

**The  
LIABILITY ATMOSPHERE  
Awaiting the  
COMMERCIAL HUMAN SPACEFLIGHT INDUSTRY**

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**I. Introduction**

The commercial human spaceflight industry, aka the “personal spaceflight industry,” “space tourism industry” and, simply, “NewSpace,” is rapidly making the transition from being the stuff of dreamers and visionaries to being a business. Whereas a few years ago spaceflight conferences were devoted to the exchange of abstract ideas about advancing the cause of privatizing human space travel, those events now focus on such tangible measures as the latest test launch of Armadillo Aerospace’s lunar lander design, the progress of Virgin Galactic in establishing aeromedical certification protocols for passengers (or, as the FAA regulations refer to them, “Space Flight Participants”) and whether Robert Bigelow now has one, two, or three modules of his orbital space hotel circling the Earth. And whereas the typical conference of a yesteryear might have featured a panel on spaceflight venture finance, the past year has seen numerous symposia across the country devoted solely to that purpose.

As the entrants into this emerging field get closer and closer to the ultimate goal—rocketing fare-paying flesh & blood into space—they are increasingly cognizant of the liability atmosphere that awaits that achievement. The NewSpace company and its investors want to know what the elements of that atmosphere will be, and what the company should be doing now to ensure its survival following the accident or accidents that most everyone seems to concede will occur. As quipped by Armadillo Aerospace founder John Carmack at the recent International Space Development Conference: “Amateur rocket builders talk propulsion. Serious ones talk insurance.”

So what will be the liability atmosphere that entrants into this fledgling industry can be expected to confront as they and their spacecraft pass from the light blue sky to the black of space? For the foreseeable future, it will likely bear a striking resemblance to the atmosphere familiar to any aviation attorney.

## II. Same Atmosphere, Different Vessel

Whatever might evolve in the long run, the legal environment awaiting members of the personal spaceflight industry for the next several years will likely be a “come as you are” proposition. Companies will operate within the same basic legal rubric that governs earthbound and aviation activities because, simply, there is no other law to supplant it.

### A. What about “Space Law”...?

Despite the federal character that we tend to impute to space activity, once stripped of its military, NASA, and international overtones there remains virtually no space-specific legislation or treaty that is relevant. When a private suborbital rocket suffers a catastrophic failure over New Mexico resulting in injury or death to passengers and crew, it will take no small amount of intellectual creativity to find a role for the 1967 Outer Space Treaty or the 1972 Convention on International Liability for Damage Caused by Space Objects in the ensuing litigation.

Congress has passed the Commercial Space Launch Amendments Act of 2004, *Title 49 US Code § 70101 et seq.* (CSLAA), and based thereon we now have the Federal Aviation Administration’s Human Space Flight Requirements for Crew and Space Flight Participants, *14 CFR Parts 401 et seq.* (Human Spaceflight FARs). However, neither of these lays any sort of liability framework. The greatest liability risk facing a personal spaceflight company is liability to passengers for a catastrophic accident, and there is nothing in the CSLAA or Human Spaceflight FARs that provides any measure of protection against this liability, or which, conversely, provides for such liability for the benefit of passengers. The statute and regulations are concerned primarily with ensuring that: *i*) passengers are warned of the dangers of rockets and spaceflight; *ii*) measures are in place to ensure that uninvolved persons on the ground are compensated for injuries; and *iii*) whatever happens, the federal government is protected from liability.

Because there isn’t anything else, state law will define the liability landscape, whether that of the launch state or some other state or states whose residents touched upon the activity. The liabilities of the parties will be determined by traditional state-based notions of negligence and strict product liability—just like in an airplane accident, albeit with heightened visibility of such concepts as assumption of the risk and the enforceability of releases.

But unlike aviation cases, litigation stemming from the first crashes of commercial spaceflight vehicles will not benefit from the well-developed precedents and standards of care that have been forged over decades of air accident litigation.

B. A lack of technical standards.

Neither the CLSAA nor the Human Spaceflight FARs attempt to set forth any rules or guidelines that could be said to comprise meaningful safety standards. Nor have any common standards yet emerged from private industry. Such areas as manufacturing processes & conventions, materials processes, environmental control system performance criteria, aeromedical certification & training protocols, and crew qualifications are left to be evaluated and implemented on a case-by-case basis by each NewSpace company.

Of course, before a company can launch people into space or near-space, it must undergo the relatively involved process of applying for and obtaining a launch permit from the FAA. Although the statute and regulations themselves aren't specific enough to provide much of a technical guideline, it is likely that some meaningful standards will emerge from this application process (which is overseen by FAA personnel from both the space and aviation sides of the house).

C. Isn't it all about the *release*?

Discussions around the liabilities of personal spaceflight invariably turn to the topic of releases of liability. According to some, releases will be universally required by launch operators or their insurers, and therefore, how a company fares in post-accident litigation turns on little more than whether the release will be upheld in court.

To be sure, every company's construction of a sound risk management architecture will include at least a strong consideration of releases. Whether they will forever be a part of every company's legal toolbox, however, is debatable. At some point, after the first wave of shiny, wealthy, über-risk-taking adventurers has had their trip to space, the industry will have to start pitching safety to keep the economic engines in perpetual motion. Representations of safety can ring hollow when the customer is presented with the sort of detailed disclosure of dangers that is necessary to result in an enforceable release. As the industry matures, the prominence of releases in the liability analysis may diminish.

D. "*Virginia is for Waivers...*": State Immunity Legislation.

Coming in as a close second-place to releases on the cocktail discussion scale is the subject of state immunity legislation. In March 2007, Virginia became the first

state to enact a statute granting limited immunity to commercial human spaceflight companies (both launch service providers and manufacturers) from liability to passengers hurt or killed while engaged in spaceflight activity. Effective as of July 1, 2007, the Spaceflight Liability and Immunity Act provides the specified protections only when the passenger has given his or her informed consent to the risks of spaceflight after having been given the notice of risks required by the FARs, and only through the law's sunset date of July 1, 2013.

Virtually all companies looking into providing products or services within the personal spaceflight industry are keenly aware of the potential for this sort of legislation in the states they are eyeing as possible headquarters, and we can expect initiatives in such spaceflight-centric states as New Mexico, California and others to follow in Virginia's footsteps.

#### E. Choice of law.

Whether the talk is of the enforceability of waivers or state immunity legislation, a discussion of which state's law will apply to the various issues in a spaceflight accident lawsuit will inevitably follow. Not unlike the typical aviation accident case, litigation arising from a spaceflight accident will likely involve manufacturers and service providers from different states (if not countries), passengers from a variety of places, and an accident site, giving rise to a wide array of states whose law might apply to a given issue. Savvy companies who have not yet committed to a base of operations are considering which states have liability laws favorable to their survival, and how to optimize the chances that the law of a favorable state will be the law that applies to them.

When companies begins to consider orbital operations, and point-to-point operations from one country to another, they will face a host of choice of law and jurisdictional issues that are very familiar to the airline disaster lawyer—but as of now without the benefit of a Warsaw Convention-type regime to set the rules.

### **III. Conclusion**

For decades the dreamers and visionaries have been building a foundation for the day when the technology and business models of space travel converge into profitability. In the estimation of those people who are investing hundreds of millions of dollars into the industry, that time has arrived. And as long as there are profits to be made hurling human beings beyond the Earth's atmosphere, there will be a legal atmosphere—and lawyers who know it—out there waiting.