "loss or injury as does not flow directly and immediately from the act, but only from some of the consequences or results of such act. In other words, the launching State's object would be the remote cause of injury, loss or damage sustained", Comm. on Aeronautical & Space Sciences, U.S. Senate, Convention on International Liability for Damage caused by Space Objects: Analysis and Background Data, 92d Congress, 2nd Session at 24, cited by B. HURWITZ, supra 82, p 15.
[88] Vienna Convention, article 32.
[89] "since they could be quite imminent ... but that it did not appear necessary to include an express mention

liability conventions when States wish to reject indirect damage compensation they mentioned it expressly such as in the 1952 Rome Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface.[90] The silence of the Liability Convention on the matter implies the implicit inclusion of indirect damages. We hold that indirect damages are subject to indemnity within article I and in regard of the entire Liability Convention.
In regard to both theories the loss of contract is a damage covered by international conventions and jurisprudence.

## II. MASTODONIA IS LIABLE FOR THE COST OF REPLACEMENT OF SERVICE

The link between the collision and the cost of replacement service is not too remote. The "damage direct even if far"[91] is without breach because of first, the deficiency of Brezosat service as the result of the launcher's object impact on one of its satellite, second the loss of contract and third, the cost of replacement in order to enable the company to pursue its goal: transmitting data.[92] Therefore the cost of replacement ought to be taken into account by the court as a damage compensatable and for which Mastodonia is responsible in regard to the Liability Convention as well as International Law.[93]
If the Court raises difficulty in seeing the continuous link between the several damages suffered by Brezonec and the fault, it can use the criterion and presumption of foreseeability or proximate causality in relation to the wrongful act: the ordinary course of events developed in the *Portugo-German* Arbitral Tribunal.[94] As result of a wrongful act a proximate damage is always compensated.[95]

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thereof in the text of the Convention", Y.B.U.N. 1964, p78.

[90] "there shall be no right to compensation if the damage is not a direct consequence of the incident giving rise thereto, or if the damage results from the mere fact of passage of the aircraft through the airspace in conformity with existing air traffic regulations"

[91] Sentential Award, *British Claims in the Spanish Zone of Morocco*, circa 1923, R.S.A., II, p 615.

[92] This link will be for now on qualified of reference to the proximate cause theory.

[93] German-United States Mixed Claims Commission, *Administrative Decision* n°2, 1st November 1923, "It matters not whether the loss be directly or indirectly sustained so long as there is a clear, unbroken connection between the act and the loss complained of. It matters not how many links there may be in the chain of causation (...), provided there is no breach in the chain and the loss can be clearly, unmistakably and definitely traced, link by link... All indirect losses are covered provided only that in legal contemplation the act was the efficient and proximate cause and source from with they flowed", R.S.A., VII, p 29-30.

[94] Sentential Award, *Portugo-German Arbitration*, 1928-1930, R.S.A., II, p 1031.

[95] YNTEMA, "where an international liability arises, there is a duty to make complete compensation and therefore for all the prejudicial consequences of the occurrence giving rise to the liability, whether the damage thus ensuing is direct or indirect", in "The treaties with Germany and compensation for war damages", in *Columbia Law Review*, 1924, p 149 et 153 ; see also EAGLETON: "All damages which can be traced back to an injurious act as the exclusive generating cause, by a connected, through not necessarily direct, chain of causation should be integrally compensate".

The proximate causality has also been stated as that of normal consequence.[96] Since the damage could have been foreseen by Mastodonia, as a result of the collision with the Brezosat satellite, Mastodonia should be held liable by the Court, consequently all damage suffered by Brezonec will be compensated.

## Question 2 (a) Is Mastodonia liable in regard to loss of Brezonec-Air aircraft ?

The Liability Convention states that the "launching State is absolutely liable to pay compensation for damages caused by its space object on the surface of the earth or to aircraft flight".[97] Therefore there is no need to prove a wrongful act on the account of Mastodonia to found it liable.
Damages due to the loss of the signal are within the scope of the Liability Convention as supported by the *travaux préparatoires*: "if a space object interrupts the transmission of radio-signals from a communication satellite to an aircraft in flight, which that aircraft veer off course and crash, the State may be held liable by virtue of article II of the Liability Convention".[98] Therefore "government would be liable for their navigation satellite under the Outer Space Treaty, and the Liability Convention".[99] Even more since Contracting States to the Chicago Convention are under an obligation to provide in their territory air navigation facilities in accordance with article 28 of this Convention. Therefore Mastodonia is liable for the loss of the signal which is within the scope of the Liability Convention (I) and furthermore as service provider under International Law (II).

## I. MASTODONIA IS ACCOUNTABLE UNDER THE LIABILITY CONVENTION

The Liability Convention applies to damages due to space signals (B), Mastodonia is a launching State (A), and the damages are covered as direct and proximate (C).

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[96] Greco-German Mixed Arbitral Tribunal, *Antippa (The Spyros) Case*, 1926, 7 T.A.M., p.23. The normal consequence theory is mentioned above n°84.

[97] Liability Convention, article II

[98] P. VAN FENEMA, cited in K. HENAKU, "Liability of the GNSS Space Segment Provider", *Annals of Air and Space Law*, 1996, vol. XXI-I, p. 170.

[99] P. LARSEN, "Legal Liability for Global Navigation Satellite Systems", *Proceeding of the 36th Colloquium of the Law of Outer Space*, IISL, Vienna, Austria, 1993, p. 73.

A. Mastodonia is the launching State

Mastodonia being a launching State, the absolute liability regime of article II apply to the damage suffered by Brezonec[100]. Mastodonia is launching State twice, as Loki owner (1) and as launcher of the third stage (2).

1. Loki belongs to Mastodonia

The aim of the notification drafted on 8 April 1998 was to transfer Loki to the Mastodonian Space Registry. The satellite Loki belonged to MastodSpace since the 1st April 1998 and Mastodonia cannot ignore the sale when Loki collided with the debris of Lega as Mastodonia so decided.[101]

"Loki was sold to MastodSpace"[102] means that the property was transmitted to MastodSpace. MastodSpace and Zeon agreed on the object of the sale and on the price. According to the theory of risk, the risk is transmitted with the property. So, because Mastodonia, through MastodSpace, is the owner of the satellite Loki, it is also responsible and this since the first of April 1998.[103]

2.The piece of Lega which collided Loki belongs to Mastodonia

As we have seen in our precedent arguments concerning the first question, Mastodonia is Lega's launching State according to article VII of the Outer Space Treaty and article I of the Liability Convention. We have also underlined that a piece of the space object is covered under the Liability Convention as an object even as a debris. Therefore it is accountable under the Liability Convention for all damages occurring in relation to these objects and components. A piece of the exploded third stage collide Loki. Since it is to be considered as a space object Mastodonia is liable for the loss of the aircraft and subsequent loss and damages who arise as the result of its acts.

B. The damage due to the loss of the signal is covered by the Liability Convention

The damage due to space signals is included in the scope of the Liability Convention as an objet (1) or at least as a service (2).

1. The signal as a "space object" in within the scope of the Liability Convention

The signal is a component of a space object as defined in the article I (d)[104] of the Liability Convention. The radio frequency signal do not need to be characterised as a space object since the signal emitted by a space object is indeed a space object. In fact a definition of space object claims the concept of space object includes "[...] any object on-board which becomes detached, ejected, launched or thrown, either intentionally or intentionally, from the moment of ignition of the first stage boosters".[105] Hence the signal as generated or originated by a satellite is one of its components.

Also extensively a space object is seen as including its purpose and missions.[106] Therefore since the sole purpose of navigation satellite is to emit such information, it is intrinsic of the space object and can not be dissociated. The damage due to the signal is also covered by the Liability Convention as a service.

