IAC-09.E8.4.5
EQUITY AND THE SPACE TOURIST

Zeldine Niamh O'Brien LL.B. (Dub), B.L.*
University of Dublin, Trinity College, Ireland
E-mail:zeldineobrien@gmail.com

Abstract

The inclusion of cross-waivers of liability is a matter of practice in contracts for space services and may be required under domestic law. The incorporation of waivers between the carrier and the space tourist is not explicitly required under US federal law, however, several states with an interest in developing spaceports have passed laws imposing this explicit requirement, such as Virginia and more recently in Florida. Following the decisions in Lexington Insurance v Mc Donnell Douglas, Appalachian Insurance v McDonnell Douglas *and* Martin Marietta v Intelsat, *it emerged that where the contract is individually negotiated between parties with equivalent specialist knowledge, the waiver will exclude all liability, including that arising in tort. However, the current industry indications favour the use of standard form contracts for space tourists. Furthermore the parties will not necessarily be of equal bargaining power or have equivalent specialist knowledge. This leaves some scope for reliance on equitable doctrines, particularly that of unconscionability. This paper will address the value of unconscionability for space tourists. It will address its potential in challenging waivers and evaluate the results against the potential of the doctrine for space tourists taking similar action in EU common law fora.*

INTRODUCTION

Waivers[1] and cross waivers of liability by contract are common in space activities as and between parties at both national and international level and may be mandatory the case of the former.[2] Such waivers may be included in contracts of carriage of persons through space. The space tourism industry is set to move beyond the pioneering phase within the coming decade, with firms such as Virgin Galactic contracting directly with space tourists[3] or Space Launch Activities Act 1984[4] as firms, such as Space Adventures, acting as intermediaries. The U.S. Commercial amended in 1988[5] provides for mandatory waivers in §70112(b)[6] between the US Federal Government, its contractors, subcontractors, licensees and permittees. The Commercial Space Launch Amendments Act 2004 extended this requirement to spaceflight participants. The obligation does not extend specifically to the carrier or licensee. Nonetheless, there is an emerging trend in national space law regimes to now expressly require the incorporation of such a clause, particularly in those states seeking to develop spaceports, such as Virginia, Florida. This paper will address the value of the doctrine of unconscionability developed by Equity for space tourists. It will address its potential in challenging waivers under US federal law, the state law of Virginia and Florida and the proposed law in New Mexico.

THE US COMMERCIAL SPACE LAUNCH ACTIVITIES ACT 1984

The U.S. Commercial Space Launch Activities Act 1984, as amended, was aimed at fostering the private commercial space industry.[7] It limited exposure to liability through both waivers and the creation of limitations on the amount of insurance or demonstrated financial responsibility required.[8] The waiver, as set out under §70112(b) requires a launch or reentry license issued or transferred to contain a provision requiring the licensee or transferee to make a reciprocal waiver of claims with "its contractors, subcontractors, and customers, and contractors and subcontractors of the customers, involved in launch or reentry services under which each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable license." The launch, reentry and/or operation of a space object and a launch or reentry site is licensed by the Federal Aviation Administration under authority granted to the Secretary for Transportation under the 1984 Act and subsequently delegated to it, however the Associate Administrator for Commercial Space Transportation is the licensing authority. Each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable licence. In tandem with the reciprocal waiver requirements are mandatory insurance requirements. The licensee or transferee of the licence is also required to obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss from claims by a third party for death, bodily injury, or property damage or loss resulting from an activity carried out under the licence and the US Government against a person for damage or loss to Government property resulting from an activity carried out under the licence. Section 70112(a)(3) limits the total amount of claims relating to the launch or the reentry for which the licensee or transferee must demonstrate financial responsibility or against which he/she must insure to $500m for third party claims, $100m for damage to government property or the maximum liability insurance available.[9]

