Commercial Space Launch Services Contracts in France and the United States of America

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I. – INTRODUCTION

Private sector commercial endeavours in outer space have been increasing exponentially and have experienced a significant quantitative growth over the last years.[1] Along with satellite communications and remote sensing, the space launch market has been growing steadily and constantly over the last few decades.[2] Apart from the traditional space powers – the United States and the former Soviet Union –, today there are several other countries which offer commercial launch services, including France – along with the European Space Agency –, China, Japan and, to a lesser extent, India, among others. Other countries, such as Argentina, Brazil and Israel, are currently developing space transport capabilities and will join the space launch market in the near future.[3]

The most distinctive note about space launch agreements is the high degree of uniformity in their structure, wording and organization which they present both in the United States and France, as well as in other common law and civil law jurisdictions.[4]

This article focuses on the structure, characteristics and main clauses of the commercial space launch services contracts as used in France and the United States, stressing their similarities in structure, treatment and consequences.

II. – THE LAUNCH SERVICES AGREEMENT

Both United States and civil law authors [5] characterize the launch services agreement as an understanding between the carrier and the user whereby the carrier, in exchange for a price, undertakes to render several services and to make its best efforts

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1 Julian HERMIDA, *Legal Basis for a National Space Legislation*, Kluwer Academic Publishers (Dordrecht/Boston/London), 2004, 35.

2 State of the Satellite Industry Report, 2 June 2004. http://www.sia.org/industry_overview/03industrystats.pdf accessed October 14, 2004.

3 Nathan C. GOLDMAN, *American Space Law International and Domestic*, Ames: Iowa State University Press, 1988, 24.

4 Julian Hermida, *Legal Aspects of Space Risk Management. The Allocation of Risks and Assignment of Liability in Commercial Launch Services*, LLM Thesis on file at McGill University, Montreal (Canada), 52.

5 *Ibidem*, 53.

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to place the user's payload in an orbit in outer space by means of a manned or unmanned launch vehicle.[6] Under French law,[7] Arianespace launch services agreements have been categorized within the scope of Article 1779 of the French Civil Code,[8] which governs industry and services leases, thus stressing the *obligations de moyen* as one of their central features.[9] In French law, the *obligations de moyen* entail a duty to do one's best as opposed to the *obligations de résultat* which involve a duty to achieve a particular outcome.

In the United States, the central element of these contracts is the best-efforts principle, whereby the launch services provider limits its obligations to making its best efforts instead of warranting the actual placing of the satellite in orbit.[10] This best-efforts principle is defined in space launch agreements generally as "diligently working in a good and workman-like manner, as a reasonable, prudent manufacturer of launch vehicles and provider of launch services".[11] By means of the best-efforts principle, the parties refrain from promising the accomplishment of their respective obligations, committing themselves only to making their best efforts to achieve success,[12] which coincides with the *obligations de moyen* nature which these

6 Julian HERMIDA, *Commercial Space Law: International, National and Contractual Aspects*, Ediciones Depalma (Buenos Aires), 1997, 17. A space launch consists of a series of activities directed toward placing satellites into orbit or otherwise into outer space by means of a manned or unmanned space vehicle.

7 Leopold PEYREFITTE, *Droit de l'espace*, Précis Dalloz (Paris), 1993, 104.

8 French Civil Code, Art. 1779: "there are three principal species of hiring of labour and industry: (1) the hiring of workmen who engage themselves in the service of any one; (2) that of carriers, as well by land as by water, who are charged with the conveyance of persons or commodities; (3) that of persons who undertake work by estimate or by contract."

9 Unlike the air transport contract where the carrier assures the result of the obligations, *i.e.* the transport of persons or goods to an agreed upon destination, the promise of the space carrier lies merely in the use of its best efforts to place the payload in the agreed upon orbit, which implies that in case of failure of the launch, Arianespace may not be held liability unless the customer proves Arianespace's fault. Mireille COUSTON, *Droit Spatial Economique*, SIDES (Paris), 1994, 245.