2. The signal as a space service is included in the scope of the Liability Convention

The responsibility arising from a space service should be taken into consideration by means of the general rules of interpretation in order to give to the Liability Convention its full "effet utile".[107] Effectively if the Liability Convention has been adopted, it was first to protect States and individuals against risks of exploration and use of Outer Space by Space powers. At that time an inequality situation existed between the users of space and mankind leaving on Earth. Then when negotiation and adoption of the Liability Convention of 1972, space activities were only in beginner stage and still focused on launching activities and on the Race to the Moon. In the 1972, the only risk foreseen was of space object returning to atmosphere and causing damages to population.

Today's risk for population in regard to space activities is more the consequence of the failure of space service than returning space object into the atmosphere. Therefore to deny the inclusion of space service in the scope of the Liability Convention would deprive the Convention of effectiveness. The very importance of implication of service has been underline in a incident in 1998 January. A number of flight crew reported loss of the GPS signal around Albany (New-York State). But some receivers integrity monitoring systems did not notify the crew of the problem resulting in aircraft heading changes up to ninety degrees. They had reinitialised themselves automatically in the direction of their manufacturer's location.[108] Luckily no damages arose, but the crash risks were relevant. Today, the accident occurred during the final approach to the airport leaving no time to collect corrective information, and could have arise on the city of Gravascar.[109]

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[100] Liability Convention, article II: "A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft flight"

[101] Manfred Lachs Space Law Moot Court Competition, 1999, p. 2 and 3 ; and Question to the Court n°6.

[102] *Ibid.*, p. 2.

[103] Question to the Court n°15.

[104] above developed, question 1 (a), I, A.

[105] BAKER cited in K. HENAKU. supra 98, p. 165.

[106] K. HENAKU, supra 98, p. 165.

[107] The theory has already been subject to study in Question 1 (a), I, A, 2. International Court of Justice, *Channel of the Corfou Case*, 9 April 1949, ICJ reports, 1949.

[108] Story reported by G. MICHAEL in "Legal Issues including Liability in Conjunction with the Acquisition, Use, and Failure of GNSS", IV-O-03 p. 5.

[109] Questions to the Court n° 2 and 17.

The conclusion that positioning satellite damage other than collision is covered by the Liability Convention is also correct from the analysis of the *travaux préparatoires* as seen earlier.[110]

C. The damage is proximate

The aircraft accident is a normal consequence and reasonably foreseeable as for all aircraft relying on GPS data when erroneous data is provided and that GPS signals are used as the primary means of air navigation.[111] The causal link between the loss of the signal and the proximate damages, *i.e.* the aircraft accident is certain therefore Mastodonia is liable. The rupture of the signal is a direct complementary causes to the damage suffered by Brezonec, and it was sufficient in itself to cause the damage. Even if the ICJ where to found several causes, the two theories of causes found Mastodonia responsible and liable. Hence the theory of equal conditions state any participating causes can be considered as the judicial cause. Therefore, in the present case, Mastodonia's fault is the judicial cause. On the other hand in regard to the theory of adequate causality who finds as cause of damage the fact producing the damage in normal consequence Mastodonia is also liable.[112] Thus Mastodonia is liable for Brezonec's damages in front of the Court.

## II. MASTODONIA IS LIABLE AS SEGMENT PROVIDER UNDER INTERNATIONAL LAW

The segment provider should be held responsible by the ICJ for the signal as an activities in Outer Space, since in navigation satellite signal, it bears the greatest degree of liability from the provision of GNSS.[113] Article 44 of the Chicago Convention establishes ICAO as the only competent body to create minimum Standards and Recommended Practices (SARPS) for the use of airplanes. The satellite navigation system and constellation are transmitting radio signal providing *inter alia* each satellite's position and the time it transmitted the signal.[114] Despite the ground control operations, the navigation satellite is an independent self-generating entity transmitting information generated on-board.

A. According to general rules

The issue of GNSS liability has been raised during the study report "Consideration, With Regard to Global Navigation Satellite Systems (GNSS), of the Establishment of a Legal Framework" especially in a "Draft Memorandum of Understanding (MOU) between ICAO and the government of the United States regarding GPS".[115] In Annex III was cover the issue of the liability of the segment provider which states: "[Name of the provider of the GNSS signal] shall be responsible and liable to take all necessary measures to maintain the integrity and reliability of the GNSS signal and its continuous and uninterrupted availability in order to meet the needs of air navigation. The provider of the GNSS signals shall not in anyway impede the implementation of augmentation systems to improve the integrity and accuracy of those signals".

The liability of segment provider could also be considered as the consequence of a contractual relationship between the provider' State and the user's State. This is possible since the signal provision is designed to be received by any person in possession of a receiver equipment without intervention of third parties. Therefore the service provider of users is the system operator itself, namely the appropriate State of the satellite component of the navigation system[116]. Mastodonia is the appropriate State of Loki therefore they are liable for all services providing by it in his normal use conditions.

The failure of the service is an abnormal condition of use, then Mastodonia is liable for it. Also it did not allow the integrity and accuracy of the system as require. This shows Mastodonia has committed two faults in regard to its role of service provider.

B. The ICAO norms

The ICAO is currently setting a liability regime which will make GNSS providers liable for negligent GNSS services affecting aviation air transport.[117] As example the Rand study expresses the view that GPS is alike government navigation and air traffic control assistance, for it "once an aid is established, the government has a duty to maintain it and is liable for failure to do so".[118]

The ICAO also adopted in 1998 a Charter on Rights and Obligations of States Relating to GNSS Services providing that safety is the paramount purpose of GNSS.[119] Hence it is reasonable to rely mainly on GNSS as the primary means of air navigation. The great diminution degree of the regional CNS/ATM system resulting of the complete failure of Loki has been determined to be the only cause of the crash and this CNS/ATM system is

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[110] Quote from P. VAN FENEMA, supra 98.

[111] Theory of proximate cause and the foreseeability test are studied above in Question 1, B and C.

[112] In regard to the Outer Space Treaty and the Liability Convention it is the theory commonly accepted, c.f. B. CHENG and P. LARSEN, supra 99, p.70.

[113] Supra 106, p. 146.

[114] "The distance between a satellite and a receiver can be computed by subtracting the time the signal left the satellite from the time it arrives at the receiver."

[115] ICAO, Report of the 29th Session of the Legal Committee, it can be found in the ICAO's web site, *ibid.* for the Draft Memorandum.

[116] K. HENAKU, "Responsability and Liability in System Management, System Operation and Service Provision of the Global Navigation Satellite System", in *Global Navigation Satellite System –GNSS 98 Tome 1*, Proceeding of the 2nd European Symposium, 20-23 October 1998, p.IV-O-04 p. 3.

[117] Doc C-CW/11026.

[118] In P. LARSEN, supra 121, p.103.

[119] Doc A 32-WP/24 Appendix A.

solely operated by Mastodonia.[120] Loki being owned by MastodSpace who is the only operator of it and of the CNS/ATM system, Mastodonia is totally liable for Brezonec-Air crash.

Today it is usual for an airline company to navigate over ocean solely by use of GNSS and "Loki's" regional CNS/ATM system is designed for the use of aircraft in the Atlantic Ocean region, therefore Mastodonia through MastodSpace should have provide a back-up in case of a system going down, knowing the importance of the system for aircraft.[121]

This is a case where the International Law on fault responsibility regime apply as well as the strict liability regime of the Liability Convention. All elements for engagement of liability are meet: a damage, its existence has been proved; the causal link has been demonstrated as well as fault.

**Question 2 (b) Is Mastodonia require to pay for all damages ?**

Mastodonia is require to pay for damages who arise following the crash. First, the contractual revision of the Warsaw system applies (I). Second, if the Court does not agree on the applicability of the contractual revision, Mastodonia is at least liable for the Warsaw system (II).

I. THE CONTRACTUAL REVISION OF THE WARSAW SYSTEM APPLIES

Since the Warsaw system has been created, several revisions has taken place but only one contractual revision was expected by States and carriers which was accepted and adopted at Kuala Lumpur in 1995.

Brezonec Air is part of the IATA Agreement[122] and, as a full government owned company,[123] Brezonec is based on asking the ICJ to apply the agreement to its relation with Mastodonia in regard of the present case. As a principle of international law a State can surrogate itself to one of its nationals, even more in the situation where the national in question is a direct expression of the State. The IATA Agreement is enforceable between the two States.

