



Position Statement:

## NRC Report on Human Spaceflight

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July 2014

The Washington-based National Space Society (NSS) takes issue with the recent [National Research Council report](#) titled *Pathways to Exploration: Rationales and Approaches for a U.S. Program of Human Space Exploration*. Although there are a number of examples of good scholarship in the report, and the focus on lunar activities is praiseworthy, the report misses several key points. In particular, NSS believes that:

- Congress, the Administration, and the public should not view the NRC report as representing a consensus of the human spaceflight community. In particular, the NRC report does not seem to capture the views of this community. For example, it is not a “decadal survey” that fully takes into account the interests of all stakeholders, and does not represent the views of NSS. Please see [Milestones to Space Settlement: An NSS Roadmap](#) for an outline of the NSS vision of the human future in space.
- The NRC was tasked with answer the question “Why human spaceflight?” but instead focused on the future of human space exploration, with emphasis on a particular possible humans-to-Mars program centered on the usage of nuclear power.
- The NRC substantially ignored space settlement as a horizon goal for humans in space, instead focusing exclusively on a series of “Apollo style” missions. If the NRC report is adopted by NASA, minimal progress toward space settlement will occur over the next century.
- The NRC report does not adequately address the implications of potential near-term, Earth orbit and human spaceflight activities, including their effect on exploration.
- The NRC report fails to consider the goal of lower cost access to space, and instead assumes that the 1980’s technology based Space Launch System (SLS) will be the sole US rocket for the next 50 years. The potential contributions of

the commercial space sector are viewed as “speculative” and have no impact on the NRC conclusions.

- The recommendation of the NRC to de-orbit the ISS, abandon low Earth orbit operations and research, and focus human space flight exclusively on a large program aimed at “putting footprints on Mars” is fundamentally misguided. Thus, at the completion of any of the NRC report’s “pathways” to Mars, the U.S. will be left as it was after the end of Apollo – no space station anywhere, no occupied lunar base, no means to reach LEO on a routine basis, no infrastructure on Mars (with one exception<sup>1</sup>), and a big pile of rocks in a few labs.

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<sup>1</sup> The exception is one or more devices used to remove oxygen from the Martian atmosphere and store it in tanks for use as fuel. As was the case with Apollo, bits and pieces would be scattered across the Martian and Lunar surfaces, but not in the form of ready-to-use infrastructure.

**About the National Space Society (NSS):** NSS is an independent non-profit educational membership organization dedicated to the creation of a spacefaring civilization. NSS is widely acknowledged as the preeminent citizen's voice on space, with over 50 chapters in the United States and around the world. The Society publishes *Ad Astra* magazine, an award-winning periodical chronicling the most important developments in space. To learn more, visit [www.nss.org](http://www.nss.org).