**Testimony of Brigadier General (USAF ret) Wayne Monteith [1]**

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**Before the**

**U.S. Senate Committee on Commerce, Science, Transportation**

**Subcommittee on Space and Science**

**on**

**"Promoting Safety, Innovation and Competitiveness in U.S. Commercial Human Space Activities"**

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Chairwoman Sinema, Ranking Member Schmitt, and distinguished Members of the Committee: thank you for inviting me to appear before this Committee once again and share my perspectives on this important topic.

When I last appeared before you in 2019, I commented that in 2018 the Office of Commercial Space Transportation, or FAA AST, licensed a record number of launches and reentries at 35. I stated that I believed future growth in this sector would be even more impressive going forward as companies like SpaceX significantly expanded their launch rates and new companies like Rocket Lab and Firefly entered the sector. And because of this we needed a new, responsive, and flexible regulatory construct. One that would enhance safety while enabling innovation and continued U.S. global leadership. But also, one that would reduce administrative burden and enable rapid change and streamline timelines to keep pace with a burgeoning space industry. This prediction of future growth has come to fruition.

The number of FAA AST licensed activities increased from 35 in 2018 to 84 in 2022, and 95 already in 2023. In 2019 there was one FAA licensed commercial human spaceflight mission; so far in 2023 there have been 8 flights, and that's even with a major contributor like Blue Origin temporarily pausing flight operations. My opinion of the future of this sector remains optimistic and I remain confident of continued innovation and dramatic growth in commercial human spaceflight.

However, this continued growth will be negatively impacted by either a catastrophic event or an overly burdensome regulatory construct. It will also be impacted by an overly risk-averse regulator, or even an understaffed regulatory office. These have the potential to unnecessarily restrict the success of the U.S. commercial space transportation industry, to include commercial human spaceflight. And while good regulations and intentions, and even overly conservative

[1] This testimony is provided in my personal capacity; it does not represent the views of my current employer, any company, client, or government entity. It does rely on my experience as the former Federal Aviation Administration Associate Administrator for Commercial Space Transportation, and as the former Commander of the United States Air Force 45th Space Wing.

regulator interpretations of those regulations, cannot eliminate all risk, they can sub-optimize or eliminate innovation, new entrants, and U.S. global leadership. As the Committee considers the near- and long-term future of U.S. commercial human spaceflight, I would like to offer three recommendations to consider.

**First**, in May 2018 Space Policy Directive-2 directed the Department of Transportation to issue a new streamlined launch and reentry regulation. Just two and a half years later 14 CFR Part 450, the Streamlined Launch and Reentry Licensing Requirements regulation, or SLR2, was published. Part 450 encompassed four existing regulations (Parts 415, 417, 431 and 435) and was an unprecedented space regulatory effort. But based on the short development timeline, industry involvement in the regulatory process was severely limited. And because of this compressed schedule some constructs within Part 450 were not as thoroughly vetted as would have been ideal. Based on my experience during this effort, the Committee may wish to consider that any new regulations concerning commercial human spaceflight should be provided with ample time for full and open industry collaboration and interagency coordination, and sufficient government resources (i.e., staffing) to meet required timelines without negatively impacting current regulatory responsibilities.

**Second**, there is another potential impediment to continued U.S. leadership in this sector and it is what appears to be a movement away from the concept of a "one stop shop" to receive a license or authorization to get to or operate in space. At just a casual glance the Office of Commercial Space Transportation, the Office of Space Commerce, the National Oceanic and Atmospheric Administration, the Federal Communications Commission, the National Transportation Safety Board, the Department of Defense, the State Department, and the National Aeronautics and Space Administration all have some role in commercial space activities. In my experience, the more organizations involved in an effort, the more likely seams, gaps, and overlaps are created. Additionally, there is an increase in administrative burden on both government and U.S. industry without a similar increase in safety. There is also the potential for greater government inefficiency, which will likely cause industry costs to increase, preventing new smaller, innovative companies from entering the market. Therefore, the Committee may wish to consider exploring whether or not there are opportunities to consolidate government oversight responsibilities.

**Finally**, as the Committee is well aware, the current construct for commercial human spaceflight is limited by the moratorium (learning period) originally established in 2004, extended four times by Congress, and scheduled to sunset again on 1 January 2024. Under this construct, Congress, with few exceptions, limits the FAA's regulatory oversight of the health and safety of commercial human spaceflight occupants. The FAA operates under an Informed Consent regime to ensure participants are fully aware of the risks and hazards involved. To support this learning period Congress prohibited the Secretary of Transportation from promulgating any regulations governing the design or operation of a launch vehicle intended to protect the health and safety of crew, government astronauts, and space flight participants absent serious or fatal

injury, or an unplanned event that posed a high risk of serious or fatal injury. To be clear, the FAA does not certify launch or reentry vehicles as safe for carrying humans.

Instead, the FAA with help from the National Aeronautics and Space Administration (NASA) just produced an updated Recommended Practices for Human Spaceflight Occupant Safety. Recommended practices are divided into four categories: general, design, manufacturing, and operations. The FAA is working with Standards Development Organizations to facilitate development of consensus standards for industry to use which can form the foundation for any future rulemaking efforts. My observation is that while worthwhile, progress has been slow.

While I believe there is value in the consensus development process, I also believe that without a "forcing function" progress will remain slow, and the moratorium will continue until a catastrophic event occurs. That "forcing function" should drive greater industry/government participation and should include an increase in staffing for the appropriate regulatory agency to properly build the foundation for an expanded regulatory construct. Based largely on my experience with Part 450, my concern remains a very public catastrophic event may drive a rush to regulate, and potentially over-regulate, this still nascent part of the industry. With this in mind, rather than a moratorium, the Committee may wish to consider a "forcing function" that instead establishes a date in which the FAA may not publish a more robust regulation on commercial human spaceflight activities sooner than, i.e., in approximately five years (Phase 1). And then establish a subsequent date, a minimum of eighteen months later, before the updated regulation becomes effective (Phase 2). This approach allows time for an updated regulation to be fully and thoughtfully developed (Phase 1) and allows for the option of delaying the effective date (Phase 2) should Congress decide the regulation is "early to need." This approach may mitigate the downsides of publishing a hurried regulatory update as Phase 1 would potentially be complete.

Madam Chair, I appreciate your invitation to testify before the Committee. This is indeed the new renascence of space, so it is important that we work through these complex issues to ensure an appropriate level of safety and a "light regulatory touch." It is also important that whatever the regulatory approach taken it enables our current industry leaders to be successful, and allows for the next disruptive innovator to successfully enter the market. This will foster competition and help ensure the United States continues its global leadership in this vital transportation sector.