The carrier, in the name of its State agrees to take action to waive the limitation of liability on recoverable compensatory damages in claims for death, wounding or the other bodily injury so that recoverable compensatory damages may be determined and awarded by reference to the law of the passenger.[124] Also the monetary limits given by the Warsaw Convention[125] became obsolete although all other liability's provision are kept. Therefore Mastodonia is liable for all damages Brezonec is in front of victims on the basis of the recursive action from Brezonec.

II. MASTODONIA IS AT LEAST LIABLE UNDER THE WARSAW SYSTEM

If the Court does not agree on the applicability of the IATA agreement we ask her to strictly apply the Warsaw system to the suit engaged between Mastodonia and Brezonec since no exemption of liability may be found.

Articles 17, 20 and 25 of the Warsaw Convention are applicable to this case.[126] This means, the burden of proof is shifted on the alleged wrongdoer limited by the nature itself of the carriage in question. Brezonec-Air is absolved from all liability since he took reasonable and ordinary measures to avoid the damage (article 20 §1).[127] Therefore Mastodonia should be held liable for damages suffered as the result of the loss of signal and the aircraft crash, or at least majority of it. Responsibility is limited to predetermined ceiling of liability with the exception of wilful misconduct (article 25) which could apply in a private suit concerning this accident.

In regard to article XII of the Liability Convention, "the launching state is liable to pay for damage (...) in accordance with international law and the principle of justice and equity[128], in order to provide such reparation in respect of the damage as will restore the (...) State on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred". Hence Mastodonia, as launching state, should repair for all damages suffered by Brezonec through Brezocom and Brezonec-Air.

SUBMISSIONS TO THE COURT

For the foregoing reasons, the Government of Brezonec, Applicant respectfully requests the Court to adjudge and declare that:

1. Mastodonia is liable under international law for the damage to the Brezosat Satellite.
   a. The collision is a case of liability according to international space law.

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[120] Manfred Lachs Space Law Moot Court, 1999, Statement of facts p.3 and Question to the Court n°16

[121] P. LARSEN, "Future GNSS Legal Issues" in Workshop on Space Law in the 21st century - UNISPACE III, Vienna, 20-24 July 1999, p. 103.

[122] *1995 IATA Intercarrier Agreement* also called Agreement of Kuala Lumpur endorsed in October 1995, *www.iata.org/legal/* [hereinafter *IATA Agreement*]

[123] Manfred Lachs Space Law Moot Court, 1999, Statement of Facts, p. 3.

[124] *IATA Agreement* article 1,

[125] *Convention for the Unification of Certain Rules Relating to International Carriage by Air*, 12 October 1929, 137 L.N.T.S. 11, 49 Stat. T.S. No. 876, ICAO Doc. 7838 [ hereinafter *Warsaw Convention*]

[126] L. GRARD , *le Droit aérien*, Collection Que sais –je, pp 14-16.

[127] R.C. HORNER & D. LEGREZ, *Minutes, Second international Conference on Private International Law*, 4-12 October 1929, Warsaw, p 21.

[128] underlined by the author.

b. Mastodonia is accountable.
c. Mastodonia has committed a fault.

2. Mastodonia is liable under international law for the loss of business contracts on the Brezocom system.

3. Mastodonia is liable under international law for the costs incurred by Brezonec to procure replacement services on other satellite systems.
   a. Mastodonia has to repair for the loss of business contract.
   b. Mastodonia is liable for the cost of replacement of service.

4. Mastodonia is liable in regard to loss of Brezonec-Air aircraft.
   a. Mastodonia is accountable under the Liability Convention.
   b. Mastodonia is liable as segment provider under International Law.

5. Mastodonia is required to pay for all damages.
   a. The contractual revision of the Warsaw system applies.
   b. Mastodonia is at least liable under the Warsaw System.

## B. MEMORIAL FOR MASTODONIA

### AGENTS

Bill Wade & Alan Mingledorff (Vanderbilt University)

### ARGUMENT

I. MASTODONIA IS NOT A LAUNCHING STATE FOR THE PURPOSES OF INTERNATIONAL LAW.

Prior to an examination of State responsibilities, two threshold issues must be discussed that have significant impact on every issue in this case; 1) whether, under International law, Mastodonia is a launching State; and 2) whether, under International law, Brezonec is a launching State.

A. The actions of Mor-Toaler do not implicate Mastodonia as being a launching State.

According to Article I(c)(i) and (ii) of the Liability Convention[1], a launching State is one which "...launches or procures the launching of a space object;" or from whose "...territory or facility a space object is launched."[2] Mastodonia is not implicated as a launching State by either of these categories.

*1. Mastodonia did not "launch" the satellite Loki.*

The satellite "Loki" was launched by a private consortium named Mor-Toaler.[3] Mor-Toaler is not a State, and the State of Mastodonia was not involved in the launch. Nothing in the remaining Articles of the Liability Convention give any new meaning to the phrase 'State' which, for the purposes of this treaty, could imply that a private entity or a State's nationals should be included in the definition. The parties to the Convention clearly did not contemplate private action such as in the case at hand or they would have included provisions to specifically include these actions.

*2. Mastodonia did not "procure the launch" of the satellite.*

Neither the state of Mastodonia, nor any of its agencies "procured" the launch. "Procure" was left undefined by the drafters of the Liability Convention. According to Bruce Hurwitz, the State which procures the launch, can be "...the State which provides the financial capital for the launch..." or "...the State which specifically requests the launch.[4] According to the *travaux preparatoires* from the Liability Convention, a State must "...actively and substantially participate..." in the launch in order to procure the launch.[5] This definition was proposed by the United States with the support of the French, Belgian, British, and Japanese delegations on June 23, 1967.[6] This proposal met no content-based objections.

*3. The satellite was not launched from Mastodonian territory.*

The territory from which Loki was launched is not in dispute. The launch took place from the Exclusive Economic Zone of Brezonec, which is not in Mastodonian territory.[7]

*4. The satellite was not launched from a Mastodonian facility.*

The satellite was launched from an oil-drilling platform converted into a launch platform, which is registered and flies the flag of Freedonia.[8] The Assembly and Control Ship is also registered in and flies the flag of Freedonia.[9] These facilities are owned by Mor-toaler, a private consortium.[10] These facts are undisputed in the record.

In the text of the Liability Convention, this list to determine whether a state is a launching state is exhaustive.[11] During the drafting of the Liability Convention, several other launching state criteria were proposed and subsequently rejected.[12] As such, Mastodonia does not qualify as a launching state under the Liability Convention.

B. The actions of MastodSpace do not make Mastodonia a launching State or a liable party for the purposes of International Law.

Mastodonia had not yet received notice of registration when, on April 15, the explosion occurred in the third stage of the launch vehicle.[13] The debris created in that explosion ultimately damaged both Brezosat and Loki. In order for Mastodonia to be liable for these accidents, Mastodonia will need to be recognized as either a launching State under the Liability Convention or the State Party responsible for the debris as contemplated in

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[1] Convention on International Liability for Damage Caused by Space Objects, March 29, 1972, Art. I, 24:3 U.S.T. 2389 [hereinafter "Liability Convention"]

[2] Id., *supra*, Article I(c)(i)&(ii)

[3] Compromis at 2.

[4] Bruce Hurwitz, *State Liability for Outer Space Activities* (1992) 22.

[5] U.N. COPUOS Legal Subcomm., 6th Sess., 77th mtg. at 4, U.N. Doc. A/AC.105/C.2/SR.77 (1967).

[6] Id.

[7] Compromis at 2.

[8] Compromis at 1.

[9] Id.

[10] Id.

[11] Liability Convention, *supra*, Article I.

