



Commercial Spaceflight: The “Ticket to Ride”

By Pamela L. Meredith and Marshall M. Lammers



Commercial human spaceflight is soon upon us, perhaps only a few years away. Virgin Galactic, XCOR Aerospace, and Rocketplane Global are already taking reservations for human suborbital spaceflight.¹ Virgin Galactic reportedly

has signed up over 500 passengers—so-called spaceflight participants (SFPs)²—and could be ready for commercial flight as early as 2013.³ Blue Origin is yet another prospective spaceflight operator.⁴

One can speculate on precisely what a spaceflight “ticket to ride” will look like, but this much may be safe to assume:

- It will comply with the Commercial Space Launch Act⁵ (CSLA), which mandates that the spaceflight operator (Operator): (1) inform the SFP about the safety aspects of the spaceflight and obtain his or her written “informed consent,” (2) execute liability waivers with qualifying customers, and (3) require the SFP to execute a liability waiver with the U.S. government.
- It may contain a warning statement mandated by state statutes that purport to immunize Operators and their contractors and subcontractors involved in the spaceflight from liability.
- It will attempt to shield the Operator and its vendors and suppliers from liability beyond the protections afforded by the CSLA and state statutes, e.g., through exculpatory provisions and insurance requirements, in order to protect against claims by the SFP and others claiming through an SFP.
- It may require compliance with U.S. space technology export controls⁶ if the SFP is not a U.S. citizen or permanent resident.⁷
- It will avoid governing law jurisdictions that prohibit negligence releases for recreational and sports establishments.⁸

In some cases, the SFP may buy the spaceflight; alternatively, a third party, e.g., a corporation or government agency, may buy it for one or more SFPs (Sponsor).⁹ If the Sponsor buys the spaceflight, the

Operator, where possible, will want a separate contract with the SFP, including a release, to ensure compliance with the CSLA and applicable state law and to shield itself from liability. Unless otherwise specified, this article refers to the spaceflight purchase contract (whether the SFP or the Sponsor is the buyer) and/or any additional contract with the SFP as the “Contract.”

The Contract likely will cover these, among other, topics: the spaceflight services being provided, spaceflight safety, SFP health and fitness requirements, price and payment conditions, the SFP’s duties, and risk allocation and insurance provisions. This article will touch upon some of the legal issues raised by these provisions, with a particular focus on CSLA compliance and contractual risk allocation.

Spaceflight Services

The Contract with the SFP and/or Sponsor will describe the spaceflight services that the Operator agrees to provide. In addition to the spaceflight itself, these may include SFP training, flight preparations, re-acclimatization and debriefing, as well as any related SFP spaceflight equipment and instructions on how to use it (collectively, “Spaceflight Services”).

The description of the spaceflight itself may be brief and concise, perhaps providing the locations of embarkation and disembarkation, target altitude, flight stages, and estimated duration of the flight. The Operator will be careful not to make representations about the spaceflight experience, including, e.g., sensations during weightlessness or the view of the Earth, that may create legal obligations to meet reasonable expectations.

The date of the spaceflight may well be given as a preliminary or target date, or as a period of time during which the flight will occur,¹⁰ at least in the early stages of human spaceflight because of the novelty of the technology and logistics involved. The Contract would then have a mechanism for narrowing down the launch date.

The Contract may have a stipulated allowance for delay by the Operator, beyond the target date or period. Delay beyond that time, whether due to Operator’s default or force majeure, may result in a refund at the SFP’s option.

Spaceflight Safety

The CSLA, as detailed in FAA regulations,¹¹ requires the Operator to provide the SFP extensive information on

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issues of spaceflight. For each SFP, the Operator must:

1. Inform about the “risks of the launch and reentry, including the safety record of the launch or reentry vehicle type”;¹²
2. Inform that the “Government has not certified” the vehicle as safe to carry crew or SFPs;¹³
3. Inform of “the safety record of all launch or reentry vehicles,” U.S. government and private, that have carried humans on board;¹⁴ and
4. Describe the “safety record of its vehicle.”¹⁵

The information must be presented in a “manner that can be readily understood by [an SFP] with no specialized education or training” and must be in writing.¹⁶

Information about the risks associated with the spaceflight and the fact that the vehicle has not been certified¹⁷ must be provided to the SFP before payment is received and before concluding the Contract, apparently whether the Sponsor or the SFP is the buyer.¹⁸ (This could be an issue where a Sponsor has not yet designated SFPs.)

