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COMMERCIAL SPACE LAUNCH INSURANCE

Weakness in FAA's Insurance Calculation May Expose the Federal Government to Excess Risk

Why GAO Did This Study

To assist in the development of the commercial space launch industry, the federal government shares liability risks for losses from damages to third parties or federal property. This risk-sharing arrangement requires space launch companies to have a specific amount of insurance for damages to third parties and federal property. The federal government is potentially liable for third-party claims above that amount, up to an estimated \$3.1 billion in 2017, subject to appropriations.

The Commercial Space Launch Competitiveness Act enacted in 2015 required the Department of Transportation—of which FAA is a part—to study the methodology used to determine launch companies' insurance requirements. The law also contains a provision for GAO to evaluate the study's conclusions and any planned revisions.

This report discusses the extent to which FAA has revised its methodology for calculating insurance requirements to address previously cited weaknesses and the potential effect of any changes on financial liabilities for the government. GAO reviewed documents from FAA and its contractors on alternative methods for calculating insurance requirements, interviewed FAA officials and a contractor involved in designing alternative methods, and reviewed GAO's prior work and relevant laws.

What GAO Recommends

FAA should prioritize planning for addressing the identified weakness in the cost-of-casualty amount and update the amount based on current information. The agency did not comment on this recommendation. View [GAO-17-366](#). For more information, contact Alicia Puente Cackley at (202) 512-8678 or cackleya@gao.gov.

What GAO Found

The Federal Aviation Administration (FAA) has revised its method for calculating insurance requirements to address some known weaknesses. FAA is the part of the Department of Transportation that determines the amount of insurance that commercial space launch companies must purchase to cover damages from accidents that harm third parties—that is, the uninvolved public—or federal property and personnel, unless companies otherwise demonstrate sufficient financial resources to cover the same calculated damages. The amount of insurance required is based on FAA's calculation of the maximum loss that can be reasonably expected. FAA contractors found the following:

- FAA's estimates of the **number of casualties** (serious injuries and deaths) that could result from a launch accident have likely been too high, and have been based on an unrealistic scenario;
- FAA's estimates of losses due to **property damage** may be too high in some cases, and too low in others;
- FAA's estimate of the **average cost of a casualty**—referred to as the cost-of-casualty amount—is based on outdated information and is likely too low. The amount has been fixed at \$3 million since 1988.

FAA implemented a new method for estimating the number of casualties in April 2016 that uses computer software to simulate a range of possible launch accidents that are intended to be more realistic than FAA's previous scenarios. FAA has also reduced the factor it uses to estimate losses due to property damage, based on tests of a new process for estimating such losses that showed the previous factor was too high. Both of these revisions have tended to reduce insurance requirements. In addition, FAA assigned one of its two contractors examining elements of the methodology to study potential improvements in estimating average casualty losses, but that contractor found significant limitations in each alternative approach that it reviewed.

Because FAA has not yet addressed the identified weakness in the cost-of-casualty amount used in its calculation, the federal government may be exposed to excess risk. FAA has identified potential steps to update the information the cost-of-casualty amount is based on, including seeking public input on whether and how to revise the amount, but the agency does not have a complete plan for updating the cost-of-casualty amount. Federal internal control standards require that agency management respond to risks related to achieving the entity's objectives, define how to achieve objectives, and set time frames for achieving them. FAA has not responded to the risk identified in using outdated data as the basis of the cost-of-casualty amount because FAA has prioritized other work, such as reviewing launch license applications, ahead of this issue. Further, because the weakness in the cost-of-casualty amount indicates that the amount is likely too low, the current calculation may not account for damages to third parties and federal property and personnel that can reasonably be expected from a launch accident, as required by FAA regulations. By leaving this weakness unaddressed, FAA's insurance requirements may not account for damages that can be reasonably expected, and may expose the government to more liability risk than intended under the risk-sharing arrangement.