THE COMMERCIAL SPACE LAUNCH AMENDMENT ACT 2004

The 1984 Act was been amended in 2004 by the Commercial Space Launch Amendment Act.[10] The 2004 Act extended the requirement for the execution of reciprocal waivers to space tourists, or 'space flight participants' but only between the Government and the spaceflight participant and not between spaceflight participants and permittees or licensees. States are not permitted to adopt any measures inconsistent with this[11] but may adopt more stringent measures.[12] The CSLAA recognizes the commercial spaceflight industry is distinct from the aviation industry and vests its regulation in a single body. It states that "the goal of safely opening space to the American people ... should guide Federal space investments, policies, and regulations." A "space flight participant" is defined as "an individual, who is not crew, carried within a launch vehicle or reentry vehicle". The passengers may have to undergo "an appropriate physical examination prior to a launch or re-entry" and meet "reasonable requirements... including medical and training requirements" where the Secretary of Transportation has provided for such by regulations. The CSLAA states that: "the regulatory standards governing human space flight must evolve as the industry

matures so that regulations neither stifle technology development nor expose crew or space flight participants to avoidable risks as the public comes to expect greater safety for crew and space flight participants from the industry." The regulations, entitled Human Spaceflight Requirements for Crew and Spaceflight Participants, were adopted by the AST in December 2006. The Act precludes the formulation by the AST from adopting vehicle safety regulations until 2012. The combination of the waiver requirements and this Act brings private space carriage for persons, with regard to the Federal Government, outside of the theory of liability and within the theory of insurance.[13]

CROSS-WAIVERS INTERPRETED

Lexington Insurance v. Mc Donnell Douglas[14] was one of the first cases to analyses the mandatory waiver clause. Six insurance companies sued the manufacturer and subcontractors in subrogation actions to recover the money paid to the owners where a defect in a payload assist module resulted in the inability of the Westar VI and the Palapa B-2 satellites to perform their telecommunications functions. The subrogation suite concerning Westar IV was dismissed owing to the inclusion of a disclaimer within the contract and a clause disallowing any subrogation suite. This clause was not present in the Palapa B-2 contract and the case proceeded to the jury. The plaintiffs argued that the defendants had been negligent in the design, manufacturing and testing of the exit cones of the satellite and for the failure to warn of the risks to the owners. The contract with McDonnell Douglas contained an exclusion clause for negligence which also covered the subcontractors. The launch contract between the Indonesian Government and NASA contained a no-fault inter-party waiver of liability which also excluded claims in subrogation. The Indonesian-owned communications company, Perumtel, had agreed to take the risk of loss of the satellite in exchange for a lower satellite. Perumtel assumed the risk of loss expressly and had obtained insurance in order to cover this risk. Mc Donnell Douglas sought unsuccessfully to argue that the plaintiffs could not recover on the basis of this risk assumption that and on account of the interparty waivers. The Court found however, that the specific allocation of risk did not preclude a negligence action under state law. The jury however found that the defendant was not liable in negligence on the evidence though the manufacturer of the satellite was found in breach of a warranty relating to the payload assist module. As Showalter observes:

> Aside from being the first space injury trial in the United States, *Lexington* illustrates an unwillingness to allow freely negotiated contractual limitations on liability to preclude a negligence action.

WAVING THE FLAG OF UNCONSCIONABILTY

Equity refers to the rules developed by the Courts of Chancery to mitigate the harsh rigors of the common law. Wquity "[came] to the rescue whenever parties to a contract have not met upon equal terms".[15] This may have been due to one party to the transaction being at a special disadvantage in dealing with the other because of illness,[16] ignorance, inexperience, impaired faculties or 'other circumstances affecting his ability to conserve his own interests'.[17] Unconscionability was raised in the subsequent case of *Appalachian Insurance v. Mc Donnell Douglas*[18] which again concerned the loss of Westar VI. The trial Court ruled that the contract between

Western Union and McDonnell Douglas prevented Appalachian Insurance from suing McDonnell (the contractor), Morton Thicol and Hitco (the subcontractors). Before the Court of Appeal it was argued that the waiver was unenforceable for unconscionability (as codified in s. 1670.5 of the Civil Code).[19] The Court accepted that the doctrine contained both procedural and substantive elements[20] with the procedural element focusing on both oppression "arising from an inequality of bargaining power which results in no equal negotiation"[21] and surprise, that is, "the extent to which the supposedly agreed-upon terms of the bargain are hidden in a prolix printed form drafted by the party seeking to enforce the disputed terms."[22] Appalachian sought unsuccessfully to persuade the Court to adopt its earlier reasoning in *A. & M Produce Co.* v. *FMC Corp.*:

> "Of course the mere fact that a contract term is not read or understood by the nondrafting party or that the drafting party occupies a superior bargaining position will not authorize a court to refuse to enforce the contract. Although an argument can be made that contract terms not actively negotiated between the parties fall outside the 'circle of assent' which constitutes the actual agreement, commercial practicalities dictate that unbargained-for terms only be denied enforcement where they are also *substantively* unreasonable. One commentator has pointed out, however, that, '. . . unconscionability turns not only on a "one-sided" result, but also on an absence of "justification" for it[,]' which is only to say that substantive unconscionability must be evaluated as of the time the contract was made. The most detailed and specific commentaries observe that a contract is largely an allocation of risks between the parties, and therefore that a contractual term is substantively suspect if it reallocates the risks of the bargain in an objectively unreasonable or unexpected manner. But not all unreasonable risk reallocations are unconscionable; rather, enforceability of the clause is tied to the procedural aspects of unconscionability such that the greater the unfair surprise or inequality of bargaining power, the less unreasonable the risk reallocation which will be tolerated."[23]

Appalachian sought to argue that the procedural element of unconscionability was present as McDonnell Douglas had an absolute monopoly and had used that power to insulate it against liability. However, the Court rejected this argument on the facts. The argument that there was substantive unconscionability as the provision was not consistent with industry practice also failed on the facts. Significantly the Court acknowledged the distinction between unconscionability in a consumer contract for a mass-produced product as in *A&M Produce* and the facts here:

> Here, the contract was not a standardized printed form for the sale of a mass-produced product; here the contract was negotiated. It involved specialized services and new technology developed in a "high risk business." Western Union was not an inexperienced buyer who had to rely on McDonnell Douglas's representations; Western Union was a large, sophisticated corporation experienced in launching telecommunications satellites. Western Union was further given periodic progress reports, including reports of two test failures of the Star 48 motor.

> In this context, of a highly specialized, risky new technology, it was not commercially unreasonable for the parties to agree Western Union would obtain insurance to protect it against the risk of loss rather than to have McDonnell Douglas warrant performance of the upper stage rocket. As a practical matter, it was a question of whether Western Union wanted to directly pay for insurance by obtaining insurance itself or indirectly pay for insurance by requiring McDonnell Douglas obtain the insurance and give a warranty. It was reasonable for Western Union to agree to obtain its own insurance directly rather than to pay an increased contract price which would include McDonnell Douglas's costs in administering the insurance for Western Union's benefit. We do not find any unconscionability existing in articles 7 and 14 of the Western Union and McDonnell Douglas."

This still left open the possibility of arguing that there was unconscionability where a standardized contract for space carriage of persons between the contractor and consumer when the space tourism industry is sufficiently developed.

WAVING A WHITE FLAG?

The matter of cross-waivers arose for consideration again in *Martin Marietta v. Intelsat*.[24] Martin Marietta had contracted with the defendant to launch two satellites into orbit for $112m each. The first satellite failed to reach the correct orbit owing to a difficulty following the launch which hampered efforts for payload separation. Martin Marietta sought a declaratory judgment finding them relieved of liability owing to the inclusion of the waiver. The argument by Intelsat that waivers for gross negligence were contrary to public policy was rejected on the ground that it was contrary to congressional intent. The history of the 1984 Act showed that all claims in tort arising from the launch were to be excluded by the waivers.[25] Liability in tort could only attach where there was an additional duty outside of the launch contract.[26] The Court accepted that the requirements were necessary where commercial ventures had difficulty affording insurance to guard against tort actions.

Showalter describes the case as a "departure" from NASA policy as seen in *Lexington*[27] although it is the first case to interpret the provisions of the 1984 Act as amended. However the Court also noted that it deferred to the language of the contract as both parties were equally sophisticated in the allocation of risk. There was no 'vulnerable party' to be found and so the argument for negligent misrepresentation after the signing of the contract was rejected. It is still possible that the Courts may have been open to allowing tort actions where a vulnerable party such as a consumer existed, however, with the passing of the Commercial Space Act 2004 which extended the requirement of reciprocal waivers of claims to be executed between crew and other space flight participants and Federal Government, congressional intent would appear to have the same objectives in mind with regard to space flight participants.