[12] Some of the rejected criteria include: the State of Registry, U.N. COPOUS Legal Subcomm., 3rd Sess., U.N. Doc. A/AC.105/C.2/L.8 (1964); the state which exercises control over the orbit or trajectory of a space object, U.N. COPOUS Legal Subcomm., 3rd Sess., U.N. Doc. A/AC.105/C.2/L.8/Rev.2 (1964); and the state whose flag the space object flies, U.N. COPOUS Legal Subcomm., 3rd Sess., U.N. Doc. A/AC.105/C.2/L.7/Rev.1 (1964).

[13] Compromis at 2.

the Outer Space Treaty.[14] Mastodonia falls into neither category.

The Liability Convention, in Article I(d) states: "The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof."[15] Put simply, the component parts are part of the space object instead of the other way around. In terms of the actual launch, this distinction is meaningless; all launching States will be liable if any damage occurs during the launch. The Liability Convention, however, does not contemplate a space object being sold after it has been placed into orbit. The language in Article I references only launching States. The Liability Convention does not impose liability for ownership of a satellite, it imposes liability for launching one.[16] The definition of 'space object' in the Liability Convention is thus tailored only to fit the *launching* of a space object and not to the subsequent purchase or lease of a satellite.

The purchase or sale of space objects can best be adjudicated by using the State of Registry standard set forth in the Outer Space Treaty.[17] This standard assures that the State on whose registry an object is carried retains jurisdiction and control over that object. Article VIII of the Treaty also distinguishes between space objects and their component parts.[18] While subsequent treaties define space object to include its component parts[19], the definition has always been advanced in the context of a launch. During a launch, the component parts and launch vehicle are inextricably intertwined and cannot be separated in the context of liability. After a launch has successfully placed a space object into orbit, however, it makes little sense to continue to combine the two in international law. They are clearly separate space objects. Based upon the data required by Article IV of the Registration Convention[20] to properly register space objects, satellites and their component parts and launch vehicles must be tracked differently.[21] It cannot be assumed, therefore, that a State that ultimately purchases the space object is also responsible for its component parts and launch vehicle.

The Outer Space Treaty and Registration Convention provide an adequate framework for the sale of space objects.[22] A State which purchases the space object is not responsible for its component parts and launch vehicle *unless the parties have specifically bargained for such a result.* Barring this specific agreement, the component parts and launch vehicle must still be tracked and registered by the launching State that originally registered them.[23] The Registration Convention alludes to such deals in Article II(2) when it mentions "...appropriate agreements concluded or to be concluded among the launching State on jurisdiction and control over the space object..."[24] The treaties do not *forbid* the sale of the satellite and the component parts separately. A State of Registry, therefore could arrange to sell only the satellite, in which case the purchasing State would not be constrained by launching restrictions which link the satellite and the component parts for purposes of liability.[25] The text of the treaties suggests that a launching State will always remain liable for its space objects and cannot absolve itself from liability by sale or future agreements.

Article II of the Registration Convention provides for more than one launching State, but indicates that the States shall jointly decide which is to register it, "*....bearing in mind the provisions of article VIII...*" of the Outer Space Treaty(emphasis added).[26] This seems to bolster the idea that the drafters intended the State of Registry to be the appropriate State party to authorize and supervise the space activity.[27] This demonstrates that the drafters did not intend for States to be liable simply because a non-governmental entity under their jurisdiction engaged in space activity. Instead, it confirms that the drafters anticipated that a State having jurisdiction over a non-governmental entity engaged in space activity, must ensure that a State Party to the Treaty is in control of the event. In the case at bar, there was an appropriate State Party to the Treaty, the USA, which

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14 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Article VI, Dec. 19, 1966, 18 U.S.T: 2410, 610 U.N.T.S. 205 [hereinafter "Outer Space Treaty"].

15 Liability Convention, *supra*, Article I(d).

16 The Liability Convention provided a regime in which only launching States would be liable for damage caused by space objects. The drafters provided no guidance with which to deal with the transfer of ownership. Clearly the purchaser is not a launching State, but liability must somehow be fairly allocated.

17 Outer Space Treaty, *supra*, Article VIII.

18 Article VIII mentions both 'objects' and their 'component parts.'

19 Liability Convention, *supra*, Article I(d).

20 Convention on Registration of Objects Launched into Outer Space, Article IV, Jan. 14, 1975, 28:1 U.S.T. 695 [hereinafter "Registration Convention"]

21 Article IV of the Registration Convention requires States to provide information on space objects, including its basic orbital parameters and the general function of the object. Since these cannot be the same for objects in different locations and with different functions, they must be considered separate objects.

22 Outer Space Treaty, *supra*, Article VIII; Registration Convention, *supra*, Article II.

23 Henri A. Wassenbergh, *A Launch and a Space Transportation Law, separate from Outer Space Law?* XXI Air & Space Law 28, 31 (Feb. 1996).

24 Registration Convention, *supra*, Article II(2).

25 Liability Convention, *supra*, Article I.

26 Registration Convention, *supra*, Article II.

27 Outer Space Treaty, *supra*, Article VI.

authorized the launch. The space object was carried on the United States registry.

The record discloses that the space object had not yet been transferred at the time of the explosion.[28] The act of registering a space object is an affirmative step by a State to accept responsibility for the object. However, even if it had been transferred, the act of registration would not have given rise to launching state liability. In fact, the drafters of the Liability Convention specifically rejected "State of Registry" as a criteria for launching state liability.[29]

Article VI of the Outer Space Treaty holds a State internationally responsible for the actions of non-governmental entities in space.[30] A contract to purchase an object, however, is a matter of contract law. The entity has not yet engaged in space activity. Purchasing a satellite cannot be considered space activity. The Outer Space Treaty requires States to monitor their non-governmental entities to assure that they abide by the international treaties.[31] Mastodonia, by requiring its companies to submit notification to transfer space objects to its registry, has in place a system by which to monitor its non-governmental entities to ensure that they abide by international law. Requiring Mastodonia to monitor every negotiation in which its companies engage is an impossible standard. The contract to purchase a space object is not complete until Mastodonia has agreed to place it on its space registry. Had Mastodonia refused to register the space object, the parties would be required to make other arrangements.

Whether Mastodonia would have refused registration is irrelevant. The space activity involved is the action of placing the space object on the State Registry, not the conclusion of the contract. An agreement to purchase by private parties is no more binding on the State than would be an illegal contract that the State would not enforce. The Outer Space Treaty states that the State of registry shall retain jurisdiction and control over the space object.[32] Until that object is transferred to another registry, that State remains responsible under the treaty. Contract law will not trump the provisions contained in these treaties.

The purchase and subsequent transfer of registration of Loki by MastodSpace does not give rise to launching state liability under the terms of the Liability Convention. It might implicate international *responsibility* under Article VI of the Outer Space Treaty, but Article VI provides no compensation for damages. The Outer Space Treaty will be discussed further in a later section.

[28] Compromis at 2.

[29] U.N. COPOUS Legal Subcomm., 3rd Sess., U.N. Doc. A/AC.105/C.2/L.8 (1964).

[30] Outer Space Treaty, *supra*, Article VI.

[31] Id.

[32] Id., *supra*, Article VIII.

## II. BREZONEC IS A LAUNCHING STATE ACCORDING TO INTERNATIONAL LAW.

The Liability Convention defines 'launching State' as a State from whose territory or facility a space object is launched.[33] In the case at hand, the launch took place from an oil-drilling platform converted into a launch platform located in the EEZ of Brezonec. In accordance with the Sea Law Convention[34], Brezonec "...shall have exclusive jurisdiction over such artificial island installations and structures, including jurisdiction with regard to customs fiscal health, safety and immigration laws and regulations."[35] The same article gives Brezonec the exclusive right to authorize and regulate the construction and use of these installations and structures for economic purposes. This exclusive right may not be waived.[36] The text uses the mandatory language 'shall'[37] and indicates that if Brezonec decides to claim this territory as its EEZ, it is then responsible to regulate it.

