

## **Second Lunar Lander is Required to Accomplish NASA's Directive to Land on the Moon**

*This document was drafted in response to talking points distributed by NASA<sup>1</sup> to Capitol Hill expressing opposition to legislative efforts in support of a second Appendix H provider.*

**NASA Position:** "NASA does not intend to pursue a second demonstration lander and is instead focused on developing a sustaining lander capability."

**Reality:** *This directly contradicts NASA's own acquisition plan. Appendix H states on page 10 that NASA "...will select one contractor to perform its crewed demonstration flight first, with the goal of it occurring in 2024, and one contractor to perform its demonstration mission approximately within eighteen months of the first demonstration mission." Appendix H also included a sustainable lander risk reduction and demonstration phase called Option B, which is redundant in Appendix N.*

**NASA Position:** "A second demonstration lander would cost more than \$6B that is not in the Subcommittee mark or NASA outyear budget, and delay the future of U.S. sustained human lander capability into the 2030s."

**Reality:** *The multi-year budget runout for HLS, coupled with private investment, is more than sufficient to develop and demonstrate two lunar landers in this decade with an eye toward sustainability. NASA's FY22-FY26 budget request for the Human Landing System is over \$7.8 billion and Congressional support is strong as indicated by the additional \$150 million appropriated for FY22 by the House Commerce, Justice, Science Subcommittee. **What really delays a future "sustained lander capability" is starting over with Appendix N**. NASA already invested over \$700 million into alternative solutions through preliminary design review (PDR).*

**NASA Position:** "A second demonstration lander would jeopardize the ability of NASA/SpaceX lander demonstration to achieve the 2024 Moon landing goal."

**Reality:** *Without redundancy, schedule delays jeopardize the 2024 Moon landing goal. NASA's choice of only one provider guarantees that this goal will not be met. NASA's sole selection locks every trip to the Moon into 10+ Super Heavy/Starship launches just to get a single lander to the surface. By the Agency's own admission, it bets our return to the Moon on a single solution of "immense complexity and heightened risk associated with the very high number of events necessary to execute the front end [with] risk of operational schedule delays."\* A second lander provides needed redundancy, proven by the Commercial Cargo and Crew Programs, and only increases NASA's chance of reaching the Moon as soon as possible.*

**NASA Position:** "A second demonstration lander would jeopardize other Exploration priorities, such as Gateway and Spacesuits, and other future lunar elements (hab, rover, comm relay)."

**Reality:** *NASA outyear requests are adequate for all their lunar exploration priorities.*

**NASA Position:** A second demonstration lander would force NASA into conducting 2 one-off lander developments for the next several years.

**Reality:** *It is contradictory for NASA to call its own lander selection a "one-off" demonstration. NASA is providing SpaceX a \$3 billion subsidy to convert a heavy-lift launch vehicle into a sustainable lunar lander. A second lander – which was always the vision – creates competition, broadens the supply base, and levels and accelerates the playing field for future sustainable landing services; it doesn't bet the future of NASA's Artemis program and U.S. leadership in space on an "immensely complex and high-risk\*" solution.*

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<sup>1</sup> White paper authored by NASA Appropriations Division and delivered to Congressional offices on July 15, 2021

\*NASA Appendix H Source Selection Statement, April 16, 2021,

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