10 B. SCHMIDT-TEDD, "Best Efforts Principle and Terms of Contract in Space Business", 31 *International Institute of Space Law* (1988), 330, who stresses that the meaning of the best efforts principle is not limited to the exclusion of claims for non-performance, or improper performance of contractual obligations. This principle is formed by two elements: the effort and the quality of best. The former implies the attempt to perform an objective and the latter determines that such effort must be made according to the highest standard of quality. It may thus be concluded that this principle implies an enhanced promise of performance. This requires that the parties behave with the greatest commitment and with the highest quality standards when fulfilling their respective contractual obligations. Otherwise, the limitation of liability would lack the intended legal effect, and any damage should have to be fully compensated. In keeping with this line, the best-efforts principle appears as an effective legal instrument to prevent disputes in an industry which requires permanent venture capital to exist.

11 Launch Services Agreement between Martin Marietta Corporation and INTELSAT, N° MMC-CTS-87-001 INTEL-629, quoted by T.L. MASSON "The Martin Marietta Case or How to Safeguard Private Commercial Space Activities", 35 *International Institute of Space Law* (1992), 247.

12 HERMIDA, *supra* note 6, 17. This principle is associated with both a reduction and a waiver of liability and is one of the techniques used for the contractual allocation of risks among the participants in a commercial space transaction.

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agreements have in French law.[13]

French authors, such as Léopold PEYREFITTE,[14] Valérie KAYSER [15] and Mireille COUSTON,[16] also emphasize the centrality of the *obligations de moyen* and that therefore the object of the contract is not the carriage of the payload from one site to a certain orbit but rather the efforts to place it in orbit. For this reason, French authors, as well as some Argentine commentators,[17] concur that the nature of the agreement does not fall within the traditional category of transportation agreements in the strict sense. In the United States, there are very few judicial decisions dealing with these contracts, and due to the characteristics of the industry it has been predicted that there will not be many in the future.[18] Thus, the main analysis of these contracts in the United States is found in the legal literature. Like their French counterparts, US authors have concluded that these contracts constitute services for the fulfilment of which the carrier makes its best efforts.[19]

Another common characteristic of these contracts is the participation of government in many ways. Even if, strictly speaking, only the launch services provider – carrier – and the user are parties to the contract, this agreement forms part of a complex series of transactions where several entities are involved. These include the manufacturer of the payload, the contractors and subcontractors of both the launch services provider and the user, and the government.[20] In space launch services provided by US companies, where the launch is made from US sites, it is set forth that the launch is to abide by the United States government launch policy, which implies that a payload of the government has priority over any other commercial space object. Similarly, in services provided by the French carrier, European payloads have priority over non-European ones according to the commitments undertaken between France and European Space Agency.[21] These similar contractual provisions imply that even if the parties to the launch services agreement have already fixed a date or a period of time for the launch, this launch can be relegated in the event that the US government or a European firm, respectively, needs to launch a satellite.

13 In French law, as pointed out by Kayser, in order to show contractual liability the injured party must only prove fault of the defaulting party. This fault standard is the failure of the obligee to act in accordance with the standard of conduct appropriate to achieve the obligation at stake. V. KAYSER, Launching Space Objects: Issues of Liability and Future Prospects (Dordrecht: Kluwer Academic Publishers, 2001), 97.

14 PEYREFITTE, *supra* note 7, 102.

15 KAYSER, *supra* note 13, 150.

16 M. COUSTON, Droit Spatial Economique (Paris: SIDES, 1994), 241. She considers that the nature of these agreements is co-operational and promotional although she sees that they present some distinctive features.

17 Anibal H. MUTTI, "Contrato de transporte espacial", 6 *Revista del Instituto Nacional de Derecho Aeronáutico y Espacial* (1986), 73.

18 Kayser asserts that "the space community is not litigating much, due to the fact that there are not many actors involved, they have often strong ties among themselves and are bound by inter-participant waiver of liability clauses which have the effect of blocking litigation." KAYSER, *supra* note 13, 150.