The Sea Law Convention was clearly not drafted to deal with sea launches. This dispute, however, will not change the structure or meaning of that document. To determine whether Brezonec is a launching State, the use of the word 'territory' as used in Article I(c)(ii) of the Liability Convention must be defined. What must be determined is whether an EEZ functions in the same manner as 'territory.' The term 'territory' encompasses the waters of the EEZ precisely because Brezonec has exclusive jurisdiction and control over them. Under the terms of the Sea Law Convention, Brezonec is responsible not only for the EEZ, but also for the launching platform.[38] By agreeing to be the governing State involved in the launch, Brezonec has signed onto the launch and effectively taken responsibility in the same way as if it had registered the space object.

## III. MASTADONIA IS NOT LIABLE UNDER INTERNATIONAL LAW FOR DAMAGE TO THE BREZOSAT SATELLITE OR ANY ECONOMIC LOSSES RESULTING THEREFROM.

[33] Liability Convention, *supra*, Article I(c)(ii).

[34] United Nations Convention on the Law of the Sea, Dec. 10, 1982, U.N. Doc. A/CONF.62/122 I.L.M 1261 [hereinafter "Sea Law Convention"].

[35] Sea Law Convention, *supra*, Article 60(2).

[36] Read in conjunction with Article 56 of the Sea Law Convention, a coastal state has a duty to regulate the EEZ. Article 56 describes the sovereign rights of the coastal state and its jurisdiction over artificial islands, installations and structures. The regulation of its EEZ, if a State chooses to declare one, is not optional

[37] Hurwitz, *supra*, at 30-31. "In international conventions 'shall' is used to signify obligatory behavior, as opposed, for example, to 'should' which signifies optional behavior."

[38] Sea Law Convention, *supra*, Article 56(1)(b), 60(1)(b).

The damage to Brezosat and the damage to Brezonec-Air are two distinct issues. All launching States involved in the launch of Loki are responsible for both Loki and its component parts. These launching States are therefore liable for any damage which either Loki or its component parts might create. The purchase of Loki, however, does not involve these component parts. The purchaser of Loki might be liable for damage which Loki causes, but not for damage caused by Loki's component parts. The purchase of Loki by MastodSpace does not implicate Mastodonia for any of the damage to the Brezosat Satellite. While Mastodonia might be implicated in this damage if the Court determines it is a launching State, the subsequent purchase of the satellite does not carry the same obligations. As a result, the purchase of Loki by MastodSpace is discussed in a later section concerning damage to Brezonec-Air.

A. Mastodonia is not liable under International Law for damage to the Brezosat satellite.

While the drafters anticipated the possibility of multiple State Parties to a launch, they did not contemplate that private corporations would be involved in launching a space object without being involved in any further 'space activity.'[39] They did not contemplate that private companies would purchase component parts from several individual manufacturers incorporated in multiple States, potentially implicating numerous launching States.[40] They did not contemplate that these private corporations could be owned by multinational investors, themselves under the jurisdiction of numerous States, increasing the number of launching States even further. Either the drafters of these Treaties did not contemplate the complex activities involved in the case at bar, or they did not intend to hold States liable because a non-governmental entity that participates in space activity is within their jurisdiction. From a practical standpoint, the latter is the only logical conclusion. In the present case, a broad interpretation of the Liability Convention would implicate no less than eleven launching States.[41] While this increase in the number of liable parties seems to improve the situation by spreading any potential damages across a larger number of Defendants, it has a very serious side effect. It will prohibit most injured parties from making claims under the Liability Convention.

Due to the ultra-hazardous nature of space activity[42], the Liability Convention was drafted to be victim oriented and to place the injured party in as favorable a legal position as possible.[43] As a result, Article II of the Liability Convention makes launching States absolutely liable for damage caused by a space object on the surface of the earth or to aircraft flight. Note that innocence is not a ground for exoneration. Even if the launching State did nothing unlawful, under the absolute liability regime it is liable if its space object causes damage below outer space.[44] This protection is meaningless, however, if victims are barred by Article VII from being compensated. This article is consistent with International Law precluding nationals from bringing international claims against their State of nationality.[45] The provisions of the Liability Convention will not apply when damage is caused by a launching State against its own nationals.[46] A broad interpretation of the definition of launching State could have the effect of making the various treaties inapplicable. The more launching States, the more victims that are precluded from making international claims because of Article VII's exclusionary language.

*1. Mastodonia is not liable for the damage to the Brezosat Satellite because Mastodonia is not a launching State or State responsible under International Law and Brezonec is a launching State under the same standard.*

If Mastodonia is not a launching State as defined by the Liability Convention in Article I, they are not liable for damages under its provisions. The Liability Convention imposes liability for damage caused by space objects only on those States that were implicated in the launch. As noted earlier, Mastodonia is not a launching State and thus cannot be liable under the Liability Convention.

The launch of Loki is not within the bounds of Mastodonia's "national activities in outer space" as referenced by the Outer Space Treaty.[47] In addition, Mastodonia fully complied with its Article VI duties under the Outer Space Treaty.[48] The USA, as the registering State, acted as the appropriate State Party to authorize and supervise the launch. The record does not disclose whether Mastodonia *actively* ensured that the United

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[39] For discussion that a launch is more like transportation than space activity, see Wassenbergh, *supra* note 23.

[40] Mor-Toaler purchased the first and second stages of the launch vehicle from Oristan. The third stage was purchased from Diamondia. Compromis at 1.

[41] These States include: Mastodonia, France, United Kingdom, Russia, Norway, Sicily, Freedonia, Oristan, Diamondia, Brezonec, and the United States. This number would be increased depending upon the number of minor investors in Mor-Toaler and which States they reside in. Compromis at 1.

[42] Hurwitz, *supra*, at 28; Joseph A. Bosco, *International Law Regarding Outer Space-An Overview*, 55 Journal of Air Law & Commerce 609, 641 (1990).

[43] Id., *supra*, at 14.

[44] Hurwitz, *supra*, at 44.

[45] Id.

[46] Article VII states: The provisions of this Convention shall not apply to damage caused by a space object of a launching State to nationals of that launching State.

[47] Outer Space Treaty, *supra*, Article VI.

[48] Id. Article VI requires that an appropriate State party supervise space activities of non-governmental entities.

States would act in this capacity, but nothing in the Outer Space Treaty requires it. Article VI simply requires that the activities of non-governmental parties must be authorized and supervised, it does not instruct states how to accomplish it.[49]

*2. Even if this Court determines that Mastodonia and Brezonec are both launching States or States responsible for the launching of Loki, Mastodonia is not liable for damage to the Brezosat satellite because Mastodonia is not at fault.*

If the Court determines that both Mastodonia and Brezonec are launching States, Mastodonia will be liable for damage only if it is at fault.[50] The explosion in the third stage of the launch vehicle, which inevitably caused the damage to the satellite, has been attributed to venting procedures.[51] Article III of the Liability Convention demonstrates the ultra-hazardous nature of space activity. Damage caused to a space object by another space object is insufficient to establish liability, even if the launching State responsible for the offending space object is clearly known. The Liability Convention requires more than ownership of the space object, it requires that the launching State actually be at fault.[52] It follows that fault, for the purposes of the treaty, is not simple negligence. Fault would only be found for a higher degree of culpability.

Most States require that the fuel tanks be vented after the satellite has been inserted into its orbit. Mastodonia's laws do not mention such a procedure, but this does not establish fault. Neither the Liability Convention nor the other aforementioned treaties establish that such an omission is a negligent breach of an international standard. The Liability Convention itself never defines fault, and due to the relative novelty of international space law and lack of cases on point, a standard has not been established. Lacking such a standard or international principle, this Court should not find that Mastodonia is at fault.

The record indicates that the venting of fuel tanks is an industry standard and most other launching States require this procedure.[53] At least two other launching States; Brezonec and the USA, however, do not require it. The launch took place in Brezonec's EEZ. Since the EEZ has been properly proclaimed in accordance with the Sea Law Convention, Brezonec has exclusive jurisdiction over structures including jurisdiction regarding safety and regulations.[54] Since the launch took place in waters over which Brezonec had exclusive jurisdiction, the launch itself was governed by the laws of Brezonec. Mastodonia cannot enforce its laws where it does not have jurisdiction. The laws of the State in which it took place must govern the launch.