Before spaceflight, each SFP must be afforded the opportunity to “ask questions orally to acquire a better understanding of the hazards and risks of the mission”¹⁹ Each SFP must “provide consent in writing”—commonly referred to as “Informed Consent”—to participate in the spaceflight.²⁰

The Operator will have to decide how best to incorporate the safety information into the Contract with the SFP and/or Sponsor. For example, statements of Informed Consent and the absence of vehicle certification may belong in the main body of the Contract; other safety information may be appended or referenced. One way or another, the Operator will be careful to avoid any representations as to the safety of the spaceflight or vehicle that could create contractual obligations.

The extensive safety information requirements and the need for Informed Consent reflect the perceived risk associated with this novel technology²¹ and are also a corollary to the current absence of FAA regulations to protect the SFP’s safety. Indeed, the FAA is prohibited from imposing such regulations until October 1, 2015,²² to free the spaceflight industry of potentially stifling regulations.²³ The moratorium will be lifted earlier only in the event of a “serious or fatal injury” or in the case one or more unplanned events during a flight posed a risk of “causing a serious or fatal injury.”²⁴

SFP Health and Fitness

The FAA has authority under the CSLA to issue rules about medical conditions and training.²⁵ It has decided not to do so at this time, in favor of guidelines recommending that SFPs “obtain an evaluation of their medical history to determine whether a physical examination might be appropriate.”²⁶

The Operator may choose to impose contractual requirements as to the SFP’s health and fitness. For

example, SFPs with medical conditions that may be aggravated by spaceflight (e.g., high blood pressure or neck problems) may be disqualified or required to execute special releases. SFPs may be required to make representations with respect to their health and medical conditions and/or to undergo physical examination.

The health and fitness requirement for Walt Disney World Resort’s Epcot Center’s simulated space ride “Mission: Space” offers an interesting point of comparison. It provides: “For safety, you should be in good health and free from high blood pressure, heart, back or neck problems, motion sickness or other conditions that could be aggravated by this adventure.”²⁷

What level of disability will disqualify an SFP for spaceflight? As for the Epcot space ride, wheelchair-bound patrons may ride but must transfer to a seat on board the ride vehicle.²⁸ Service animals are not permitted.²⁹

Will children be allowed to participate in spaceflight, with or without a parent or guardian? Probably not. The FAA has determined that “a minor could not be adequately informed” of the risks involved in spaceflight for purposes of giving the required Informed Consent.³⁰ “Given the risks involved, parental consent may not substitute for the minor’s inability to be informed.”³¹ As for the Epcot space ride, children can ride but must be supervised “at all times”;³² expectant mothers “should not ride.”³³

Price and Payment Conditions

The Contract with the spaceflight buyer, whether with the SFP or Sponsor, will specify the price and payment conditions. Payment in full before preflight operations (if not spaceflight training) will likely be a requirement. The Contract may provide for an initial payment at the time of contracting, with payment in full by a specified deadline or by installments at specified dates or intervals.³⁴

Where the SFP or Sponsor has paid a reservation fee, the fee will presumably count toward the price of the Spaceflight Services. As noted, some Operators are currently taking reservations for a fee.³⁵

The Contract may spell out the conditions for a full or partial refund of the Contract price, or of the payments made toward that price. Such conditions may include spaceflight delay, e.g., due to vehicle anomaly or spaceflight accident requiring investigation, bankruptcy, or other default of the Operator. A separate question is whether sudden illness on the part of the SFP would qualify for a refund—perhaps for a cancellation premium.

