

**STATEMENT OF KELVIN B. COLEMAN
ASSOCIATE ADMINISTRATOR, COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
HEARING BEFORE THE UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
SUBCOMMITTEE ON SPACE AND SCIENCE
GOVERNMENT PROMOTION OF SAFETY AND INNOVATION IN THE NEW
SPACE ECONOMY
DECEMBER 13, 2023**

Chair Cantwell, Chair Sinema, Ranking Member Cruz, Ranking Member Schmitt, and members of the subcommittee, thank you for the opportunity to be here today to discuss the important role the Department of Transportation (DOT) and the Federal Aviation Administration (FAA) play in ensuring the safety and economic competitiveness of U.S. commercial space activities. We are committed to continuing to enable safe space transportation and keeping pace with the growth of the commercial space sector while prioritizing U.S. leadership.

U.S. commercial space capabilities and innovation are vitally important to our Nation. The U.S. commercial space transportation industry is rapidly developing new technologies that will assure our Nation access to space, take us back to the moon and to other interstellar destinations, connect global communities, help us better serve the planet, and improve the daily lives of our citizens. Commercial space activity worldwide surged in the past decade, resulting in a half-trillion dollar global space economy that will nearly double in the next decade. The United States contributes roughly half of all commercial activity, and the U.S. commercial space industry will continue to be an extremely important contributor to the growth of this space economy. My testimony focuses on DOT's authorities and responsibilities for commercial space, the Biden-Harris Administration's proposal to establish additional regulatory roles and responsibilities for DOT and FAA regarding new and novel U.S. in-space activities that will

ensure the U.S. remains the world's preeminent commercial space country of choice, and ongoing efforts to streamline and improve our commercial space regulatory framework.

Overview of the Office of Commercial Space Transportation and its Responsibilities

The Secretary of Transportation (Secretary), in accordance with Title 51 of the United States Code (U.S.C.), regulates and oversees U.S. commercial space transportation operations, which include launch and reentry operations worldwide, the operation of launch and reentry sites, and human space flight missions. This authority has been delegated by the Secretary to the FAA. The FAA, through the Office of Commercial Space Transportation (AST), which I have led as Associate Administrator since September of last year, carries out these authorities to protect the public health and safety, the safety of property, and the national security and foreign policy interests of the United States. In addition to these important responsibilities, the FAA is also responsible for encouraging, facilitating, and promoting commercial space launches and reentries by the private sector and facilitating the strengthening and expansion of U.S. space transportation infrastructure. To put it simply, consistent with these responsibilities, our mission is to enable safe commercial space transportation, and we recognize and embrace the central role the DOT and the FAA play in ensuring the U.S. continues to be the global leader in space.

Since 1989, the FAA has licensed or permitted nearly 700 commercial space transportation operations, more than any other country in the world by far. To put the growth of the commercial space sector into perspective, in fiscal year 2023, AST oversaw the safety of 113 operations, tripling the number of licensed operations since fiscal year 2020. Additionally, we have received a 186% increase in license applications since fiscal year 2020. And in the last few years, we've seen an increased use of reusable launch vehicle technology, new manufacturing techniques, and other innovation. The FAA has leveraged its licensing and regulatory capabilities

and other various programs and initiatives to enable the growth of the U.S. commercial space industry in a manner that has resulted in an impressive safety record for this rapidly growing industry. No FAA-licensed launch or reentry operation has resulted in a fatality or injury to a member of the public, nor has there been any significant public property damage. Looking forward, we expect the total number of licensed commercial space operations to double by fiscal year 2026. This is fantastic growth, and the FAA is committed to seeing it continue.

Additionally, the FAA's involvement in commercial space transportation operations is extensive; it also includes license modifications and license renewals, conducting payload and policy reviews with our interagency partners, conducting an assortment of safety analyses, safety inspections, mishap investigations, and more. We've seen significant increases in all of these activities. For example, since fiscal year 2020, we've increased safety inspections by 124%.

Currently, about two-thirds of the AST organization is dedicated to working on these important activities. The FAA's impressive safety record and ability to keep up with this rapidly growing industry are in large part because of the incredible staff that I have in AST. Thanks to recent support from Congress in fiscal year 2023, which allowed us to expand our team, we were able to hire an additional 33 new employees using various hiring and recruiting authorities, raising our total staff size to a current level of 147 individuals, which allows us to address many of the growing demands that have been placed on our office.

Looking forward – Novel Space Activities

Last month, the Biden-Harris Administration unveiled a legislative package titled the "Authorization and Supervision of Novel Private Sector Space Activities Act," which, if enacted, will provide clear and predictable authorization and supervision for novel U.S. private sector in-space activities. The Administration's legislative package would expand the Department's

licensing authority to include the operation of human space flight vehicles in outer space and the operation of space transportation vehicles if the operation is for the sole purpose of conducting in-space transportation. This is a logical extension of the Department's existing authorities and will simplify the process for industry. The authority to license operations of human space flight vehicles in outer space would ensure consistent oversight of human space flight activities throughout a mission's full lifecycle, addressing public safety, space sustainability, and other U.S. interests and, after the learning period¹ expires, occupant safety from launch through reentry. AST would utilize our extensive expertise in space transportation to carry out in-space transportation licensing authority. For some missions, this authority would allow for in-space transportation operators to apply for a single license to conduct all transportation activities, including launch, in-space transportation, and reentry, which will reduce the regulatory burden on applicants and ensure consistency in transportation rules from launch through reentry.