Under the Commercial Space Launch Act[55], the US, prior to agreeing to carry a space object on its State Registry, must first "license" the launch. The Launch Act prohibits the launch of any space vehicle by a US citizen[56] unless the Office of Commercial Space Transportation [hereinafter OCST] has issued a license permitting the activity.[57] In this case, the US registered the space object and by doing so subjected the launch to its stringent guidelines for a launch.[58] Since neither the US nor Brezonec, by way of registration requirements or launch regulation required this venting procedure, it cannot be considered an international standard the breach of which would establish fault.

The wording of Article III of the Liability Convention indicates that the drafters were contemplating two distinct space objects, with separate launching States for each object.[59] The case at bar can easily be distinguished from what the treaty contemplated. Brezonec is not only a launching State for the damaged Brezosat Satellite; it is also a launching State for Loki, the space object that caused the damage. In effect, Brezonec is liable as a launching State under the Liability Convention for damage to its own satellite! Even if this Court finds that Mastodonia is liable as a launching State, Brezonec is equally liable for any damage. If Mastodonia is liable, it shares liability with the other launching States.

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49 Id. The text is written in the passive tense; "non-governmental entities shall require supervision."

50 Liability Convention, *supra*, Article III.

51 According to the record, the explosion likely occurred because the fuel tanks of the launch vehicle had not been fully and properly emptied. Compromis at 3.

52 Liability Convention, *supra*, Article III. "[T]he latter shall be liable *only if* the damage is due to its fault..."

53 Compromis at 3.

54 Sea Law Convention, *supra*, Article 60.

55 The Commercial Space Launch Act of 1984, Pub. L. No. 98-575, 98 Stat. 3055 (1984) [hereinafter "Launch Act"].

56 The Launch Act defines US citizen as: (A) any individual who is a citizen of the United States, (B) any corporation, partnership, joint venture, association, or other entity organized or existing under the laws of the United States or any State; and, (C) any corporation, partnership, joint venture, association, or other entity which is organized or exists under the laws of a foreign nation, if the controlling interest...is held by an individual or entity described in subparagraph (A) or (B). 49 U.S.C. § 2603(12) (1988)

57 Van C. Ernest, *Third Party Liability of the Private Space Industry: To Pay What No One Has Paid Before*, 41 Case W. Res. L. Rev. 503, 507-08 (1991).

58 The licensing regulations are published in Commercial Space Transportation: Licensing Regulations, 14 C.F.R. §§ 400-499 (1988).

59 Liability Convention, *supra*, Article III. Damage to "...a space object of one launching State...by a space object of another launching State."

The Brezosat Satellite was owned and operated by Brezoncom, which is 51% State owned.[60] The Liability Convention prevents Brezonec from claiming damages that exceed its 51% share.[61] The remaining 49% must be adjudicated within Brezonec's own legal system. Consistent with international law, Article VII prohibits nationals from bringing claims against their government in international court. By making a claim against Mastodonia, one of the launching States responsible for the damage, Brezonec is constructively naming itself as a defendant launching State in the same claim. The Liability Convention in Article VII states simply, "[t]he provisions of this Convention shall not apply to damage caused by a space object of a launching State to nationals of that launching State."[62] Had Brezoncom been 100% privately owned, Brezonec would be prohibited from bringing *any* claims for damage. Article VII is intended to prohibit national claims from being adjudicated in an international court. In the case at bar, this article must preclude Brezonec from receiving damages for the claims of its nationals.

*3. Mastodonia is not liable for damage to the Brezosat Satellite because Brezonec must be a launching State for the Brezosat Satellite and liability is still based on fault.*

If this Court determines that Brezonec is not a launching State for the launching of Loki, it is still a launching State for the launching of the Brezosat Satellite. Liability for damage is still governed by fault according to Article III of the Liability Convention. As discussed above, Mastodonia does not bear the fault for this collision and is therefore not liable for any damages under the Liability Convention.

If the Court finds that Mastodonia is not liable for damage caused to the Brezosat satellite for any of the aforementioned reasons, it cannot then be liable for any indirect damage to the Brezoncom system. The resulting costs to the Brezoncom system are only relevant if the Court first finds that Mastodonia is liable for damage to the Satellite.

B. Mastodonia is not liable under international law for the loss of business contracts because Mastodonia is not the but for cause of the loss, and this damage is an incidental damage, the risk of which Brezonec assumed due to its activities in an ultra-hazardous environment.

Prior to the damage to Brezosat, the Brezoncom system was considered generally unreliable.[63] The collision was the proverbial 'straw that broke the camel's back', and many of Brezoncom's customers canceled their contracts. As the facts demonstrate, the collision was not the but for cause of the loss of contracts to Brezoncom. Instead, Brezonec itself is equally at fault for its below standard manufacturing processes and launch accidents.[64] Had the collision never occurred, these customers might still have canceled their contracts due to their dissatisfaction with the system. This damage did not result from the collision, but is instead a result of many factors. This type of remote damage is not the type of damage that the drafters of the Liability Convention contemplated.[65] The drafters of the Liability Convention rejected a proposal that would have included indirect and delayed damages within the purvey of Article I(a) of the Convention.[66]

In Article I of the Liability Convention, damage is defined as "...loss of life, personal injury or other impairment; or loss of or damage to property of States or of persons, natural or juridical."[67] Even if the Court finds that Mastodonia is at fault for the damage to the Brezosat Satellite, the resulting damage is indirect and delayed. The collision did not cause this damage; it caused the Brezoncom system to become even more unreliable. This heightened state of ineffectiveness resulted in the loss of contracts. Brezonec, as a launching State, bears this indirect and incidental risk of loss due to its activities in an ultra-hazardous environment. Brezoncom, anticipating accidents and failures when it set up the system, prepared a number of satellites to function as reserves.[68] These reserve satellites did not function in the fail-safe manner for which they were intended, and as a result, Brezoncom lost a number of business contracts. Fault, in the case at bar, lies with Brezoncom.

C. Mastodonia is not liable under International Law for the costs incurred by Brezonec to procure replacement services on other satellite systems.

Costs for obtaining replacement services are even more remote and indirect than the damages considered in the previous section. Damages for loss of contracts, even though indirect, are a damage that can be traced to an event. Replacement services are future damages. These damages are not caused by the collision, they are caused by Brezonec deciding it needs to replace the services that Brezosat had formally provided. As noted in the previous section, indirect and delayed dam-

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[60] Compromis at 2-3.

[61] Liability Convention, *supra*, Article VII.

[62] Id.

[63] Compromis at 2.

[64] Id.

[65] S. Gorove, *Studies in Space Law: Its Challenge and Prospects* 125 (1977). A launching state is only liable for damages "traceable directly to the launching, flight and re-entry of a space object or associated launch vehicle." (quoting STAFF OFSENATE COMM. ON AERONAUTICAL AND SPACE SCIENCES, 92D CONG., 2D SESS., REPORT ON CONVENTION ON INTERNATIONAL LIABILITY FOR DAMAGE CAUSED BY SPACE OBJECTS 24 (Comm. Print 1972)).

[66] U.N. COPUOS Legal Subcomm., Report of 3rd Sess., 2nd Pt., Annex II at 28, U.N. Doc. A/AC.105.21 (1964).

[67] Liability Convention, supra, Article I(a).

[68] Compromis at 2-3.

ages are not compensable under Article I of the Liability Convention.

## IV. MASTODONIA IS NOT LIABLE TO BREZONEC UNDER INTERNATIONAL LAW FOR THE LOSS OF THE BREZONEC-AIR AIRCRAFT OR ANY DAMAGES WHICH THE AIRLINE MAY BE REQUIRED TO PAY.

The Brezonec-Air aircraft was not destroyed by a space object, it crashed due to its reliance on a space object. The actual collision that gives rise to this dispute occurred in outer space between space debris and the satellite Loki, which had been purchased by MastodSpace. The collision caused no actual damage to the aircraft, the satellite merely ceased to function. The damage was not caused by the satellite or its transmissions, it was caused by the *lack* of transmissions from Loki.