The issue of refund due to the SFP’s disqualification on medical grounds (other than sudden illness) became an issue in *Enomoto v. Space Adventures, Ltd.*³⁶ In 2004, Daisuke Enomoto, a Japanese citizen, entered into an “Orbital Space Flight Purchase Agreement” under which Space Adventures, Ltd., of Virginia, promised to facilitate Mr. Enomoto’s participation in an

orbital spaceflight aboard a Russian Soyuz spacecraft to the International Space Station.³⁷

When in 2006 Enomoto was declared by Space Adventures to be ineligible for flight due to medical conditions, a refund became an issue.³⁸ Mr. Enomoto claimed a full refund alleging that Space Adventures should have informed him of his prospective ineligibility; instead they allegedly continued to accept payments from him.³⁹ Space Adventures refused the refund. The case was dismissed in 2009 with prejudice upon request by both parties in a likely settlement.⁴⁰

Spaceflight Duties, Responsibilities, and Participation

The SFP will have several contractual duties and responsibilities as conditions of receiving Spaceflight Services. For example, he or she may be required to partake and cooperate in all aspects of Spaceflight Services, including training, flight preparation, reacclimatization, and debriefing; use equipment as instructed; complete assigned tasks, e.g., during spaceflight; submit to medical or fitness tests; make true and accurate representations and disclosures about his or her health and medical conditions; follow instructions of spaceflight personnel; and comply with rules and regulations.

The SFP may also be required to exercise “due care and caution” in all aspects of the Spaceflight Services, including in his or her relationship with fellow SFPs and with crew members. The SFP may be required to refrain from certain acts, including abusive, harassing, threatening, defamatory, or offensive behavior.

The Operator will pay careful attention to the formulation of the SFP’s duties and responsibilities so that they are clearly spelled out in the Contract. The SFP’s failure to comply with clear obligations may mitigate or eliminate any liability on the part of the Operator and its vendors and suppliers in the event of SFP injury. Moreover, the Contract will emphasize the participatory nature of the spaceflight—i.e., the SFP has an active role to play (thus the term “spaceflight participant”); this too may mitigate or eliminate potential liability on the part of the Operator and its vendors and suppliers.

Where the Sponsor buys the spaceflight, the Operator will need to determine how to incorporate or reference these duties and responsibilities, which would be a condition of the SFP’s receipt of Spaceflight Services.

Risk Allocation and Insurance

The SFP

As mentioned above, the CSLA requires that an SFP give his or her Informed Consent before a spaceflight, but this is in itself not sufficient to shield the Operator or its vendors or suppliers from liability for injury to or death of the SFP. The Informed Consent is only a declaration that the SFP voluntarily participates, and understands the inherent risk involved, in the spaceflight.⁴¹ It is not in itself an assumption of risk in relation to the Operator and its vendors and suppliers and it contains no release.

There is also no CSLA requirement that the SFP waive liability against the Operator or its vendors or suppliers.⁴² (Contrast “*The Sponsor*” below.) The FAA, which licenses commercial spaceflight, acknowledges this point and that an Operator may choose to impose such waivers on the SFP.⁴³

Prudent Operators will require from the SFP a contractual waiver of claims, liability release,⁴⁴ and assumption of risk. The release will seek to bind the SFP’s heirs, administrators, executors, assignees, next of kin, and the estate and others, to the extent the law permits. The release will benefit not only the Operator, but also its vendors and suppliers (e.g., including the vehicle suppliers, spaceport, and other hardware and service suppliers), as well as fellow SFPs and crew members. The release will apply “regardless of fault,” but may be defeated by gross negligence.⁴⁵

To mitigate the concerns expressed by U.S. courts generally over clauses that seek to exculpate parties from the results of their negligence,⁴⁶ the Operator will be sure to take the usual cautionary measures, especially where individuals are involved: the clauses must use precise, plain, and unequivocal language⁴⁷ and must be unambiguous,⁴⁸ specific,⁴⁹ conspicuous,⁵⁰ and explicit.⁵¹ Furthermore, the Operator will want to steer clear of governing law of states that generally prohibit waivers of liability in contracts with recreational and similar establishments.⁵²

The Contract may require the SFP to buy a minimum level of insurance (life, disability, and health) covering the spaceflight⁵³ (or, in the event the Operator contracts with the Sponsor, require it to obtain or ensure that the SFP obtains such insurance; see below). In the case of Daisuke Enomoto, the Orbital Space Flight Purchase Agreement required him to obtain both life and health insurance with a minimum amount of \$5 million in coverage for each.⁵⁴ In addition, the Operator may require that the SFP obtain subrogation waivers from his or her insurers.