However, federal law does not require a waiver between a carrier and a space flight participant/space tourist, any congressional intent argument would be only of limited persuasive analogical value. Nonetheless, national space laws may still require the inclusion of such waivers. Indeed, the FAA in its *Quarterly Launch Report* observed:

> Although the CSLAA does not protect launch providers explicitly from space flight participants' claims of liability,

> the industry is not defenseless. Properly constructed waivers are now used successfully by other recreational activity industries and can also be used by the personal space flight industry. Further, the opportunity to lobby for state legislative protection is still available. Considering the strong public support enjoyed by the commercial space industry, creating a system of waivers seems to be quite an achievable task.[28]

NATIONAL SPACE LAW

Virginia was the first state to create a framework to deal with space tourist liability with the intention of bolstering the prospects of its spaceport industry. Florida followed suit shortly after and New Mexico has tabled a bill this year to the same end. Virginia's Spaceflight Liabilities and Immunities Act[29] will be effective for six years from July 1st 2007 and proposes that space flight participants sign a warning excluding liability. The minimum warning provided in the Act is:

> WARNING AND ACKNOWLEDGEMENT: I understand and acknowledge that, under Virginia law, there is no civil liability for bodily injury, including death, emotional injury, or property damage sustained by a participant in spaceflight activities provided by a spaceflight entity if such injury or damage results from the risks of the spaceflight activity.... I understand and acknowledge that I am participating in spaceflight activities at my own risk. I have been given the opportunity to consult with an attorney before signing this statement.[30]

The definitions in the Act mirror those set down in federal law.[31] A participant is therefore "an individual, who is not crew, carried within a launch vehicle or re-entry vehicle" while spaceflight activities include activities involved in the preparation of a launch/re-entry vehicle and payload, crew (including crew training), or spaceflight participant, if any, for launch/re-entry and the conduct of a launch/re-entry. This is wider than earlier drafts which were limited to suborbital flight. A 'spaceflight entity' for these purposes is "any public or private entity holding, either directly or through a corporate subsidiary or parent, a license, permit, or other authorization issued by the Federal Aviation Administration [FAA] pursuant to the Federal Space Launch Amendments Act" and includes "any manufacturer or supplier of components, services, or vehicles that have been reviewed by the US FAA as part of issuing such a license, permit, or authorization". Therefore the protection of the waiver extends beyond the carrier but also to manufacturers and suppliers. Significantly, there is no exclusion or limit of liability of a spaceflight entity if the spaceflight entity "commits an act or omission that constitutes gross negligence evidencing wilful or wanton disregard for the safety of the participant, and that act or omission proximately causes a participant injury or intentionally causes a participant injury". Other than where these exceptions arise a spaceflight entity will not be liable for injury to or death of a participant resulting from the inherent risks of spaceflight launch activities where the warning above has been distributed and signed. No participant or participant's representative is "authorized to maintain an action against or recover from a spaceflight entity for a participant injury that resulted from the risks of spaceflight activities."[32] These provisions are explicitly stated to be in addition to any other limitations provided by law.[33]

FLORIDA'S INFORMED CONSENT TO SPACEFLIGHT ACT[34]

Florida's efforts were modelled on the Virginian Act. It was effective from October 1st, 2008 and expires October 2nd, 2018.[35] The Act applies to sub-orbital flights only and also utilises the federal definitions of spaceflight participant and spaceflight activities.[36] Only such spaceflight entities that hold a licence from the Federal Aviation Authority may avail of the release of liability provided for by the Act. It precludes liability for injury to or death of a participant resulting from the inherent risks of spaceflight activities.[37] The Act also provides a minimum statutory warning to be included:

> WARNING: Under Florida Law there is no liability for an injury to or death of a participant in a spaceflight activity provided by a spaceflight entity if such injury or death results from the inherent risks of the spaceflight activity. Inherent risks of spaceflight activity include, among others, risks of injury to land, equipment, persons and animals, as well as the potential for you to act in a negligent manner that may contribute to your injury or death. You are assuming the risk of participating in this spaceflight activity.[38]

Failure to comply with the warning statement requirements will prevent a spaceflight entity from invoking the privileges of immunity provided by the Act.[39] However, the Act does not prevent or limit the liability of a spaceflight entity for injury, damage or death caused to a spaceflight participant if the spaceflight entity commits an act or omission that constitutes gross negligence or wilful or wanton disregard for the safety of the participant[40] or has actual knowledge or reasonably should have known of a dangerous condition on the land or in the facilities[41] or equipment used in the spaceflight activities. Nor will the Act preclude liability for intentional injuries the participant.[42]

