



COMMITTEE ON  
**SCIENCE, SPACE, & TECHNOLOGY**  
Lamar Smith, Chairman

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## **Statement from Brian Babin (R-Texas)**

### *NASA's Next Four Telescopes*

**Chairman Babin:** In May of this year, the primary mirror for the James Webb Space Telescope, or JWST, arrived in Houston for a final round of cryogenic testing. Just in time for hurricane season.

These components started a 100-day testing session in a vacuum chamber at the Johnson Space Center, where three truckloads a day of liquid nitrogen and cold helium gas chilled the telescope to minus 233 degrees Celsius. That is a total of 300 trucks just for this one test.

Well, I'm told Hurricane Harvey complicated things by washing out the roads so bad they had to improvise a new route to get the trucks to the test facility. I am very proud of the fine job the folks at Johnson did working around the clock to ensure the test was a success. I know firsthand the hardships that are being experienced in Houston due to the hurricane and I pray that the recovery for everyone there is going as well as can be expected given the conditions.

While the 2017 hurricane season has been challenging, this year has been an exciting time for astrophysics. The Nobel Prize in Physics was awarded to three Americans that developed the Laser Interferometer Gravitational-wave Observatory, or LIGO, which made the first-ever direct observation of gravitational waves – ripples in the fabric of space and time – that were predicted by Albert Einstein 100 years ago.

I understand several of the potential witnesses for today's hearing could not attend because they are in Stockholm at the prize celebrations. I'd like to congratulate these fine Americans for their outstanding discovery.

Our nation is proud of these achievements. Images from the Hubble Space Telescope are some of the most iconic in history. And we look forward to what is to come from even more capable missions like the Wide-Field Infrared Space Telescope, or W-FIRST.

It has been mentioned to me that with Hubble you could take a single picture into a meeting to show what was discovered but with W-FIRST you'll have to wallpaper their entire office. The capability has increased 100 times from Hubble.

W-FIRST is a critical new flagship mission and we need to make sure it stays on course. The assets provided to NASA from the National Reconnaissance Office, or NRO, seem like a good fit for the mission but the program needs reasonable timelines and a realistic budget.

It is worth noting that several years ago this committee proposed that NASA study W-FIRST to determine if the assets from NRO would be appropriate for the mission and whether it would cost more to repurpose existing hardware than build the observatory from the ground up. Now we face additional questions about the appropriate scope of the mission.

The recent report from the independent review committee on W-FIRST laid out several options for reining in the cost. I am particularly interested to learn more about what impact reducing capability will have on the cost but more importantly, the science.

I was pleased to see NASA's Request for Information, or RFI, announcement on October 12th seeking input from private parties interested in operating the Spitzer Space Telescope and executing the Spitzer science program. NASA is looking for partners to continue operating the space telescope on their own dime after the NASA mission is completed. I applaud this type of innovative approach and hope to see more thinking like this in the future.

NASA is currently conducting large and medium mission concepts studies for the 2020 Decadal Survey. New concepts like in-space assembly, in-space servicing and taking advantage of the proposed Deep Space Gateway when developing architectures for very large space telescopes could offer tremendous new capabilities.

However, Congress needs to understand the status of the programs today, as well as the plan going forward. Decisions made now can have long lasting implications on future missions.

It seems the smaller Principle Investigator, or PI, lead missions generally do pretty well at budgeting, scheduling and cost containment. We need to know that there isn't a systematic or fundamental programmatic problem with how we plan and execute these larger strategic missions.

I am thankful that our witnesses are here today to help us better understand where we are with these programs, and how we plan to move forward. I look forward to your testimony.

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