19 George D'ANGELO, *Aerospace Business Law*, Quorum Books (Westport, Conn.), 1994, 125.

20 In the case of launches provided by Arianespace, the European Space Agency and its member States are also involved.

21 HERMIDA, *supra* note 4.

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III. – STRUCTURE OF SPACE LAUNCH SERVICES AGREEMENTS

The launch services agreements usually have a standard contractual structure.[22] The structure, as well as the wording, of these contracts follow the organization, structure and language of the contracts generally used in common law practice,[23] which typically include the following provisions: (i) recitals, (ii) definitions, (iii) services to be provided, (iv) termination of launch services, (v) program of launches, (vi) delays, (vii) adjustments to the launch program, (viii) priority, (ix) price, (x) price adjustment, (xi) method of payment, (xii) replacement launch, (xiii) reimbursement option, (xiv) representations and warranties, (xv) reciprocal waivers of liability, (xvi) third party insurance, (xvii) limitations of liability, (xviii) force majeure, (xix) disclaimer of liability for representations and warranties, (xx) proprietary data treatment, (xxi) industrial and intellectual property, including patents, (xxii) compliance with governmental authorizations, (xxiii) compliance with export permits, (xxiv) post launching actions, (xxv) termination, (xxvi) arbitration, (xxvii) applicable law, (xxviii) assignment, (xxix), notifications, (xxx) language, (xxxi) entire agreement, (xxxii) entry into force, and (xxxiii) confidentiality.

In launch services contracts both in France and the United States, the most important clauses are certainly those embodying the risk management system. This is achieved by a complex system of reciprocal waivers of liability, indemnification granted by the States, commitments to obtain insurance, limitations of liability, sole contractual remedies in the event of default, exclusion of liability clauses, and the inclusion of the best-efforts principle or the *obligations de moyen*, among other contractual clauses. These risk management systems included in the contracts derive from the prescriptions of the law and thus the parties to the launch services agreement have little margin for negotiation or to depart from this mandatory scheme. In US law, the risk management regime of these contracts is mandated by the *Commercial Space Launch Act*. In France, the risk management system derives from a complex mosaic of administrative regulations and bilateral and multilateral agreements made at the Agency and national levels.[24]

In US launch services agreements, first party risks, *i.e.*, risk of damage to the parties' space objects – the space vehicle in case of the launch company or the payload in case of the customer, and to their personnel – resulting from the launch activity, are allocated through a system of mandatory reciprocal waivers of liability [25]

22 Generally, these contracts are in three main parts. The first, the most important, contains the provisions applicable to the launch itself. The second, which may not be present in all agreements, governs the rights and obligations relating to each party in case of a replacement launch. Finally, the last part of the contract contains the general rules applicable to both types of launches. Contracts used by other launch providers contain only one part and the provisions regarding the replacement launch are incorporated in the contract.

23 KAYSER, *supra* note 13, 244.

24 Julian HERMIDA, "Risk Management in Arianespace Space Launch Agreements", XXV *Annals of Air and Space Law*, 2000, 143.

25 Reciprocal waivers of liability constitute the touchstone of this system. By means of these waivers of liability (wrongly called "interparty" since they involve other participants unrelated to the contract between the carrier and the customer), each party agrees to be responsible for any damage which it sustains as a result

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whereby each party agrees to be responsible for any damage or loss resulting from activities carried out under a space license. These waivers of liability represent legislatively mandated contractual indemnification obligations of each private participant, and its contractors and subcontractors, vis-à-vis the other private participants,[26] as well as its contractors and subcontractors.[27]

Second party risks, *i.e.*, risks to certain related entities – generally the government – which, although they do not participate directly in the space activity, are all the same exposed to some risks, are distributed on a two-layered basis, where the private launch operator assumes the risk of losses through a system of insurance or self-insurance up to the amount of the maximum probable loss, *i.e.*, $100,000,000 or the highest amount of liability insurance available, at a reasonable cost, on the world market in case the same is lower than $100,000,000, and the government absorbs the risks from that limit upwards through the so-called waivers of liability.[28]

Third party risks, *i.e.*, risks of damage caused to persons and property thoroughly unrelated to the launch, are allocated between the private launch provider and the government on a horizontal basis, consisting of three layers. In the first layer, risks are absorbed by the private space launch provider through insurance or demonstration of financial responsibility in an amount sufficient to compensate the maximum probable

of damage to its own property and employees, whether the damage is caused by the carrier, the customer or other customers involved in the space transport operations. Usually, this is complemented by the obligation imposed on all parties to the contract to include similar waivers of liability in their agreements with their contractors and subcontractors, so that each will assume its risks and will not sue the other participants.