NEW MEXICO'S PROPOSED SPACE FLIGHT LIABILITY AND IMMUNITY ACT

New Mexico introduced this bill on January 13th, 2009. Its current draft[43] provides for the same definitions of spaceflight participant and activities as found in federal law[44] and a similar definition of spaceflight entities as found in Virginia's Act.[45] It also provides a minimum statutory warning in the following terms:

> WARNING AND ACKNOWLEDGMENT: I understand and acknowledge that, under New Mexico law, there is no civil liability for bodily injury, including death, emotional injury or property damage, sustained by a participant in space flight activities provided by a space flight entity if such injury or damage results from the risks of the space flight activity. I have given my informed consent to participate in space flight activities after receiving a description of the risks of space flight activities as required by federal law pursuant to 49 U.S.C. Section 70105 and 14 C.F.R. Section 460.45. The consent that I have given acknowledges that the risks of space flight activities include, but are not limited to, risks of bodily injury, including death, emotional injury and property damage. I understand and acknowledge that I am participating in space flight activities at my own risk. I have been given the opportunity to

consult with an attorney before signing this statement.[46]

As with the other state laws, a failure to comply with the requirements concerning the warning statement will prevent a space flight entity from invoking the privileges of immunity of the Bill.[47] Also, like the Virginian and Florida measures, the Bill will neither prevent nor limit the liability of a space flight entity for injury if the space flight entity where it commits an act or omission that constitutes gross negligence evidencing willful or wanton disregard for the safety of a participant[48] or intentionally causes a participant injury.[49] Unlike the Florida statute however, there is no actual or constructive knowledge of danger condition precluding immunity.

EFFECTIVE WAIVERS

In order for a waiver to be successfully relied on by a permittee, licensee or carrier,[50] it must "be conspicuous,[51] readable,[52] unmistakable,[53] unequivocal and clear.[54]," [55]If it fails to meet any of these requirements, it will be ineffective. Therefore it must state with a high level of particularity and specificity[56] the intention to release[57] and exonerate from liability,[58] which liability is to be avoided[59] (such as the negligent behaviour[60]), the conduct of the defendant causing harm excluded,[61] the intention of each party[62] and that the protection the waiver provides unequivocally.[63] In addition, the spaceflight participant should be put on notice to the nature and the significance of the clause.[64] Waivers are strictly construed in favour of the waiving party. Adherence to or inclusion of the statutory waivers set out above clearly meet these requirements. Furthermore, where claims of third parties are considered derivative rather than independent of the spaceflight participant's rights for example the loss of consortium, these too would also be excluded by operation of the waiver.[65]

VOLENTI

Even if unconscionability arguments could be made out, it is equally likely that a defence of *volenti* could also be made out. Volenti arises "when a person voluntarily exposes their self or their property to a known and appreciated danger due to the negligence of another.[66] In U.S. law, this will operate to shield against liability for most acts of negligence of the permittee or licensee.[67] It is highly likely that those permittees and licensees that have adhered to the federal pre-contractual disclosure requirements and the informed consent procedures at federal level and, where applicable, state level, will successfully be able to rely on the defence.

INFORMED CONSENT PROCEDURES

The CSLAA provides for extensive pre-contractual disclosure requirements on both the Secretary *and* the holder of the license or permit. It requires the holder of the licence or permit to inform the space flight participant in writing about the risks of the launch and re-entry, including the safety record of the launch or re-entry vehicle type. In addition, the Secretary has an obligation to disclose in writing any relevant information related to risk or probable loss during each phase of flight gathered by him/her. The holder of the licence or permit must inform the space flight participant in writing, prior to receiving any compensation from that space flight participant or (in the case of a space flight participant not providing compensation) otherwise concluding any agreement to fly that space flight participant, that the United States Government has not certified the launch vehicle as safe for carrying crew or space flight participants. Under the CSLAA, the space flight participant must provide written informed consent to participate in launch and re-entry and written

certification of compliance with any regulations promulgated by the Secretary.