In addition, prudent Operators will carry liability insurance to protect against claims by SFPs (covering also their suppliers), in the event the waivers, the CSLA protection, or state statutes prove insufficient. Vehicle manufacturers and parts suppliers will likely carry product liability insurance of their own.

Where the Operator aims to take advantage of state statutes that purport to immunize them and their vendors and suppliers against claims relating to death or injury of the SFP—Virginia, Florida, New Mexico, and Texas⁵⁵ have such statutes—the Operator must require the SFP to sign the prescribed “WARNING” statement.⁵⁶

While well intentioned, these statutes are no substitute for contractual releases and insurance and should not be solely relied upon to protect against SFP claims. The statutory protections are limited and sometimes ambiguous. They do not apply in cases of gross negligence or intentional conduct⁵⁷ and, in the case of Florida

and New Mexico, the protections expressly extend only to “inherent risk”⁵⁸ and do not apply where the Operator has actual or constructive knowledge of the dangerous condition that caused the injury.⁵⁹ The New Mexico statute does not cover the Operator’s vendors and suppliers.⁶⁰ It is not clear whether or to what extent state statutory protections would cover claims of Sponsors. There is no guarantee that the chosen governing law and forum ultimately will be applied.

Finally, the CSLA requires the SFP to waive liability against the U.S. government,⁶¹ and it is incumbent upon the Operator to ensure, as a condition of the FAA launch license, that this waiver is executed.⁶² Therefore, the Contract will likely make the execution of this waiver a condition of the spaceflight.

The Sponsor

Where a Sponsor buys the spaceflight,⁶³ the CSLA requires the Sponsor to “waive[] and release[] claims” against the Operator (CSLA license holder) and its contractors and subcontractors involved in the spaceflight and to “assume financial responsibility for property damage [the Sponsor] sustains and for bodily injury or property damage sustained by its own employees” as a result of the spaceflight.⁶⁴ The waiver applies “regardless of fault”⁶⁵ and is reciprocal.⁶⁶ The Operator and Sponsor must “flow down” the waiver to their respective contractors and subcontractors involved in the spaceflight, making them part of the CSLA waiver regime.⁶⁷

If the SFP is an employee of the Sponsor, the CSLA makes the Sponsor financially responsible for the death and bodily injury of the SFP and requires that the Sponsor “agree[] to hold harmless and indemnify [the Operator and its suppliers] from bodily injury or property damage sustained by its employees, resulting [from the spaceflight], regardless of fault.”⁶⁸ Thus, if a corporation decides to buy three spaceflight tickets as performance rewards for senior executives, the corporation would be financially responsible for any injury or death those executives may suffer and would need to indemnify the Operator and its contractors against any claims by the executives.

If the SFP is an independent contractor of the Sponsor—e.g., a corporation buys a ride for its PR consultant—it is not clear that the Sponsor will need to flow down the waiver if the consultant is an individual. The waiver flow-down obligation applies to “contractors and subcontractors,” which are defined as “entities.”⁶⁹

The Operator can be expected to broaden the scope of the CSLA waiver to cover the Sponsor’s financial and other loss associated with the spaceflight. Where the Sponsor is not the SFP employer, the Operator may require the Sponsor to indemnify it from claims by an SFP or his or her heirs, administrators, executors, assignees, next of kin, and the estate and others, to the extent the law permits. In either event, the Sponsor may be required to ensure that the SFP maintains

insurance and to take out insurance protecting the Sponsor’s own interests (e.g., where it intends to place property onboard the vehicle).

