

GAO Highlights

Highlights of [GAO-19-377](#), a report to congressional committees

Why GAO Did This Study

NASA is undertaking a trio of closely related programs to continue human space exploration beyond low-Earth orbit. All three programs (SLS, Orion, and supporting ground systems) are working toward a launch readiness date of June 2020 for the first mission.

The House Committee on Appropriations included a provision in its 2017 report for GAO to continue to review NASA's human space exploration programs. This is the latest in a series of reports addressing the mandate. This report assesses (1) how NASA's human space exploration programs are performing relative to cost and schedule commitments, and (2) the extent to which NASA's use of contract award fees is achieving desired program outcomes. To do this work, GAO examined program cost and schedule reports and contractor data, and interviewed officials. This report does not assess the effect, if any, of the government shutdown that ended in January 2019.

What GAO Recommends

GAO is making four recommendations to NASA, including that the SLS program should calculate cost growth based on costs that are currently included in the first mission and the Orion program should update its cost estimate to reflect the schedule agreed to in its baseline. In addition, the SLS and Orion programs should reevaluate their strategy for incentivizing contractors. NASA concurred with three recommendations, and partially concurred with the recommendation related to the Orion program's cost estimate. GAO believes the recommendation remains valid, as discussed in the report.

View [GAO-19-377](#). For more information, contact Cristina T. Chaplain at (202) 512-4841 or chaplainc@gao.gov.

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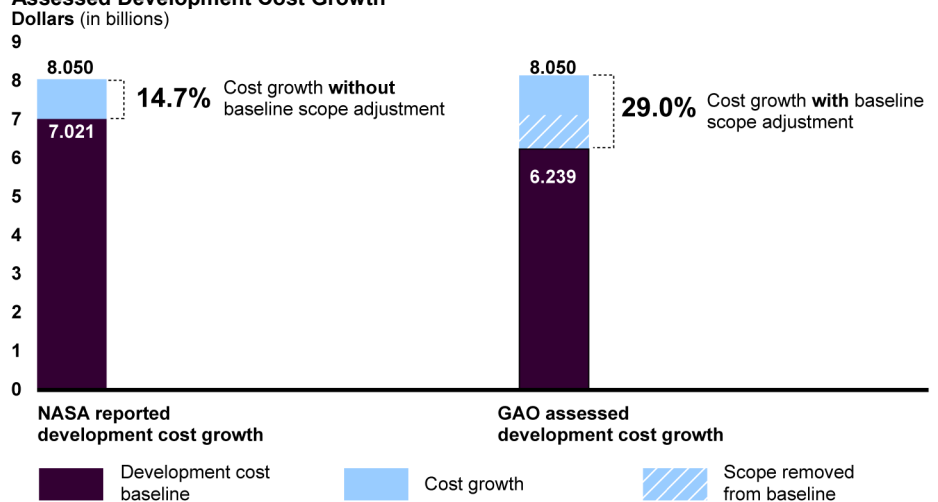
NASA HUMAN SPACE EXPLORATION

Persistent Delays and Cost Growth Reinforce Concerns over Management of Programs

What GAO Found

Due to continued production and testing challenges, the National Aeronautics and Space Administration's (NASA) three related human spaceflight programs have encountered additional launch delays and cost growth. In November 2018, within one year of announcing an up to 19-month delay for the three programs—the Space Launch System (SLS) vehicle, the Orion spacecraft, and supporting ground systems—NASA senior leaders acknowledged the revised date of June 2020 is unlikely. Any issues uncovered during planned integration and testing may push the launch date as late as June 2021. Moreover, while NASA acknowledges about \$1 billion in cost growth for the SLS program, it is understated. This is because NASA shifted some planned SLS scope to future missions but did not reduce the program's cost baseline accordingly. When GAO reduced the baseline to account for the reduced scope, the cost growth is about \$1.8 billion.

NASA's Reported Development Cost Growth for Space Launch System Compared to GAO's Assessed Development Cost Growth



Source: GAO analysis of National Aeronautics and Space Administration data. | GAO-19-377

In addition, NASA's updated cost estimate for the Orion program reflects 5.6 percent cost growth. The estimate is not complete, however, as it assumes a launch date that is 7 months earlier than Orion's baseline launch date. If the program does not meet the earlier launch date, costs will increase further. Updating baselines to reflect current mission scope and providing complete cost estimates would provide NASA management and Congress with a more transparent assessment of where NASA is having difficulty controlling costs.

NASA paid over \$200 million in award fees from 2014-2018 related to contractor performance on the SLS stages and Orion spacecraft contracts. But the programs continue to fall behind schedule and overrun costs. Ongoing contract renegotiations with Boeing for the SLS and Lockheed Martin for the Orion program provide NASA an opportunity to reevaluate its strategy to incentivize contractors to obtain better outcomes.