COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
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Statement of Space Subcommittee Chairman Steven Palazzo (R-Miss.)

Searching for the Origins of the Universe: An Update on the Progress of the James Webb Space Telescope

Chairman Palazzo: The James Webb Space Telescope (JWST) represents a significant investment by the U.S. taxpayer and holds the promise of producing revolutionary science that one day may rewrite textbooks. It could change the way we perceive our universe, as well as our place in it. That is a lot to live up to.

JWST continues the heritage of space-based "Great Observatories." Leveraging the accomplishments of the Hubble Space Telescope, the Compton Gamma Ray Observatory, the Chandra X-ray Observatory, and the Spitzer Space Telescope, JWST will provide revolutionary astronomical measurements in the long-wavelength visible and the mid-infrared range of spectrum. This will allow scientists to see light from the first stars, view the development of galaxies, and study the development of planets.

The infrared range that the telescope will operate in allows the telescope to see through cosmic dust, view faint and dim targets, and observe phenomena such as redshift from the expanding universe. JWST's unique vantage point from the Sun-Earth L2 is also an ideal location that will enable the observatory to make precise infrared measurements. The scientific returns from these observations will be compounded even more if JWST remains on schedule and overlaps with existing observatories that continue to return significant science, or new assets such as the Stratospheric Observatory For Infrared Astronomy (SOFIA) and the Transiting Exoplanet Survey Satellite (TESS) that promise to complement JWST's capabilities.

This enormous potential is balanced by the sobering history of JWST's development. Initially planned to cost $1.6 billion and launch in 2011, the program ballooned to a life-cycle cost estimate of nearly $9 billion and slipped 7 years to a 2018 launch date.

JWST's history is well known, and I do not wish to open old wounds, but Congress would be complicit in any future delays or over-runs if it failed to maintain proper oversight of this program. Despite the significant progress made by NASA and the contractors, the program is not out of the woods yet. It is now entering the critical integration and testing phase where unforeseen problems typically arise. These unplanned technical challenges could threaten the cost and schedule reserves during this critical period. Recent issues with the cryocooler, a critical component that is necessary for proper measurements, reinforce the need for persistent monitoring and oversight. The sheer technical complexity of this program demands it. Even after the telescope is fully assembled, shipped to Kourou, and launched into

space, all of us will still be crossing our fingers that this massive spacecraft will arrive at its intended destination and execute its intricately choreographed origami-like deployment.

Everyone involved in this project is working to make it a success. The engineers and technicians at the contractors, the managers and scientists at NASA, and even the Members and Senators here on the Capitol Hill. In 2011, the House of Representatives voted to cancel the program after its cost estimates skyrocketed and threatened not only other astrophysics missions, but also other Science Mission Directorate activities. The contagion of escalating costs even threatened other national priorities at NASA. Planetary science and even exploration programs have sacrificed funding to buttress JWST and keep the program on track. With a statutory cost cap of $8 billion for development, Congress expressed both an endorsement and a limitation. For the sake of all of NASA's programs, I hope that JWST will launch in line with its updated schedule and current cost projections.

Even after launch, issues related to JWST will remain. For instance, what will happen to the additional funding poured into the Science Mission Directorate to cover JWST over-runs? Will the Astrophysics account maintain funding profiles consistent with these augmentations? Will the other programs and projects within the Science Mission Directorate return to their historical proportions after JWST is launched? Will Exploration programs recoup the funding transferred to the JWST program, or will these proportions represent the new norm? With overall budgets remaining flat or only increasing marginally, how the over $600 million a year devoted to JWST will be reallocated after launch is one of the most important decisions facing NASA and Congress. In light of decreasing budget requests from the Administration for Exploration, it may be appropriate to reconstitute the programs that sacrificed funding to cover JWST cost growth.

Before I conclude, I would like to take the opportunity to thank GAO for their diligent work on the JWST program. As the program matures, questions are shifting from whether or not the cost, schedule, and technical plans are adequate to whether NASA and the contractors are executing to those plans. I hope GAO will continue to provide this Committee with insight into this complex program so that we can all ensure its ultimate success. I also hope that NASA and the contractors heed the GAO's advice and recommendations.

More specifically, I hope that in the future NASA and the contractors will allow the GAO access to information and personnel so that they can fulfill their statutorily required task to monitor this program on behalf of Congress. GAO's recent report highlighted instances where their access was limited. Transparency and accountability are tenets of sound program management and oversight. I trust that won't be a precedent for future engagements.

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