Third-Party Liability Insurance

Under the CSLA, the Operator must obtain insurance for loss or injury to third parties (innocent bystanders on the ground or in an aircraft) as a result of the spaceflight.⁷⁰ The insurance must cover, as additional insureds, the Operator’s contractors and subcontractors involved in the spaceflight, as well as a Sponsor who buys a ticket or places property on board the spaceflight vehicle, and SFP-employees of that Sponsor.⁷¹ SFPs who are not Sponsor employees or contractors are neither third parties nor additional insureds under the mandated CSLA third-party liability insurance.⁷²

The Operator may choose to obtain insurance beyond the CSLA requirement and to include SFPs as additional insureds in its liability policy in the event an SFP causes third-party damage or injury.

Warranty Disclaimer, Sole Remedy, and Limitation of Liability

The Operator will want to include in the Contract a disclaimer of warranty with respect to the vehicle and its components and the spaceflight, extending also to the vendors and suppliers of the Operator. Likewise, the Contract will likely include a “sole remedy” clause setting forth the exclusive remedies under the Contract (e.g., cancellation and refund in the event of delay due to an anomaly or failure investigation) and a strong limitation of liability with respect to all causes of action.

Conclusion

Several private companies are developing vehicles for human suborbital spaceflight and may be ready to offer such services commercially within a few years. Given the novelty of this technology and the potential for claims of liability in the event of accidents involving SFPs, these companies are certain to pay careful attention to their contract terms, especially as they pertain to risk and liability. In addition to the protections afforded under the CSLA and state statutes, prudent Operators can be expected to provide layers of contractual protection, including mitigation of potential liability, waivers and releases, assumption of risk, indemnification, warranty disclaimers, sole remedy provisions, limitations of liability, and requirements for insurance and subrogation waivers.

Endnotes

1. *Booking*, VIRGIN GALACTIC, <http://www.virgingalactic.com/booking/>; *Reserve Your Ticket to Edge of Space Today*, XCOR, <http://www.xcor.com/contact/ticket.php>; *Reservations*, ROCKETPLANE GLOBAL, <http://www.rocketplane.com/reservations.asp>.
2. *Virgin Galactic Aiming for 2012 Spaceship Test Flight*, MSNBC.COM (Feb. 28, 2012), <http://www.msnbc.msn.com/id/46557197/ns/technology-science-space/t/virgin-galactic-aiming-spaceship-test-flight/>.
3. *Show Time for Commercial Spaceflight at Hand*, REUTERS.COM

(Mar. 13, 2012), <http://www.reuters.com/article/2012/03/13/uk-space-business-idUSLNE82C01K20120313>.

4. BLUE ORIGIN, <http://www.blueorigin.com/>. On the government side, NASA is planning to contract with private entities to ferry its astronauts to the Earth-orbiting International Space Station. See NASA Reauthorization Act of 2010, Pub. L. No. 111-267, §§ 401-03; *Securing the Promise of the International Space Station: Challenges and Opportunities*, Statement of William H. Gerstenmaier, Assoc. Admin. for Human Exploration & Operations, NASA, Before the Comm. on Science, Space & Tech., U.S. House of Representatives, at 5 (Mar. 28, 2012), <http://science.house.gov/hearing/full-committee-hearing-securing-promise-international-space-station-challenges-and>.

5. 51 U.S.C. §§ 50901-23.

6. International Traffic in Arms Regulations ("ITAR"), 22 C.F.R. pts. 120-30; Export Administration Regulations ("EAR"), 15 C.F.R. pts. 730-74.

7. U.S. State Dep't, Directorate of Def. Trade Controls, *Commodity Jurisdiction Final Determinations: Commodity Jurisdiction Determination for Virgin Galactic LLC*, Jan. 22, 2012, available at http://www.pmdt.state.gov/commodity_jurisdiction/determination.html (determination for Commercial suborbital space tourism experience); DEP'TS OF DEF. & STATE, REPORT TO CONGRESS: SECTION 1248 OF THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2010 (P.L. 111-84), RISK ASSESSMENT OF UNITED STATES SPACE EXPORT CONTROL POLICY, app. 2, at 2-6, http://www.defense.gov/home/features/2011/0111_nss/docs/1248_Report_Space_Export_Control.pdf.