26 *Commercial Space Launch Act Amendment* of 1988, Report of the Senate Committee on Commerce, Science and Transportation on H.R. 4399, SR 100-593, Oct. 7, 1988, US Government Printing Office (Washington), 1988, 14.

27 According to the text of the 1988 Amendments, the purpose of this provision is (i) to limit the total universe of claims that might arise from a launch and (ii) to eliminate the necessity for all the parties to obtain property and casualty insurance to protect against such claims. With respect to the first of the objectives sought by the 1988 legislator, since the reciprocal waivers promulgate the assumption of risks by each participant, they act as a deterrent of claims. Indeed, by virtue of this legal prescription, each participant is precluded from its right to sue the entity causing the damage. The scope of this provision does not encompass all events which may originate damage arising from a space launch. Moreover, even within the covered events not all claims are precluded. However, the waivers have proved to act as an effective hindrance to lawsuits. As regards the second of the objectives sought by the legislator, the waivers of liability foster the obtainment of insurance – or another form of risk management – by the users to protect against their own first party risks, for they may not be able to afford to lose their payload without recouping at least part of their investment. However, since neither the launch carrier nor the customer is liable for damage it may cause to the other, the obtainment of insurance to protect against foreign first party risks becomes thoroughly unnecessary. Therefore, the actual objective of the reciprocal waivers of liability consists in providing the launch industry with a system that permits it to convey risks to the customers. HERMIDA, *Legal Basis for a National Space Legislation*, DCL Thesis on file at McGill University, Montreal (Canada), 105.

28 Thus, the Commercial Space Launch Act obliges launch operators to obtain liability insurance or to demonstrate financial responsibility in an amount sufficient to compensate the maximum probable loss from claims against any person filed by the United States for loss of or damage to property of the United States resulting from activities carried out under the license in connection with any particular launch. Daniel E. CASSIDY, "Allocation of Liabilities Between Government and Private Sector and Implications on Insurance for Space Commercialization", 33 *International Institute of Space Law*, 1990, 28.

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loss, which has been capped at $500,000,000, or the maximum liability insurance available on the world insurance market at a reasonable cost. Risks in the second layer are assumed entirely by government indemnification up to the amount of $1,500,000,000. The third layer includes all claims above the upper limit of the indemnification and is the exclusive responsibility of the launch provider. This risk allocation system permits the US government to redistribute the liability which the international space law instruments [29] have attached to it to the different space players in accordance to its objectives of promoting the strength of its private sector space launch industry while safeguarding the public safety interests of the US population in general.[30]

In Arianespace agreements, first party risks are assumed by Arianespace and its customers, by means of reciprocal waivers of liability.[31] These waivers of liability [32] consist of (i) a general assumption of risks by each party, (ii) the assumption of the consequences of those risks, (iii) a consequent waiver of rights to make a claim for liability, (iv) a waiver for the consequences of the losses suffered, and (v) an indemnification or hold harmless provision in case of actions filed despite the

29 *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, 610 U.N.T.S. 205, 18 U.S.T. 2410, T.I.A.S. No. 6347, 6 I.L.M. 386 and *Convention on the International Liability for Damage Caused by Space Objects*, 29 March, 1972, 961 U.N.T.S. 187, 24 U.ST. 2389, T.I.A.S. No. 7762.

30 Furthermore, for the cases of damage not expressly foreseen in the agreements, the carrier's liability, or the liability of the launching State in the event the carrier is a governmental entity, towards the customer and *vice versa* will be limited to direct damages and will not include any loss of revenue, profits or other indirect or consequential damages.

