

April 10, 2018

Dear Chairman Shelby, Ranking Member Shaheen, Chairman Culberson and Ranking Member Serrano:

We write today to express our enthusiastic support for the FY 2019 Budget Request for NASA's Lunar Exploration and Discovery Program. America's forward steps to the Moon are long overdue, and the proposed Lunar Exploration and Discovery Program in the FY 2019 Budget Request represents a credible plan to re-engage in lunar surface exploration as part of an innovative attempt to do so in an expedient and cost-effective way. We urge establishment of the Lunar Exploration and Discovery Program, as requested in the FY2019 budget, to fully fund the ongoing and highly successful Lunar Reconnaissance Orbiter mission, and restore to the United States' a technical capability to access the lunar surface and to once again lead lunar exploration once again.

With the proposed Lunar Exploration and Discovery Program, NASA, in coordination with American universities, research institutions, and commercial companies will be empowered to address decades-long objectives on the Moon that have been articulated at length in comprehensive strategic reports like the 2007 National Research Council's Report on the *Scientific Context for the Exploration of the Moon*, the 2012 *Lunar Exploration Roadmap* formulated by the Lunar Exploration Analysis Group (LEAG) (<https://www.lpi.usra.edu/leag/roadmap/index.shtml>), and the 2017 LEAG *Advancing Science of the Moon* (<https://www.lpi.usra.edu/leag/reports/ASM-SAT-Report-final.pdf>). In addition, the program will provide opportunities to address the *Strategic Knowledge Gaps for the Moon Permanent Human Exploration Scenario* (<https://www.nasa.gov/exploration/library/skg.html>).

The Moon is the Cornerstone of Planetary Science. The new Lunar Exploration and Discovery program will give the United States the chance to, at long last, systematically prospect for resources on the Moon's surface, gather comprehensive new samples from all over the surface, explore lunar lava tubes, investigate magnetic anomalies, and address a long list of unanswered geophysical questions whose answers have deep implications for understanding formation of the Solar System and planetary science. As the 2017 LEAG *Advancing Science of the Moon* report stated, "The Moon is a resource-rich, readily accessible target for future United States human and robotic missions that will enable fundamental scientific advances impacting our understanding of the Solar System."

The proposed lunar programs housed in the Science Mission Directorate (SMD) and Advanced Exploration Systems (AES), place U.S.-led lunar science and exploration at the core of a new era of lunar exploration program. The requested funds are required to enable a successful US mission to the Moon in 2019. SMD would be provided \$200 million to develop and procure rides on commercial U.S. lunar landers starting in 2020 to ramp up key science and exploration experiments, which will inform future missions that are larger in scope and will lead to a human return to the Moon's surface.

Additionally, the budget proposes that AES would be funded at \$130 million in FY 2019 to evolve current small robotic landers into mid-class landers capable of supporting advanced exploration and science missions in the mid-2020s. This leverages NASA's work with commercial entities through the Lunar CATALYST program and currently planned missions with NASA's key science and exploration objectives. Importantly and appropriately, these programs can be accomplished within

the current budget profile without impacting core NASA exploration and science missions, including other Planetary Missions or current investments in Human Exploration and Operations (HEO) systems.

The initiation of this new lunar program could not be more timely for our nation. China has ramped up its lunar science and exploration program as a precursor to human missions, and the U.S. must move quickly, starting with missions in 2020, to regain its historic lead in lunar science and exploration. Other countries, like Japan, have committed nearly \$1 billion towards the development of a commercial lunar lander to compete with emerging American systems. It is vital for our future in space that we not cede the lunar lander market and leadership to other countries. So it is fortunate that this program is ready to proceed to the next step.

As science and exploration experts from the broad and growing lunar community, we strongly support the proposed Lunar Discovery and Exploration Program within the FY2019 budget request and its approach to ensure the fastest possible return to the lunar surface.

Sincerely yours,

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