

NASA's Decision to Eliminate Competition from the Human Landing System Program Wrong for America's Leadership in Space

ON APRIL 16, 2021, NASA abruptly altered a course supported by Congress by selecting a sole concept and awardee – SpaceX's Starship – for the Human Landing System (HLS) Program. From the program's inception, NASA had correctly planned to select two distinct providers for the next generation crewed lunar lander. Two providers ensure greater safety and mission success, promote competition, and control costs. Despite this, NASA ran a flawed acquisition and ignored the significant risks of a one provider model.

WHY ONLY ONE PROVIDER?

NASA Blames Lack of Funding – Even though Congress appropriated nearly \$1.5 billion for HLS in just two fiscal years, including \$850 million in FY21, NASA's source selection rationale improperly justifies the selection of a lone provider as a result of "anticipated future funding for the HLS Program."¹ Unfortunately, this justification lacks precedence and is light on facts, particularly for firm-fixed price, milestone-based programs like HLS. With funding appropriated on an annual basis, the agency frequently makes awards without clarity of out-year funding and with much less funding certainty and significantly less Congressional support than exists in HLS.

NASA Ran an Inconsistent and Unfair Competition – NASA's source selection process was different for each bidder. For example, SpaceX was offered the opportunity to re-price based on new budget information supplied by NASA that was not provided to the other bidders. The National Team was not given this opportunity, despite evidence in the Base Period proposal of its ability to reduce its price to meet a NASA budget constraint. And while SpaceX was recognized for its program management experience, NASA chose not to credit the broad and deep human spaceflight experience of the National Team partners.

PROBLEMS WITH ONE PROVIDER

Amplifies the Risk – NASA is risking the nation's return to the Moon entirely on SpaceX's ability to deliver Starship, despite the "immense complexity" and "high risk" NASA itself documented in the source selection. In fact, Starship was deemed to be so risky that the Space Force declined to select SpaceX for their Launch Services Agreements (LSA) program.² Interestingly, NASA's own ISS lessons learned warns against one provider and definitively states that "future exploration programs must be structured with alternative transport vehicles, so there is no particular system that becomes a single-point-of-failure."³ Further, an April 19, 2021 NASA Inspector General finding states that NASA officials themselves:

"...expressed concern that selecting a single contractor would result in a lack of redundancy and potentially higher, less sustainable future HLS costs due to a lack of competition."⁴

Ignores NASA's Previous Successes with Competition and Two Providers – NASA's multiple provider approach for Commercial Cargo and Crew insulated both programs from financing and budgetary challenges, and delays in system development – including significant vehicle anomalies with different providers. In spite of this, NASA disregarded the proven benefits of redundant, diverse capabilities and instead selected one company to provide the launch vehicle, crew systems, transfer, and surface access for its flagship exploration program.

Harms Global Competitiveness – The space domain is becoming increasingly contested and near-peer competitors are demonstrating bold lunar ambitions. In 2019, China became the third nation after the U.S. and the Soviet Union to successfully complete a soft landing on the Moon, and in 2020, their Chang'e 5 mission conducted a successful lunar sample return. Most recently in March 2021, Russia and China signed a cooperative agreement to build an International Scientific Lunar Station. Restoring competition for HLS is critical to strengthening U.S. global space leadership.

Endangers Domestic Supply Chains for Space and Negatively Impacts Jobs Across the Country – NASA space exploration is in the hands of one vertically integrated enterprise that manufactures nearly all its own components and eliminates the need for a broad-based nationwide supplier network. Such supplier consolidation cuts most of the space industrial base out of NASA exploration, impacting national security, jobs, the economy, and NASA's own future options.

Congress should direct NASA to restore competition to the Human Landing System program by selecting a full, second Appendix H provider.

¹ <https://www.nasa.gov/sites/default/files/atoms/files/option-a-source-selection-statement-final.pdf>

² <https://www.reuters.com/article/us-space-spacex-airforce/spacex-handed-loss-in-challenge-over-air-force-contract-idUSKCN26G2MA>

³ https://www.nasa.gov/pdf/511133main_ISS_Lessons_Learned_7-22-09_complete.pdf

⁴ <https://oig.nasa.gov/docs/IG-21-018.pdf>