31 These are generally drafted as follows: "Each Party shall bear any and all loss of or damage to property and any bodily harm (including death) and all consequences, whether direct or indirect, of such loss, damage or bodily harm (including death), and/or of a Launch Mission failure and/or of a Satellite Mission Failure, which it or its Associates may sustain that arises in any way in connection with this Agreement, or the performance of this Agreement. Each Party irrevocably agrees to a no-fault, no subrogation, interparty waiver of liability, and waives the right to make any claims or to initiate any proceedings whether judicial, arbitral, administrative on this account against the other Party or that other Party's Associates for any reason whatsoever. Each Party agrees to bear the financial and any other consequence of such loss, damage or bodily harm (including death), and/or of a Launch Mission failure and/or of a Satellite Mission Failure, which it or its Associates may sustain, without recourse against the other Party or the other Party's Associates. In the event that one or more Associates of a Party shall proceed against the other Party and/or that Party's Associates as a result of such loss, damage or bodily harm (including death), and/or of a Launch Mission failure and/or of a Satellite Mission Failure, the first Party shall indemnify, hold harmless, dispose of any claim, and defend, when not contrary to the governing rules of procedure, any liability and expense, including attorneys' fees, on account of such loss, damage or bodily harm (including death), and/or of a Launch Mission failure and/or of a Satellite Mission Failure and shall pay all expenses and satisfy all judgments and awards which may be incurred or rendered against that other Party and/or its Associates."

32 The scope of reciprocal waivers of liability is quite broad, for they include (i) damage to property, (ii) bodily harm, (iii) death, (iv) all their consequences, (v) Launch Mission failure, and (vi) Satellite Mission Failure. Unlike in the US regime, the waivers of liability used in Arianespace launch services agreements also cover contractual losses. In effect, they include Launch Mission failure, *i.e.* the impossibility of placing the satellite in the agreed upon orbit due to problems caused by the space vehicle or the launch itself, and Satellite Mission Failure, *i.e.* risks of causing damage to the satellite which may prevent it from attaining the intended orbit or operating successfully in it.

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waiver.[33] As in the US system, the objectives sought by the reciprocal waivers of liability are basically to limit the claims that might arise from a launch, and to eliminate, or at least reduce, the necessity to obtain property and casualty insurance to protect against claims which may otherwise derive from the launch.[34] This liability-waiver scheme is further complemented by obliging each party to the agreement to make its contractors and subcontractors execute reciprocal waivers of liability so that they will also be banned from filing claims in the event of an accident.[35]

Second party international liability[36] risks involve Arianespace, the European Space Agency, its member States and the French government. They refer to the possibility of these governmental and supra-governmental entities' being considered launching States and therefore liable pursuant to the Liability Convention.[37] These risks are distributed on a two-layered basis, where Arianespace assumes liability up to approximately 61,000,000 Euros (formerly 400,000,000 French francs) through insurance and the French government bears all liability claims above that level by means of governmental indemnification. With respect to the first layer, participants in the Production Declaration requested Arianespace to undertake to reimburse the French Government within a ceiling of approximately 61,000,000 Euros,[38] the amount of any compensation it may be required to pay in case of damage caused by Ariane launches to third parties.[39] This assumption of liability by Arianespace is implemented

33 The indemnification provision for claims filed despite restriction of waivers of liability stems from the fact that clauses whose object is the exoneration of responsibility in cases of bodily injury are prohibited under French Law. Therefore, in the event that, for example, employees of the customer suffer physical damages or even death, they or their heirs could file a claim before the French courts which would be admitted despite the waiver of liability contained in the launch services agreement. In such a case, the launch carrier could be condemned to pay damages to that employee or their heirs. If so, the carrier could, in turn, recover damages so paid from its customer by invoking the indemnification and hold harmless provision of the agreement. E. LOQUIN, "La gestion contractuelle des risques de l'exploitation commerciale de l'espace", in: P. Kahn (ed.), *L'Exploitation commerciale de l'espace: droit positif, droit prospectif*, Litec Credimi (Dijon), 1992, 173.

34 Also as in the US system, the reciprocal waivers of liability act as a mechanism for the transfer of first party risks to the customers, thus exempting the launch provider from damage which it causes. This is so because it is more frequent for a carrier to cause damage to its customer than the reverse. This acts as an exclusion of liability, which constitutes an exception to the fault principle of the French civil law. COUSTON, *supra* note 16, 245.