8. See *infra* note 52 (providing an example of such a law).

9. See, e.g., Press Release, VIRGIN GALACTIC, Virgin Galactic to Fly Scientists to Space (Feb. 28, 2011), <http://www.virgingalactic.com/news/item/virgin-galactic-to-fly-scientists-to-space/>.

10. Compare contracts for satellite launch services, which are typically concluded two to three years in advance of the launch and provide for a "launch period" (or similar designation), e.g., a 90-day period, with a mechanism for narrowing down the launch date.

11. 14 C.F.R. § 460.45(a)(1)-(3), (c)(1)-(2), (d)(1)-(3). See also Commercial Space Launch Amendments Act of 2004, H.R. REP. 108-429, at 13-14 (Mar. 1, 2004) (describing these safety information requirements).

12. 51 U.S.C. § 50905(b)(5)(A); 14 C.F.R. § 460.45(a).

13. 51 U.S.C. § 50905(b)(5)(B); 14 C.F.R. § 460.45(b).

14. 14 C.F.R. § 460.45(c). This presumably would include John Glenn's Mercury 6 capsule in 1962.

15. *Id.* § 460.45(d).

16. 51 U.S.C. § 50905(b)(5); 14 C.F.R. § 460.45(a).

17. 51 U.S.C. § 50905(b)(5)(A)-(B); 14 C.F.R. § 460.45(a)-(b).

18. 14 C.F.R. § 460.45(a).

19. *Id.* § 460.45(f).

20. *Id.*

21. See 51 U.S.C. § 50901(15) ("regulatory standards . . . 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 intent is to allow "the same kind of risk that mountain climbers and other adventurers seek in the context of space flight." FAA, Human Space Flight Requirements for Crew and Space Flight Participants, Notice of Proposed Rulemaking, 70 Fed. Reg. 77,262, 77,269 (Dec. 29, 2005).

22. 51 U.S.C. § 50905(c)(3).

23. Commercial Space Launch Amendments Act of 2004, H.R. REP. 108-429, at 10 (Mar. 1, 2004) (concerned the human spaceflight industry may be stifled by excessive regulation).

24. 51 U.S.C. § 50905(c)(2)(C). If so, the FAA may restrict or prohibit the design features or operating practices that caused these situations. *Id.* § 50905(c)(2)(B).

25. *Id.* § 50905(b)(6)(B).

26. FAA, Human Space Flight Requirements, 70 Fed. Reg. at 77,264 n.2.

27. *Attractions, Mission: Space*, WALT DISNEY WORLD, <http://disney-world.disney.go.com/parks/epcot/attractions/mission-space/>. The ride "utilizes a multiple-arm centrifuge that spins and tilts to simulate the

illusion of speed and gravitational forces. Realistic sounds from overhead and vivid video images only add to the experience of the simulation." *Id.* After a mission briefing, the space rider enters the space capsule with other team members. *Id.*

28. *Id.*

29. *Id.*

30. FAA, Human Space Flight Requirements for Crew and Space Flight Participants, Final Rule, 71 Fed. Reg. 75,616, 75,626 (Dec. 15, 2006).

31. *Id.* Parents also cannot waive claims on behalf of minors. See, e.g., *Paz v. Life Time Fitness, Inc.*, 757 F. Supp. 2d 658, 663 (S.D. Tex. 2010) (holding that release of injury to minor by mother did not release defendant and noting that most of the other state and federal courts have held that parent or guardian execution of pre-injury releases are unenforceable in commercial settings). *Id.* at 662-63 (citations omitted).

32. *Attractions*, *supra* note 27.

33. *Id.*

34. Compare satellite launch services contracts, where milestone payments are made over a two- to three-year period following the initial payment at contract execution; the final payment is made before launch.

35. See *supra* note 1 (listing these Operators).

36. *Enomoto v. Space Adventures, Ltd.*, Case No. 1:08-cv-00861-JCC-TCB (E.D. Va.) (*Enomoto*).