National law may also set out additional informed consent procedures. The New Mexico Bill provides that there is no liability for an injury to a spaceflight participant arising from the risks of space flight activities provided that they have been informed of the risks of space flight activities as required by the Bill itself and federal law *and* the participant has given informed consent that they are voluntarily participating in space flight activities after having been informed of the risks of those activities.[68]

UNCONSCIONABILITY AND EC MEMBER STATES

Currently there is no EC regulation of space carriage contracts. EC law and objectives would be in harmony with the approach of Federal law, specifically in relation to pre-disclosure requirements, which is in-line with the consumer's right to information. However, in the absence of regulation regarding waivers, it is likely that their inclusion in a contract subject to EC jurisdiction would be held void and the clause severed as unfair under the Unfair Terms Directive[69] in the absence of a specific legislative provision permitting it. Additional or alternate arguments could also be made on the ground of unconscionability in common law fora. The benefit of relying on the doctrine is that its application would be unfettered by the scope of the directive. But even applied successfully, it unlikely that a plaintiff would win where there has been a signed consent; it is likely that such cases will turn on whether the consent was informed or not.

CONCLUSION

Federal law requires the inclusion of cross-waivers of liability between Federal Government and spaceflight participants. The interpretation of these clauses suggests that they would preclude claims of a spaceflight participant grounded in tort – negligence and gross negligence alike. This is so notwithstanding the different bargaining positions of the parties vis-à-vis contract for satellite contracts and the envisaged use of standard form contracts given the emphasis placed on congressional intent in the most recent authority. The only claims that may then be made against Federal Government are those that arise out of an additional duty or independent claims of third parties, such as those of a spouse of an injured spaceflight participant. However, as federal law does not require waivers between carriers and spaceflight participants, the focus shifts to the effect of national laws. Where national laws specifically requires the waiver and where it complies with the requirements of the parent Act and the pre-contractual disclosure requirements and informed consent procedure have been adhered to, then such waivers will be interpreted to properly exclude tortious claims. However, Virginian and Florida law do not exclude claims in gross negligence or intentional acts. Furthermore, Florida law would appear to waive only those claims arising because of an injury owing to 'the inherent risks of spaceflight'. It may be possible to include a more stringent waiver than that envisaged by national law that closes these gaps. Whether such an extension to waivers would be upheld by the Courts of those states remains to be tested but the legislation specifically states that the statutory warning is the minimum. However, where there has been no statutory intervention, it would appear that such waivers, certainly an extended waiver precluding claims arising in gross negligence and from the actualisation of risks outside of those inherent in spaceflight, would be subject to the normal challenges and may be held ineffective as being void as contrary to public policy. In such cases, it is likely that a carrier will

rely on a defence of *volenti* and is likely to be successful. In short, where there has been compliance with the disclosure requirements of federal law and the informed consent procedures, it is unlikely that liability would be imposed even if a waiver could be successfully voided and severed from the contract of carriage.

While there is no equivalent provisions at EC level to those in federal law, waivers included in contracts subject to EC member state jurisdiction may be challenged as unfair terms. The benefit of the doctrine is that it would apply more widely that that of 'unfairness'. However, even in such cases where held applicable and duly applied, an informed consent will defeat a plaintiff's tort claim.

---

* This paper is based on one given at the Law Student Colloquium, April 4th 2009, School of Law, Trinity College Dublin. My thanks to Dr Eoin O'Dell for his comments on that paper. All errors and omissions remain my own.

[1] On waivers generally, see Wilken and Villiers, *The Law of Waivers, Variation and Estoppel,* OUP, 2002.

[2] See for example the Agreement Among the Government of Canada, Governments of the Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the U.S.A. concerning Co-operation on the Civil International Space Station, 1998 Art.16 which contains broad cross-waiver provisions "in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the Space Station" between contractors and subcontractors though this is not without exceptions.

[3] For the purpose of this paper, 'space tourist' is used interchangeably with 'spaceflight participant'. But on the distinction see O'Brien, "Consumer Law and Space Tourism," SLS Centenary Conference, Keele, 7th September 2009.

[4] 49 USC §§ 70101-70119 (1994)

[5] See Costello, Kevin, "The Commercial Space Launch Act Amendments and the Launch Industry Insurance Reform (1991) 14 *Suffolk Transnational Law Journal* 492 and Yelton Kim G., Note: "Evolution, Organization and Implementation of the Commercial Space Launch Act and Amendments of 1988," (1989) 14 *Journal of Law and Technology* 117, at 117.