35 This is generally drafted in Arianespace launch services agreements as follows: "Each Party obligates itself to take all necessary and reasonable steps to foreclose claims for loss, damage or bodily harm (including death) by any participant in the launch activity. Each Party shall require its Associates to agree to a no-fault, no subrogation, inter-party waiver of liability and indemnity for loss, damage or bodily harm (including death) its Associates sustain identical to the Parties' undertaking under this Article ... of the Agreement ..."

36 HERMIDA, *supra* note 4, 6.

37 *Convention on the International Liability for Damage Caused by Space Objects, supra* note 29, Art. 1 *et seq.*

38 The cap on the reimbursement has been set on a per launch basis. Thus, even if, for example, Ariane carries two payloads in a single launch which causes damages to third parties, Arianespace will still have to reimburse up to approximately 61,000,000 Euros (formerly 400,000,000 French francs).

39 *Declaration by Certain European Governments Relating to the Ariane Launcher Production Phase*

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through a reimbursement of costs to the French government for compensation it may have paid in the event of damage caused by Arianespace to third parties if the French government, ESA or its member States were considered launching States and thus held liable for these damages. In this case, Arianespace does not have to pay directly to the victims but has to refund the French government any compensation actually paid by it to third parties or to ESA or its member States if the Agency or its members paid a compensation to the victims of the accident. Therefore, Arianespace assumes liability for what is considered maximum probable loss, *i.e.*, approximately 61 million Euros, and the government assumes the potential but extremely unlikely maximum possible loss.[40]

Third party risks are distributed in Arianespace launch services agreements on a two-layered basis. In the first level, Arianespace requires the customer to assume the risks up to the amount of approximately 61 million Euros through insurance taken by Arianespace and paid for by the customer.[41] In the second level, the French government provides full indemnification to Arianespace above approximately 61 million Euros.[42]

signed by States participating in the Ariane production phase, VOL.II-BIS/G02V [hereinafter the "Production Declaration"], Art. 3.8. This Declaration, engineered by the French government, entered into force on 14 April 1980 and was signed by States participating in the Ariane production phase. According to the Declaration, the participants decided to entrust an industrial structure, Arianespace, with the execution of the Ariane launcher production phase. The objective of this production phase was to meet the launch requirements of the world market subject only to the following conditions: (i) that it should be carried out for peaceful purposes in conformity with the ESA Convention and the Outer Space Treaty, and (ii) that ESA and the participant States should have priority over third party customers. Arianespace was thus assigned the manufacture, marketing and launch of the Ariane launchers.

40 The French government assumes the liability of ESA's member States, ESA itself and Arianespace. In order to distribute this category of second party risks, the ESA and Arianespace signed a Convention on 15 May 1981 – extended on 24 September 1992 – which aimed at putting into practice the principles of the Production Declaration Convention between ESA and Arianespace signed 15 May 1981, ESA/C(81)11.

41 This clause generally reads as follows: "Arianespace shall, for the Launch, take out an occurrence-basis type insurance policy at Customer's cost to protect itself and Customer against liability for property and bodily harm which Third Parties may sustain and which are caused by the Combined Space Vehicle or part thereof. In said insurance policy the natural and corporate bodies hereafter shall be named as assured: 1. The government of France. 2. The Centre National d'Etudes Spatiales "C.N.E.S." and any launching state as per Convention of 29 March 1972 related to the international liability damage caused by spacecraft. 3. The auxiliaries of any kind, whom Arianespace and/or the C.N.E.S. would call for in view of the preparation and execution of the launching operations. 4. The European Space Agency "E.S.A.", but only in its capacity as owner of certain facility and/or outfits located in the Centre Spatial Guyanais in Kourou and made available to Arianespace and/or C.N.E.S. for the purpose of the preparation and the execution of the launches. 5. The firms, who have participated in the design and/or in the execution and/or who have provided the components of the Launch Vehicle, of its support equipment including propellants and other products either liquid or gaseous necessary for the functioning of the said Launch Vehicle, their contractors, subcontractors and suppliers. 6. Customer and Third Party Customer(s) of Arianespace on whose behalf Arianespace executes the launch services as well as their co-contractors and subcontractors. 7. When they act in the scope of their activities, the Officers and Directors, the legal representatives, the Managing Director, the employees, agents, as well as the interim staff employed by Arianespace or by the Assured mentioned in hereabove Paragraph 1 to 6 (included)."

