

Who Is an Astronaut? Safety Implications for Commercial Human Spaceflight

May 21, 2025

On April 14, 2025, the company Blue Origin launched its New Shepard rocket with six women on board to the edge of space. This mission (NS-31) was the company's 11th mission with humans on board, and Blue Origin has promoted it as the first all-female spaceflight since Valentina Tereshkova's solo spaceflight in 1963 (Figure 1).

Figure 1. NS-31 Spaceflight Participants Before Flight



Source: Blue Origin, "The NS-31 Crew Prior to Their Flight," April 14, 2025, <https://www.blueorigin.com/news/gallery>.

Participants included several public figures and drew attention and critique. It has also raised the question of who is an astronaut.

The term "astronaut" is widely recognizable, and a layperson may simply interpret it as indicating someone who has been to space. For example, the *Britannica Dictionary* defines *astronaut* as "a person who travels in a spacecraft into outer space." The terms "space tourist" and "private astronaut" may be used to describe an individual who has traveled to space on a private, nongovernmental mission and without a scientific, operational, or safety role.

Some of the companies who offer commercial space transportation services—such as *Virgin Galactic* and *Blue Origin*—describe their customers as astronauts. Their rationale, reportedly, is that participants

Congressional Research Service

<https://crsreports.congress.gov>

IN12555

undergo flight training and travel to space. [Some media coverage](#) also refers to such passengers, including the women on NS-31, as astronauts. On April 17, 2025, Secretary of Transportation Sean Duffy [disagreed on the social media platform X with their use of this term](#), stating that the people on board the NS-31 “cannot identify as an astronaut. They do not meet the FAA [Federal Aviation Administration] astronaut criteria.”

FAA Commercial Space Astronaut Wings

In his X post, Secretary Duffy appeared to reference the canceled FAA’s Commercial Space Astronaut Wings program. [Until 2021](#), the FAA issued Commercial Space Astronaut Wings to recognize flight crew who had traveled beyond 50 miles above the surface of the Earth on an FAA-licensed or FAA-permitted launch or reentry vehicle, as described in [FAA Order 8800.2](#), canceled in December 2021. Among those eligibility requirements, the FAA required that Commercial Space Astronaut Wing awardees either were essential to public safety or had contributed to human spaceflight safety during their qualifying flight.

[The FAA no longer provides a “commercial astronaut” designation](#). The agency lists the names of individuals who have traveled beyond 50 miles above the surface of the Earth on an FAA-licensed or FAA-permitted vehicle [on its Commercial Human Space Flight Recognition website](#). The six women who participated in the NS-31 flight are included on this website.

Definitions in Statute

In 2004, Congress passed the Commercial Space Launch Amendments Act (P.L. 108-492, as codified in 51 U.S.C. Chapter 509). This law defines three types of human occupants on commercial launch or reentry vehicles:

- *Government astronaut* is a designation that either is assigned by the National Aeronautics and Space Administration (NASA) (per [51 U.S.C. §20113](#)) or refers to an employee of the U.S. government or its international partners.
- *Crew* is an employee of a launch provider who is involved in operating a launch or reentry vehicle.
- *Spaceflight participant* is an individual being transported on a human spaceflight mission who is neither crew nor a government astronaut.

Under these definitions, the people on the NS-31 mission would appear to be spaceflight participants.

Safety Implications

The safety of spaceflight participants, crew, and government astronauts are addressed differently, with one exception, under existing regulation.

All three types of human occupant, regardless of whether they are in a safety-critical role, are to receive training on how to respond to emergency situations, including fire and loss of cabin pressure.

Spaceflight participants are to be informed, in writing, of the risks posed by human spaceflight and that, although the FAA regulates in the interest of public safety, the U.S. government has not assessed the vehicle’s overall safety. Further, spaceflight participants are to sign a waiver of claims against the U.S. government.

Part of the FAA’s mission is to protect public safety. Crew are to possess certain qualifications, undergo medical screening, and receive training specific to the vehicle and mission. The FAA also requires that launch providers meet certain requirements for environmental control and life support, among others, in

order to protect the safety of crew and ensure they are able to perform their safety-critical functions. Such requirements serve the agency's mission to protect public safety. Crew, similar to spaceflight participants, are to be informed of the risks of human spaceflight and that the U.S. government has not certified the vehicle's safety; crew are also to waive claims against the U.S. government.

For government astronauts with a safety-critical role, the FAA requires that launch providers provide vehicle- and mission-specific training and certain environmental control and life support systems. As customers of commercial space transportation services, U.S. federal agencies may require companies to meet additional safety standards. For instance, companies that wish to participate in NASA's Commercial Crew program are to demonstrate their ability to meet the agency's safety standards, a process known as *certification*.

The [FAA has regulatory authority for the safety of humans during commercial launch and reentry](#), but the FAA may not propose additional regulations of this kind during a time frame known as a *learning period*, except in response to a serious accident or to protect public safety. [The learning period has been extended several times, most recently to January 1, 2028](#), by the National Defense Authorization Act (NDAA) for Fiscal Year 2025 (P.L. 118-159).

Potential Issues for Congress

As the industry and related safety considerations evolve, Congress may continue to consider how to approach commercial human spaceflight safety; possible considerations include the following:

- To what extent, if at all, should FAA regulations for the safety of government astronauts, crew, and spaceflight participants differ?
- Are there potential implications of companies using the term “astronaut” in their communications, given its connection with official government definitions and missions? If so, what is the best way to clarify the use of the term?

Author Information

Rachel Lindbergh
Analyst in Science and Technology Policy

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However,

as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.