

Testimony of Taber MacCallum, Chief Technology Officer, World View Enterprises

on

FAA Oversight of Commercial Space Transportation

before the Subcommittee on Aviation

Committee on Transportation and Infrastructure

U.S. House of Representatives

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Chairman LoBiondo, Ranking Member Larsen, and Members of the Subcommittee:

FAA's oversight, regulation and promotion of Commercial Space Transportation has fostered a strong and growing American industry. The human spaceflight regulations that govern large segments of our industry are currently temporary and should be made permanent. This impermanence and subsequent uncertainty is one of the largest factors influencing the future success of our industry. Additionally, the industry's growth will require the FAA to seamlessly incorporate routine commercial space operations into the National Airspace System, without which we run the risk of conflict between airports, airlines and the commercial space industry. I will explain three actions that this subcommittee can take to continue to foster the commercial space industry and protect the public's interests.

First, some background. I am a founder and the CTO of World View Enterprises. Our Arizona based company is the operator of Spaceport Tucson, and is developing and operating balloon based vehicles working at the edge of space. Like an ice cube floating on water, our vehicles float on top of earth's atmosphere. Our vehicles have made numerous flights to high altitudes for research and we are the world record holders for human flight under a balloon, flying to 136,000 feet.

Here is Virgin Galactic's Spaceship One aircraft plus rocket system designed to take spaceflight participants to the edge of space on a suborbital rocket ride. Blue Origin's New Shepard rocket system uses a vertical take-off approach to provide participants with a spaceflight experience. The World View Voyager capsule will ascend to the edge of space under a large balloon, shown here.



All three of these companies' human spaceflight operations are regulated by the FAA Office of Commercial Space Transportation, with whom we have worked for many years. I am happy to say that the FAA Associate Administrator responsible for this office, Dr. Nield, runs a truly great organization.

Thank you for the opportunity to convey an industry perspective on FAA oversight of commercial spaceflight.

Spaceflight operations involving humans, called spaceflight participants, are regulated under a regime based on the participants being informed of the risks, and formally consenting to them. The regulations provide extensive protection of the uninvolved public, protection of property, and safe integration into the National Airspace System.

This informed consent regime ingeniously fosters innovation, technology development and investment by creating a market for tourists, researchers and astronauts to fly in space. This is like other tourism or sporting activities such as sky diving, paragliding and scuba diving, that involve informed consent, waivers and releases. Members of the public have the right and freedom to voluntarily engage in activities where they believe the benefits outweigh the informed risks.

However, unlike skydiving, the regime for human spaceflight operations is temporary. Called the *learning period*, it is subject to extension by congress, and under certain conditions all or part of this informed consent regime can be ended by the FAA. The idea behind the learning period was that a time will come when the entire commercial human spaceflight industry should be transitioned to a regime in which the safety of a spaceflight participant is regulated.

The informed consent regulatory regime is creating an industry and should not be subject to termination.

At the same time there is a desire and long standing vision to see the commercial space industry evolve into routine operations with the success and safety of the commercial airline industry.

I believe that the best solution is for two regulatory regimes to permanently exist in parallel - the existing informed consent regulatory regime or License, and a new Extended License, a regulatory regime that includes spaceflight participant safety.

An Extended License would be required for operations that constitute common carriage under Federal Aviation Regulations. For example, Virgin Galactic would offer regular one-hour service from New York to Sydney under an Extended License.

For services whose destination is space itself, common carriage does not apply and the current License protecting the public, property, and the national airspace is appropriate. Voluntarily garnering an Extended License for such activities would confer a great competitive advantage to operators.

It is in the government's interest to maintain our country's leadership in aerospace by creating a stable yet flexible regulatory system. I encourage Congress to take the lead in this area with three actions: First make the informed consent License permanent; Second direct the FAA to develop an Extended License to include participant safety; and Third, make it a high priority for the FAA to seamlessly incorporate routine commercial space operations into the National Airspace System.

Thank you.