[6] See Watson, supra, p.52.

[7] Watson, *supra*, p.49 and Schulz, JP, "Little LEOs and Their Launchers," (1995) 3 *CommLaw Conspectus* 185.

[8] 1988 U.S.C. CAN 5525, 5526.

[9] 49 U.S.C. §70112(a)(3).

[10] See Note "Commercialisation of Space: Commercial Space Launch Amendments Act 2004, (2004) 17(2) *Harvard Journal of Law and Technology* 619.

[11] 49 U.S.C. §70117(c)(1).

[12] 49 U.S.C. §70117(c)(2).

[13] See International Space Brokers Ltd., *Risk and Legal Liability in Commercial Space Launches*, Memorandum submitted to the Select Committee on Trade and Industry of the House of Commons, Appendix 3 in the Minutes of Evidence of the Trade and Industry Tenth Report, 2000 available at http://www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmtrdind/335/335ap04.htm

[14] No. 481713 (Cal. Super. Ct.,Orange Co., May 1990). See Ginger, Stephen, R., "The Trial of the Palapa B-2 Case: A look at the Liability Issue in Commercial Space Launches, (1991) 38 Fed. Bar News & Jour. 132; Showalter, "In Space, No One Can Hear You Scream 'Tort' ! "(1993) 58 *Journal of Air Law and Commerce* 795, at p. 832 -834, Diederiks Verschoor , *An Introduction to Space Law* (Kluwer Law International, London, 1999) at p. 153-154, (1990) 18 *Journal of Space Law* pp41-44, Gorove, *Cases on Space Law: Texts and Comments*, 1996 p.99.

[15] *Grealish v Murphy* [1946] IR 35 *per* Gavan Duffy J at p. 49. See also *O'Rorke v Bolingbroke* (1877) 2 App Cas 814.

[16] *McGonigle v Black*, Unreported, Irish High Court, Barr J, 14th November 1988.

[17] *Blomley v Ryan* (1956) CLR362, *per* Kitto J at p.415.

[18] 214 Cal. App. 3d 1; 262 Cal. Rptr. 716 (Cal. Ct. App. 1989); Showalter, "In Space, No One Can Hear You Scream 'Tort'!" (1993) 58 *Journal of Air Law and Commerce* 795 at p. 834-836.

[19] "If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may . . . enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result."

[20] Following and applying *H.S. Perlin Co.* v. *Morse Signal Devices* (1989) 209 Cal.App. 3d 1289, at pp. 1300-1301.

[21] *A. & M Produce Co.* v. *FMC Corp.* (1982) 135 Cal.App. 3d 473 at p. 486.

[22] *Ibid*

[23] *Ibid* at p. 487.