### A. Mastodonia is not liable under international law for the loss of the Brezonec-Air aircraft.

Since the aircraft was not involved in an actual collision, Brezonec must bring together several treaties in order to produce a colorable claim. Brezonec is bringing an absolute liability claim under the Liability Convention for damage to its aircraft and the financial damages it must pay to the passengers. Damages are being brought against Brezonec-Air by passengers under the International Air Transport Association (hereinafter "IATA") sponsored revision to the Warsaw Convention system.[69] These monetary damages are pure economic loss and are easily distinguishable from the damage Brezonec sustained in the loss of the aircraft.

*1. Mastodonia is not liable because it was not a launching State for the Loki launch and Brezonec was, requiring damage to be based on fault.*

Mastodonia is not at fault for Loki's transmission failure. Liability must be based on fault according to Article III of the Liability Convention. In the case at bar, an aircraft owned by Brezonec was destroyed. Since no third State is implicated, the liability cannot be governed by Article IV. Brezonec is a launching State for the launching of Loki, which implicates them as a launching State for both the launch vehicle which caused the damage, and for the satellite, which ceased transmitting as a result of the damage. For precisely this reason, Brezonec cannot bring an absolute liability claim under Article II. Brezonec is a State responsible for the space object that hit and damaged Loki. Brezonec is also a State responsible for Loki, and any damage it might have caused by ceasing to function. Brezonec cannot subsequently make a claim based on absolute liability for which it is partially responsible.[70] Article II was designed to compensate victims that are damaged by a space object, not to compensate launching States when they are damaged by their own object. Article III is more appropriate in this instance, for damage being caused among launching States. This article bases liability on fault.

Mastodonia is not at fault for the loss of the aircraft. The explosion in the third stage of the launch vehicle occurred prior to Mastodonia's acceptance of responsibility by registering the object. In addition, Mastodonia did not purchase the launch vehicle; it purchased only the satellite. While launching States of space objects should remain liable for their launch vehicles, a purchaser should not be burdened with such responsibility. This could potentially discourage future sales of space objects and hinder commerce in outer space. Mastodonia cannot be at fault for a space object striking its satellite and rendering it useless. Since the damage in this case is between launching States, and the collision occurred elsewhere than on the surface of the earth to a space object, the liability must be based on fault.[71]

*2. Even if Mastodonia is determined by this Court to be a launching State for Loki and its launch vehicle, Brezonec is also a launching State and the standard of liability is still based on fault.*

The current analysis is very similar to the previous one. Even if Mastodonia is considered a launching State for Loki, Brezonec cannot make an absolute liability claim because Brezonec is also responsible for the damage as a launching State. If Brezonec is a launching State for Loki, the purchase of the satellite by Mor-Toaler (Mastodonia) does not absolve Brezonec from responsibility. A launching State remains responsible for a space object until it is safely removed from outer space.[72]

### B. Mastodonia is not liable under International law for any damages which Brezonec-Air may be required to pay for the deaths of the passengers.

*1. Mastodonia is not liable under international law because Brezonec is a launching state, and the liability is based on fault.*

Brezonec is a launching state for the launching of the Loki satellite and its launch vehicle which, according to Article VII of the Liability Convention, prohibits Brezonec from bringing the claims of its nationals in International Court. The claims against Brezonec-Air for the deaths of the 200 passengers are largely made up of claims for the deaths of citizens of Brezonec.[73] This claim can only be made in Brezonec's own legal system.

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[69] International Air Transportation Association, Intercarrier Agreement on Passenger Liability, *open for signature* Oct. 31, 1995.

[70] This would allow Brezonec to be involved in two claims in Courts with different standards of liability. In addition, the Liability Convention, in cases of absolute liability, provides no sharing of liability. Mastodonia must either exonerate itself or pay the full amount of damages.

[71] Liability Convention, *supra*, Article III.

[72] Hurwitz, supra, at 21.

[73] Compromis at 3.

To allow Brezonec to subsequently make a claim for reimbursement of these claims would be a blatant violation of Article VII. The provisions of the Liability Convention do not apply to damage caused by a space object of a launching State to nationals of that launching State.[74] According to this article, any damage caused by Loki, the space object of Brezonec (since Brezonec is a launching state) to nationals of Brezonec, does not create liability under the treaty. Its provisions cannot even be applied to the damage[75]. Hence, any claims arising out of such damage are not governed by the Liability Convention, whether they are immediately brought to the International Court or whether they are first made in that State's own Courts.

Even if the passengers were not citizens of Brezonec, and could proceed with a claim against Mastodonia, as is the case with a few of the passengers who are not citizens of Brezonec, they have not made this claim. They are making claims against Brezonec-Air under the IATA sponsored revision to the Warsaw Convention.[76] The Liability Convention establishes a claim procedure in which State Parties may present claims to launching States for damages to their nationals.[77] By making these claims under other international agreements, the victims are bypassing their right to make claims under the Liability Convention. Should these victims want their claims brought by Brezonec under the Liability Convention, they are free to request it. Brezonec is not bringing the claims of these victims under the Convention, it is bringing a claim for damages determined under another international treaty. In essence, two claims are being brought against Mastodonia: one under the Liability Convention brought by Brezonec for damage to aircraft in flight, and the other under the IATA revision to the Warsaw Convention brought against Mastodonia through Brezonec by the passengers.

The victims are seeking damages under the Warsaw Convention system, and not under the Liability Convention. These two International Agreements are not designed to work in harmony. The Liability Convention is designed to reimburse States and their nationals for damage incurred from a space object.[78] It was drafted to provide a means for States to present claims to launching States responsible for the damage. The States of the non-Brezonec citizens are not making these claims, as called for under the treaty. In the case at bar, Brezonec is not presenting a case on behalf of a damaged person, it is using the Liability Convention to indemnify itself against heavy losses that it will incur under another international agreement; an agreement to which Mastodonia has not even acceded!.[79] The Article V(2) indemnification provision is not meant to compensate a State for all judgments against it from all sources.[80] The indemnification article contemplates damages for claims paid under Liability Convention, not from other treaties and agreements. In the case at bar, the claims for damage are being brought under a distinct International treaty, unrelated to the Liability Convention. Brezonec's attempted misuse of the Liability Convention to then recoup those losses should not be permitted.

As with damage to the aircraft, the resulting damages that the airline must pay are governed by fault. The discussion of fault liability in the previous section demonstrates that if Mastodonia is not liable for damages to the aircraft, it is also not liable for resulting damages that the airline may be required to pay.

*2. If Brezonec is not a launching state for the Loki satellite, Mastodonia is not liable because loss of function in a telecommunications satellite should not implicate the Liability Convention.*

Even if Brezonec is determined not to be a launching state, Mastodonia is not liable for damages. Indirect damages caused by loss of transmissions were not the type contemplated by the drafters of the treaty.[81] The CNS/ATM system uses satellites as part of the components in its system. Anytime an airplane crashes due to its reliance on this system, liability under the space treaties could be implicated.[82] The Liability Convention imposes no degree when it speaks of damage, therefore, any damage caused by a space object is subject to the treaty.[83] The only difference between a plane

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74 Liability Convention, *supra*, Article VII.

75 Id. The language is strong and direct. "The provisions of this Convention shall not apply..."

76 IATA Agreement on Passenger Liability, *supra*, P 3 at 1.

77 Liability Convention, *supra*, Article VIII, IX, X and XI.

78 Id., *supra*, Article I.

79 Brezonec recently acceded to the IATA sponsored revision to the Warsaw Convention system, and thus faces large claims in respect to the passengers deaths. See Compromis at 3. Mastodonia, however, has not acceded to this revision. Brezonec is essentially using the Liability Convention as a warranty device to indemnify itself for claims that can only be brought against it. Had the claims been brought directly against Mastodonia, the passenger awards would have been significantly lower.

80 Liability Convention, *supra*, Article V.

81 "[The Liability Convention] held the launching State liable for damage traceable directly to the launching, flight and re-entry of a space object or associated launch vehicle..." U.N. COPUOS Legal Subcomm., 10th Sess., 168th mtg., U.N. Doc. A/AC.105/C.2/SR.168 (1971).

