

GAO Highlights

Highlights of [GAO-15-706](#), a report to the Chairman, Committee on Science, Space and Technology, House of Representatives

Why GAO Did This Study

The U.S. commercial space launch industry has changed considerably since the enactment of the Commercial Space Launch Amendments Act of 2004. FAA is required to license or permit commercial space launches, but to allow the space tourism industry to develop, the act prohibited FAA from regulating crew and spaceflight participant safety before 2012—a moratorium that was later extended but will now expire on September 30, 2015. Since October 2014, there have been three mishaps involving FAA licensed or permitted launches.

GAO was asked to examine the changes in the commercial space launch industry and FAA's oversight of the industry. This report addresses, among other things, (1) changes in the industry over the last decade, (2) FAA challenges in addressing industry developments, and (3) FAA's launch licensing workload and budget. GAO reviewed FAA's guidance and documentation on its launch permit, licensing, and safety oversight activities; interviewed FAA officials, industry stakeholders, and experts who were selected on the basis of their knowledge of FAA's oversight of the commercial space launch industry; and visited the spaceports where the two 2014 launch mishaps occurred.

What GAO Recommends

GAO recommends that FAA, in its budget submissions, provide more detailed information about the Office of Commercial Space Transportation's workload. FAA agreed with the recommendation but thought the report did not convey the extent of industry growth. GAO added information on challenges related to industry growth.

View [GAO-15-706](#). For more information, contact Gerald L. Dillingham, Ph.D. at (202) 512-2834 or dillinghamg@gao.gov.

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FEDERAL AVIATION ADMINISTRATION

Commercial Space Launch Industry Developments Present Multiple Challenges

What GAO Found

During the last decade, U.S. companies conducted fewer orbital launches in total than companies in Russia or Europe, which are among their main foreign competitors. However, the U.S. commercial space launch industry has expanded recently. In 2014, U.S. companies conducted 11 orbital launches, compared with none in 2011. In addition, in 2014, U.S. companies conducted more orbital launches than companies in Russia, which conducted four, or Europe, which conducted six.

The Federal Aviation Administration (FAA)—which is responsible for protecting the public with respect to commercial space launches, including licensing and permitting launches—faces multiple challenges in addressing industry developments. If Congress does not extend the regulatory moratorium beyond September 2015, FAA will need to determine whether and when to regulate the safety of crew and spaceflight participants. Most commercial space launch company representatives told GAO that they favor extending the regulatory moratorium beyond September 2015 to allow the industry more time to develop. Current bills propose extending it as well. In addition, according to FAA officials and industry stakeholders, FAA faces an increasing workload related to licensing and permitting launches such as NASA's commercial cargo and crew programs that involve transporting cargo and crew to the International Space Station; space tourism; and the launching of small satellites.

Virgin Galactic's SpaceShipTwo and SpaceX's Falcon 9



Sources: Virgin Atlantic and SpaceX. | GAO-15-706

FAA's budget requests for its commercial space launch activities generally have been based on the number of projected launches. However, in recent years, the actual number of launches has been much lower than the projections. For fiscal year 2016, FAA requested a 16 percent increase in staff for its commercial space launch activities to keep pace with industry growth. Office of Management and Budget guidance indicates that if an agency is requesting significant changes in full-time positions, it should provide a detailed justification of the changes and discuss alternative implementation strategies. However, FAA's fiscal year 2016 budget submission does not provide a detailed justification of the staffing changes and does not consider alternatives to hiring additional staff. Because FAA has not done this, Congress lacks information that would be helpful in making decisions about the resources needed for the agency's commercial space launch activities. FAA officials said that the agency lacked additional workload metrics, which officials are now developing to include in future budget submissions for its commercial space launch oversight activities.