37. Complaint ¶¶ 11, 16, *Enomoto*, Case No. 1:08-cv-00861-JCC-TCB (Aug. 20, 2008).

38. *Id.* ¶¶ 217-19.

39. *Id.* ¶ 271.

40. Stipulation & Order of Dismissal with Prejudice, *Enomoto*, Case No. 1:08-cv-00861-JCC-TCB (July 10, 2009).

41. 14 C.F.R. § 460.45(f). The Informed Consent must: "(1) [i]dentify the specific launch vehicle the consent covers; (2) [s]tate that the [SFP] understands the risk, and his or her presence on board the launch vehicle is voluntary; and (3) [b]e signed and dated by the [SFP]." *Id.*

42. *Id.* § 440.3 (expressly excluding SPF from the definition of "customer"); *ref. id.* § 440.17(b) (requiring the waiver between operator, its contractors, subcontractors, and customer). A "customer" is defined as a "person." *Id.* § 440.3.

43. FAA, Human Space Flight Requirements for Crew and Space Flight Participants, Final Rule, 71 Fed. Reg. 75,616, 75,627 (Dec. 15, 2006) ("nothing in the [CSLA] prevents an operator from making a waiver of liability a condition of an agreement between it and [an SFP] or crew member").

44. "A release is a contract whereby a party abandons a claim or relinquishes a right that could be asserted against another." *Holland v. United States*, 621 F.3d 1366, 1377 (Fed. Cir. 2010).

45. See, e.g., *Martin Marietta Corp. v. Intelsat*, 978 F.2d 140, 146 (4th Cir. 1992); *Gross v. Sweet*, 49 N.Y.2d 102, 106 (N.Y. 1979) (citations omitted) ("To the extent that agreements purport to grant exemption of liability for willful or grossly negligent acts they have been viewed as wholly void.>").

46. See, e.g., *Appelbaum v. Golden Acres Farm & Ranch*, 333 F. Supp. 2d 31, 35 (N.D.N.Y. 2004) ("It is well established that 'the law frowns upon contracts intended to exculpate a party from the consequences of his own negligence'").

47. See, e.g., *Commercial Union Ins. Co. v. Blue Water Yacht Club Assoc.*, 239 F. Supp. 2d 316, 322 (E.D.N.Y. 2003) ("plain language"); *Willard Van Dyke Productions, Inc. v. Eastman Kodak Co.*, 239 N.Y.S.2d 337, 340 (N.Y. 1944) ("unequivocal terms"); *Gross*, 49 N.Y.2d at 107 ("unmistakable language").

48. See, e.g., *Gross*, 49 N.Y.2d at 107.

49. See, e.g., *Ash v. NYU Dental Ctr.*, 564 N.Y.S.2d 308, 310 (N.Y. App. Div. 1990) (citations omitted) (requiring "sufficient specificity and clarity" for exculpatory clauses to be enforced).

50. *Arce v. U-Pull-It Auto Parts, Inc.*, 2008 U.S. Dist. LEXIS 10202, at *27 (E.D. Pa. 2008).

51. See, e.g., *Commercial Union Ins. Co.*, 239 F. Supp. 2d at 322.

52. See, e.g., N.Y. GEN. OBLIG. LAW § 5-326 (McKinney 2009) (declaring "void and unenforceable" any "[a]greements exempting

[recreation] and similar establishments from liability for negligence . . .”).

53. See K. Chang, *Booking a Flight to Space, with Travel Insurance*, N.Y. TIMES, Jan. 3, 2012 (“Allianz . . . will introduce an insurance product in 2012, lending space tourism the trappings of the regular travel industry.”).

54. Memorandum of Law in Support of Defendant’s Motion to Dismiss Plaintiff’s Amended Complaint, exh. 3, § 4.05, *Enomoto*, Case No. 1:08-cv-00861-JCC-TCB (Jan. 29, 2009).