42 Governmental indemnification constitutes a fundamental risk-sharing instrument aimed at protecting Arianespace's customers against claims above the level of insurance. Through this indemnification,

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Thus, in contracts used in France and the United States, the structure and the elements of the risk distribution regimes present general common features. They both distribute first and third party risks by means of a combination of reciprocal waivers of liability and insurance – or self-insurance – requirements and they both have a system of insurance and government indemnification for the distribution of second party risks. However, their actual content differs substantially, as the objectives of these systems are a response to the objectives of the general space policy of each country.[43] Arianespace system pursues the maintenance of the French (European) leadership in space, and therefore the French government assumes a higher degree of risks than the US government. In turn, the United States regime tends to provide its private sector launch industry with a set of norms that permit it to transfer a significantly high degree of risks to its customers and – to a lesser extent – to the government.[44]

Virtually all other substantive clauses read quite the same. So, for example, the contracts tend to describe the provision of the launch services in almost exactly the same terms and to word the representations and warranties, the determination of the launch date and the payment clauses in practically the same way.[45]

The reason for the similarity in treatment, structure, and analysis among space launch services agreements lies in the fact that the characteristics of the outer space environment, which entails high risks to persons and property both part of and foreign to the commercial space ventures, require similar – or even uniform – legal solutions, for which purpose the international treaties and conventions dealing with outer space have acted, in practice, as general harmonizing guidelines and principles for the development of national law and even for contractual practice.

IV. – CONCLUSIONS

The most distinctive note about space launch agreements is the high degree of uniformity in their structure, wording and organization which they present both in the United States and France, as well as in other common law and civil law jurisdictions. The structure of commercial space launch agreements, as well as the wording of the clauses, resembles the structure, organization and language of these agreements followed in the United States. However, the doctrinal analysis of these agreements both in the United States and France follows the traditional civilian style of identifying the functions of the contract and explaining the effects in terms of rights and obligations of the parties.

Another salient characteristic of these agreements is the uniform risk management solutions adopted both in France and the United States. Risk management of legal risks is highly regulated, thus allowing practically no possibility of deviating from the system stemming from this regulation. In France, this regulation comes from a

the customer is relieved of the risks of having to face claims above approximately 61 million Euros.

43 HERMIDA, *supra* note 27.

44 HERMIDA, *supra* note 4.

45 MASSON, *supra* note 11, 239.

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series of scattered norms, agreements and resolutions executed at the Agency, bilateral and multilateral level. In the United States, the regulation derives from specific legislation enacted by Congress.

LES CONTRATS DE SERVICE DE LANCEMENT SPATIAL EN FRANCE ET AUX ETATS-UNIS D'AMERIQUE (Résumé)

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Les services commerciaux de lancement spatial fournis par le secteur privé se développent régulièrement depuis plusieurs années. Cet article examine la structure, les caractéristiques et les principales clauses des contrats de services commerciaux de lancement spatial conclus en France et aux Etats-Unis d'Amérique. Le trait le plus marquant de ces contrats est le haut degré d'uniformité dans leur structure et leur libellé. Ils réglementent de façon détaillée la répartition des risques, et celui-ci est désormais relativement figé et standardisé, ce qui laisse aux parties peu de marge de négociation. Ces contrats sont caractérisés par des systèmes combinés de renonciations de responsabilité et de conditions concernant l'assurance, ou l'auto-assurance, et prévoient une certaine couverture de l'Etat. Cependant le contenu de ces contrats reflètent des objectifs politiques différents en matière de développement spatial. Arianespace vise à maintenir la suprématie française et européenne et le Gouvernement français assume une part supérieure de risques, tandis que dans le système américain, la réglementation transfère davantage les risques sur les consommateurs.

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