[24] 763 F. Supp. 1327 (D. Md. 1991), *aff'd* in part, *rev'd* in part, 978 F.2d 140 (4th Cir. 1992). See Watson, Kim B., "Have the Courts Grounded the Space Industry? Reciprocal Waivers and the Commercial Space Launch Act" (1998 -1999) 19 *Jurimetrics* 45.
[25] *Ibid* at p.1333-4.
[26] *Ibid* at p. 1331.
[27] Showalter, op cit, at p. 837.
[28] FAA, *Quarterly Launch Report*, 4/2006, SR1 at SR4.
[29] Ch.3 Code of Virginia 8.01-227.8-10.
[30] § 8.01-227.10 B.
[31] See 49 U.S.C. § 70102 and §8.01-227.8 of the Virginia Code .
[32] § 8.01-227.9(A).
[33] § 8.01-227.9(C).
[34] §331.501et seq of the Florida Statutes.
[35] §331.502.
[36] §331.501(1)(a)-(c).
[37] §331.501(2)(a).
[38] § 331.501(3)(b).
[39] § 331.501(3)(c).
[40] § 331.501(2)(b)(1).
[41] §331.501(2)(b)(2).
[42] §331.501(2)(b)(3).
[43] Senate Bill 37, 2009.
[44] SB 37, section 3(a) and (c).
[45] SB 37, section 3(d).
[46] SB 37, section 5(a).
[47] SB 37, section 5(b).
[48] SB 37, section 4(c)(1).
[49] SB 37, section 4(c)(2).
[50] See FAA, *Quarterly Launch Report*, 4/2006, SR-1 *et seq.*
[51] *Purcell Tire & Rubber Co., Inc. v. Executive Beechcraft, Inc.*, 59 S.W.3d 505 (Mo. 2001); *American Airlines Employees Federal Credit Union v. Martin*, 29 S.W.3d 86, 42 U.C.C. Rep. Serv. 2d 359 (Tex. 2000). The purpose of the requirement that the release be conspicuous in order to be enforceable is to protect the party entering into the release from surprise and an unknowing waiver of his or her rights. *Littlefield v. Schaefer*, 955 S.W.2d 272, 33 U.C.C. Rep. Serv. 2d 990 (Tex. 1997). A clear preinjury release is not enforceable if it is inconspicuous. *Vodopest v. MacGregor*, 128 Wash. 2d 840, 913 P.2d 779 (1996).
[52] *Littlefield v. Schaefer*, 955 S.W.2d 272, 33 U.C.C. Rep. Serv. 2d 990 (Tex. 1997)
[53] *Purcell Tire & Rubber Co., Inc. v. Executive Beechcraft, Inc.*, 59 S.W.3d 505 (Mo. 2001).
[54] *College of Notre Dame of Maryland, Inc. v. Morabito Consultants, Inc.*, 132 Md. App. 158, 752 A.2d 265 (2000). Exculpatory clauses must be clear if exemption from liability is to be enforced. *Vodopest v. MacGregor*, 128 Wash. 2d 840, 913 P.2d 779 (1996).
[55] FAA, *Quarterly Launch Report*, 4/2006, SR-2, footnotes included.
[56] *Seigneur v. National Fitness Institute, Inc.*, 132 Md. App. 271, 752 A.2d 631 (2000); *Allen v. Dover Co-Recreational Softball League*, 148 N.H. 407, 807 A.2d 1274 (2002).
[57] .*Seigneur v. National Fitness Institute, Inc.*, 132 Md. App. 271, 752 A.2d 631 (2000); *Allen v. Dover Co-Recreational Softball League*, 148 N.H. 407, 807 A.2d 1274 (2002).
[58] *Schmidt v. U.S.*, 1996 OK 29, 912 P.2d 871 (Okla. 1996);. *Kondrad ex rel. McPhail v. Bismarck Park Dist.*, 2003 ND 4, 655 N.W.2d 411 (N.D. 2003).
[59] *Moore v Hartley Motors Inc*, 36 P. 3d 628 (Alaska, 2001) ; *Bishop v. GenTec Inc.*, 2002 UT 36, 48 P.3d 218 (Utah 2002) and *Seigneur v National Fitness Institute Inc.*, 132 Md. App. 271, 752 A.2d 631 (2000).
[60] *Firstbank of Arkansas v. Keeling*, 312 Ark. 441, 850 S.W.2d 310 (1993).
[61] *Seigneur v National Fitness Institute Inc.*, 132 Md. App. 271, 752 A.2d 631 (2000); *Empire Lumber v Thermal Dynamics Towers Inc.*, 132 Idaho 295, 971 P.2d 1119 (1998).
[62] *Valhal Corp. v. Sullivan Associates, Inc.*, 44 F.3d 195 (3d Cir. 1995).
[63] *Bishop v GenTec Inc* 2002 UT 36, 48 P. 3d 218 (Utah 2002).
[64] *Skiing Enterprises, Inc.*, 206 Wis. 2d 76, 557 N.W.2d 60 (1996).
[65] See FAA, *Quarterly Launch Report*, 4/2006, SR-3. Some states view consortium as derivative (e.g. Texas) others view it as independent (e.g. Washington).
[66] FAA, *Quarterly Launch Report*, 4/2006, SR1. See also 65 C.J.S. Negligence §360, cited by Canada, Rueben, "Commercial Spaceflight Waivers: Are they Enough?" FAA COMSTAC Presentation 2006.
[67] *Allan v Snow Summit Inc.* (1996, 4th District) 51 Cal App 4th 1358, 59 Cal Rptr 2d 813, 97 Daily Journal DAR 9.
[68] SB 37, section 4(A)(1) and (2).
[69] See O'Brien, "Consumer Protection and the Limitation of Liability in the National Regulation of the Space Tourism Industry" (2005) 48 *Proc. of the Coll. on the Law of Out Sp.* 229.