55. VA. CODE ANN. § 8.01-227.9(A); FLA. STAT. § 331.501(2)(a); 2010 N.M. LAWS 8; TEX. CIV. PRAC. & REM. CODE ANN. § 100A.002(a). See also Colo. S.B. 12-035 (signed by gov. Apr. 19, 2012; to be codified at COLO. REV. STAT. § 41-6-101) (not yet in force).

56. See, e.g., 2010 N.M. LAWS 8, sec. 4:

WARNING AND ACKNOWLEDGMENT

I understand and acknowledge that under New Mexico law, there is no liability for injury to or death sustained by a participant in a space flight activity provided by a space flight entity if the injury or death results from the inherent risks of the space flight activity. Injuries caused by the inherent risks of space flight activities may include, among others, death, bodily injury, emotional injury or property damage. I assume all risk of participating in this space flight activity.

See also VA. CODE ANN. § 8.01-227.10(B); FLA. STAT. § 331.501(3)(b); TEX. CIV. PRAC. & REM. CODE ANN. § 100A.003(a).

57. VA. CODE ANN. § 8.01-227.9(B); FLA. STAT. § 331.501(2)(a); 2010 N.M. LAWS 8, sec. 3(B); TEX. CIV. PRAC. & REM. CODE ANN. § 100A.002(b) (exempting “gross negligence and intentional injury”).

58. FLA. STAT. § 331.501(2)(a); 2010 N.M. LAWS 8, sec. 3(A).

59. FLA. STAT. § 331.501(2)(b)(2); 2010 N.M. LAWS 8, sec. 3(B)(2). See also Colo. S.B. 12-035, sec. 2, § 41-6-101(2)(b)(II) (not yet in force).

60. Efforts to broaden the protection (New Mexico House Bill 239 and Senate Bill 3) were defeated. *New Mexico Liability Law Dead for This Year*, NEWSpace J. (Feb. 18, 2012), <http://www.newspacejournal.com/2012/02/18/new-mexico-liability-law-dead-for-this-year/> (citing New

Mexico Spaceport Authority executive director Christine Anderson).

61. 14 C.F.R. § 440.17(e); *id.* pt. 440, app. E, sec. 2(a).

62. *Id.* § 440.17(e).

63. If the Sponsor buys the ticket, it is a “customer” and customers are required to sign the mandated waivers under the CSLA. *Id.* § 440.17(b). A customer includes: “(1)

[a]ny person: (i) [w]ho procures launch or reentry services from a licensee or permittee; . . . (iii) [w]ho has placed property on board the payload for launch, reentry, or payload services . . .” *Id.* § 440.3.

64. *Id.* § 440.17(b); 51 U.S.C. § 50914(b)(1). “*Bodily injury* means physical injury, sickness, disease, disability, shock, mental anguish, or mental injury sustained by any person, including death.” 14 C.F.R. § 440.3.

65. 14 C.F.R. § 440.17(b).

66. *Id.* (Operator likewise must waive claims against and release the Sponsor and its contractors and subcontractors involved in the space-flight.). *Id.* pt. 440, app. B, pt. 1, subpt. A, sec. 4.

67. *Id.* § 440.17(d).

68. *Id.* § 440.17(b). See FAA, Financial Responsibility Requirements for Licensed Launch Activities, Final Rule, 63 Fed. Reg. 45,592, 45,602–03 (Aug. 26, 1998) (indemnification from claims of customer’s employees); *contrast id.* (the FAA’s position is that government indemnification is not available for government employee claims where the government is the customer for a satellite launch).

69. 14 C.F.R. § 440.17(a), *ref. id.* § 440.3. *Compare* terms used where individuals are included in definitions of “customer,” *id.* § 440.3 (“person”); “crew,” *id.* § 401.5 (“employee or independent contractors”) (emphasis added).

70. 51 U.S.C. § 50914(a); 14 C.F.R. § 440.9(b). The FAA determines the insured amount below a statutory ceiling. 51 U.S.C. § 50914(a)(3).

71. 51 U.S.C. § 50914(a)(4); 14 C.F.R. § 440.9(b).

72. 51 U.S.C. § 50902(21); 14 C.F.R. § 440.03 (excluding SFPs from the definition of “third party”).