July 2012

COMMERCIAL SPACE LAUNCHES

FAA Should Update How It Assesses Federal Liability Risk

GAO
Accountability * Integrity * Reliability

Highlights

Highlights of GAO-12-899, a report to congressional committees

Why GAO Did This Study

A catastrophic commercial launch accident could result in injuries or property damage to the uninvolved public, or "third parties." In anticipation of such an event, a launch company must purchase a fixed amount of insurance for each launch and reentry, per calculation by FAA; the federal government is potentially liable for claims above that amount up to an additional $1.5 billion, adjusted for inflation and subject to congressional appropriations. As of 2012, the inflation-adjusted amount is about $2.7 billion. CSLAA provides for this payment, called indemnification. The indemnification provision, unless reauthorized, expires this year.

GAO was asked to address, among other things, (1) the U.S. government's indemnification policy compared to policies of other countries, (2) the federal government's potential costs for indemnification, (3) the ability and willingness of the insurance market to provide additional coverage, and (4) the effects of ending indemnification on the competitiveness of U.S. launch companies. GAO reviewed FAA data and documents and relevant literature and conducted interviews with officials from FAA and the National Aeronautics and Space Administration, insurers, brokers, launch companies, launch customers, risk modelers, and experts.

What GAO Recommends

GAO recommends that FAA periodically review and update as appropriate its methodology for calculating launch providers' insurance requirements. The Department of Transportation provided technical clarifications, which GAO incorporated.

View GAO-12-899. For more information, contact Alicia Puente Cackley at (202) 512-8678 or cackleya@gao.gov or Gerald L. Dillingham, Ph.D. at (202) 512-2834 or dillinghamg@gao.gov

What GAO Found

According to studies, the United States provides less commercial space launch indemnification for third party losses than China, France, and Russia. These countries put no limit on the amount of government indemnification coverage, which in the United States is limited by the Commercial Space Launch Act Amendments of 1988 (CSLAA). Governments' commitments to pay have never been tested because there has not been a third party claim that exceeded a private launch company's insurance.

The potential cost to the federal government of indemnifying third party losses is currently unclear because it depends in part on the method used by the Federal Aviation Administration (FAA) to calculate the amount of insurance that launch companies must purchase, a calculation that may not be sound. FAA has used the same method since 1988 and has not updated crucial components, such as the cost of a casualty. Estimating probable losses from a rare catastrophic event is difficult, and insurance industry officials and risk modeling experts said that FAA's method is outdated. FAA, however, has not had outside experts or risk modelers review the appropriateness of its method. An inaccurate calculation that understates the amount of insurance a launch provider must obtain would increase the likelihood of costs to the federal government; a calculation that overstates the amount of insurance needed would raise the cost of insurance for the launch provider. FAA officials said that their method was reasonable and conservative, but they agreed that a review could be beneficial and that involving outside experts might be helpful. Overall, they said use of more sophisticated methodologies would have to be balanced with the additional costs to both FAA and the launch companies that would result from generating and analyzing additional data.

The insurance market is generally willing and able to provide up to $500 million per launch as coverage for third party liability, according to industry representatives. Because the amount of insurance FAA requires launch providers to obtain averages about $99 million per launch, and coverage available through CSLAA is about $2.7 billion above that, insurers could provide some of the coverage currently available through CSLAA. However, the amount and price of insurance that could be provided could change quickly if a large loss were to occur, according to insurance industry representatives.

The effects on global competition from the United States eliminating CSLAA indemnification are unknown. However, launch companies and customers GAO contacted believe that ending federal indemnification could lead to higher launch prices for U.S.-based launch companies, making them less price competitive than foreign launch companies. Although the cost of third party liability insurance for launch companies has been about 1 percent of the dollar amount of coverage they purchased, how much this cost might increase in the absence of federal coverage is not clear. Launch customers said that price and vehicle reliability were key factors in their choice of a launch company. Launch companies reported that additional costs would be passed along to customers, but whether this increase alone would be sufficient reason for a launch customer to choose a foreign company over a U.S. company is unclear.