82 If the failure of a satellite implicates the space treaty, it is difficult to contemplate what event would not implicate the treaty. Satellites are utilized in numerous aspects of contemporary life.

83 As long as the damage fits the definition of 'damage' in the Liability Convention, it would fall under the treaty. The term space object is undefined and thus left open to broad interpretation.

crash and the loss of proceeds in a securities transfer, both of which are subject to the transmissions of satellites, is one of degree. If a State is liable because a satellite stops transmitting, all losses based upon this failure are covered under the Liability Convention. For this reason, any damages resulting from loss of function of telecommunication satellites cannot be subject to the Liability Convention.

## V. EVEN IF MASTODONIA *DID* BREACH ITS ARTICLE VI DUTIES UNDER THE OUTER SPACE TREATY, THIS BREACH WOULD NOT GIVE RISE TO LIABILITY FOR DAMAGES.

The Outer Space Treaty was introduced into international law prior to the Liability Convention. It addresses State responsibility for space activities, but never contemplates a situation such as in the case at hand. The Outer Space Treaty, in Article VI; holds States responsible for national space activities and for assuring that these activities conform with the treaty, *whether such activities are carried on by governmental or non-governmental entities.*[84] This Article, however, does not address liability for damages. Article VI merely directs the States to enforce the treaty against its national entities, both governmental and non-governmental.

The Outer Space Treaty says very little about liability for damages. In fact, only Article VII of the Treaty even mentions liability. The bulk of the treaty is concerned with the types of activities that are appropriate in outer space. Article I, for instance, articulates that the exploration and use of outer space shall be for the benefit of all countries. Article II removes outer space from any potential claims of sovereignty by any States. Article III determines that international law shall apply to activities in outer space. Article IV prohibits States from placing into orbit any weapons of mass destruction. Article VI does not establish *liability* of a State for activities in outer space, it establishes *responsibility.*[85] The difference between liability and responsibility is quite simple; 'liability' is a financial risk that one bears, 'responsibility' is a supervisory control that one exercises.[86] For example, a State is responsible, among other things, to assure that its entities do not place weapons of mass destruction into orbit.

When the Outer Space Treaty mentions liability, it does not contemplate a private launch such as in the case at bar. Article VI imposes international responsibility for "*...national activities* in outer space"(emphasis added).[87] The Treaty does not define national activities. The insertion of 'national activities' instead of 'activities' was purposeful, as Article VI makes a clear distinction between "...national activities... ...by governmental or by non-governmental entities..." and "...activities of non-governmental entities."[88] The first sentence of Article VI deals with State responsibility for *national activities*. In contrast, the second sentence requires that *activities* of non-governmental entities be authorized and supervised "*...by the appropriate State Party to the Treaty*" (emphasis added). The second sentence does not merely repeat the first, it uses unique language.[89] Sentence three deals with activities of international organizations. Article VI of the Outer Space Treaty deals with three distinct situations: national activities, non-national activities of non-governmental entities, and non-national activities of international organizations. Bin Cheng notes that "...without being confined to State activities, the phrase 'national activities' must refer to activities that have some special connection with the nation, alias the State..."[90] The launch in question is not a national activity. Nothing in the record indicates that Mastodonia had any special interest in this launch. It was not carried out for any national purpose, it was carried out by a private corporation interested in profit.

The Outer Space Treaty defines liability with the precise terms used in the Liability Convention. "Each State Party... ...that launches or procures..." or from "...whose territory or facility..." an object is launched is liable for the damage it causes.[91] This definition, as discussed in regards to the Liability Convention above, does not implicate Mastodonia for liability. When read in conjunction with Article VI, it is clear that the drafters did not anticipate holding a State liable for the actions of its non-governmental entities unless engaged in national activities. In addition, Mastodonia is not the Article VI "appropriate State Party" to authorize and supervise this activity.[92] The Outer Space Treaty

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84 Outer Space Treaty, *supra*, Article VI.

85 The English text of the Outer Space Treaty goes so far as to distinguish between responsibility, addressed in Article VI, and liability, addressed in Article VII. While the difference in meaning is slight, its effect is readily apparent. While the French, Chinese, Russian and Spanish texts have only one word for both concepts, the difference in the two English words is evident.

86 Gabriella Catalano Sgrosso, *International Legal Aspects of Commercialization of Private Enterprise Space Activities*, in Proceedings of the Thirtieth Colloquium on the Law of Outer Space 252 (1987).

87 Outer Space Treaty, *supra*, Article VI.

88 Id.

89 States Party to the Treaty are responsible for national activities in outer space, whereas the appropriate State Party to the Treaty must authorize and supervise activities in outer space. While Article VI does not articulate which state will be the appropriate state party, the distinction between national and non-national activities is obvious.

90 Bin Cheng, *Article VI of the 1967 Space Treaty Revisited: "International Responsibility", "National Activities", and "The Appropriate State"*, 26 Journal of Space Law 7, 20 (1998).

91 Outer Space Treaty, *supra*, Article VII.

92 Id., supra, Article VI.

places that duty on the State who registers the space object.[93] "A State Party to the Treaty on whose registry an object... ...is carried shall retain jurisdiction and control over such object."[94] The simplistic liability regime set up in Article VII, while sufficient to handle very basic damage claims between parties, is inadequate to cover the myriad of issues which are involved in the case at bar. Since the drafters did not contemplate circumstances such as these, the language cannot be manipulated to implicate Mastodonia as a liable party.

Even if this Court finds Mastodonia liable for damages under Article VI of the Outer Space Treaty, the proper measure of damages should be governed by the *Chorzow Factory* case.[95] In *Chorzow*, the Court determined that under international law, the purpose of indemnification of damages caused by one state to another is to restore the injured state to the situation that existed before the illegal act.[96] Under this standard, Mastodonia is only liable to provide Brezonec with a faulty satellite.

## CONCLUSION

Under international law, Respondent Mastodonia is not a launching State for the satellite Loki, and as such is not liable for any of the damage sustained by Brezonec with regard to the Brezosat satellite. Mastodonia upheld its obligations under the international space treaties and was not at fault for the damage.

Neither is Mastodonia liable for the damage to the Brezonec-Air aircraft or any of the resulting damages the Brezonec will be liable to pay. The subsequent agreement to purchase Loki by Mor-Toaler, a Mastodonian company, did not include the purchase of the launch vehicle. As a result, Mastodonia is not at fault for any damage the launch vehicle might have created.

Further, Brezonec is a launching State for the satellite Loki and its launch vehicle, and as a result is liable for any damage that either space object should create. This includes damage to the Brezosat satellite and subsequent losses; as well as the damage to the aircraft and any losses resulting therefrom. Brezonec is also prohibited from introducing any claims of its nationals in International Court because of its position as launching State.

Even if the Court determines that Mastodonia breached its Article VI duties under the Outer Space Treaty, this breach would not give rise to liability.

## SUBMISSIONS TO THE COURT

For the foregoing reasons, the Government of Mastodonia, Respondent respectfully requests the Court to adjudge and declare that:

1. Respondent Mastodonia is not liable under international law for the damage to the Brezosat satellite.
2. Respondent Mastodonia is not liable under international law for the loss of business contracts on the Brezoncom system.
3. Respondent Mastodonia is not liable under international law for costs incurred Brezonec to procure replacement services on other satellite systems.
4. Respondent Mastodonia is not liable under international law for the loss of the Brezonec-Air aircraft.
5. Respondent Mastodonia is not liable under international law for any of the damages which Brezonec-Air may be required to pay under the contractual revision to the Warsaw system of damages in air transport.

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[93] Id., *supra*, Article VIII.

[94] Id.

[95] *German Interests in Polish Upper Silesia and the Factory of Chorzow* (Ger. V. Pol.), 1928 P.C.I.J. (ser. A), No. 17 (May 25) [hereinafter *Chorzow Factory*.]

[96] *See Id.* at 47.