We recognize the importance of a robust domestic commercial space transportation industry to the Nation. The Department's approach to the authorization and supervision of these in-space activities would prioritize a clear, predictable, and flexible oversight process that promotes access to space and imposes minimal burdens on the industry. The Department would also work closely with the Department of Commerce, NASA, and other departments and agencies to ensure the application of consistent standards.

We are in full support of the Biden-Harris Administration's commitment to fostering a policy and regulatory environment that enables the competitive and burgeoning U.S. commercial

¹ 51 U.S.C. 50905(c) places restrictions on the Secretary's authority to issue regulations governing the design or operation of a launch vehicle to protect the health and safety of crew, government astronauts, and space flight participants.

space sector, including through this legislative package, and we look forward to continued conversations with Congress on this incredibly important topic.

Efforts to Streamline and Improve FAA's Commercial Space Regulatory Framework

At the present time, as we work to enable safe space transportation within our existing authorities and keep up with this rapidly growing industry, we have also undertaken efforts to streamline and improve our commercial space regulatory framework. These efforts include:

Part 450: In December 2020, the FAA published a final rule to consolidate, update, and streamline all launch and reentry regulations into a single performance-based part, which is found in Title 14, Code of Federal Regulations, Part 450 (Part 450). We designed Part 450 to allow a commercial space operator to obtain a license for a portfolio of operations, which enables an operator to streamline and include different vehicle configurations, different mission profiles, and even multiple sites under one license. The FAA anticipates full implementation of Part 450 will reduce the number of times an operator will need to come to the FAA for an approval. Ultimately, this will free up licensing resources and ensure there are adequate resources available for evaluating the safety of new operators, vehicles, sites, and technologies. Additionally, among other things, Part 450 enables coordination between the FAA and our Federal range partners, including the National Aeronautics and Space Administration (NASA) and the Department of Defense, on ground safety at Federal launch sites to eliminate gaps and duplication in oversight. By March 10, 2026, all launch and reentry licenses issued by the FAA under legacy regulations will no longer be valid, and launch and reentry vehicle operators must be in compliance with Part 450.

We are committed to ensuring this transition to Part 450 is as smooth as possible. Part 450 is a relatively new rule, and as we approach these next two years, through various initiatives,

AST is working to ensure that the FAA has the tools in place to ensure that the industry has a full understanding of how to achieve compliance with Part 450 and how to take advantage of the intended benefits of this streamlined process. Among these initiatives are:

(1) Continual Website Improvements: We have worked, and continue to work, on improving the FAA’s website to ensure that information is easily accessible for prospective license applicants. For example, we have replaced relevant portions of the website that contained licensing information with a “Getting Started with Licensing” page² that provides prospective applicants with important information they will need to successfully submit an application to the FAA for a license, permit, or safety element approval. The page contains a link to commercial space regulations, a link to all active Commercial Space Transportation Advisory Circulars, a link to contact AST and provide project and operator information in order to efficiently begin the pre-application process, a link to pre-application checklists, a detailed step-by-step process for all applicants, and more. Additionally, we have added a tool to the page to guide prospective applicants in determining what type of license they will need.

(2) Application Checklists: We have developed application checklists that prospective applicants may use when applying for a launch or reentry license, experimental permit, launch site operator license, or safety element approval. These checklists provide prospective applicants with the information they need in the pre-application process to ensure they submit a comprehensive, compliant, and complete application for FAA review and approval.

(3) Virtual Tutorials and Workshops: We have posted educational videos on our website that cover various Part 450 topics, including a Part 450 modular “at your pace” training video that

² https://www.faa.gov/space/licenses/licensing_process/.

offers a broad walkthrough of Part 450.³ We have also hosted workshops to assist prospective applicants with Part 450. For example, we held a Part 450 workshop in 2020 with industry participants where we did a broad walkthrough of Part 450 and provided a crosswalk of mapping tools comparing the new rule to legacy regulations. Additionally, this summer, we held a compliance and enforcement workshop with industry participants. We plan to develop more training videos and hope to host more workshops in the future.

(4) Guidance: The FAA has published guidance on means of compliance with Part 450 requirements through Advisory Circulars to assist the commercial space industry. As of today, the FAA has published 18 Advisory Circulars related to Part 450 compliance, which cover topics like Space Nuclear Systems, Flight Hazard Analysis, Ground Safety, Population Exposure Analysis, System Safety Program, High Consequence Event Protection, and Computing System Safety. The FAA anticipates publishing two more advisory circulars in the near term, one that will provide guidance to the industry on elements required for a complete application and one addressing denial and tolling processes. We are working to publish more advisory circulars in the future to further facilitate applicants' understanding of and compliance with Part 450.

(5) Licensing Electronic Application Portal: FAA is working to develop a Licensing Electronic Application Portal (LEAP), which will be used to accept, modify, exchange, and approve licensing materials under Part 450. LEAP is expected to enhance our ability to identify, track, and quickly resolve questions and issues both internally and externally with applicants.

Human Space Flight Occupant Safety: In addition to supporting industry's efforts on voluntary consensus standards and updating a set of recommended practices for human space

³ https://www.faa.gov/space/workshop_training/part_450.

flight occupant safety, DOT established the Human Space Flight Occupant Safety Aerospace Rulemaking Committee (Human Space Flight SpARC) on April 21, 2023. The Human Space Flight SpARC allows us to engage with the commercial space industry and will provide consensus information, concerns, opinions, and recommendations to the Department regarding the establishment of a commercial human space flight occupant safety framework. We expect recommendations from the Human Space Flight SpARC by the summer of 2024, which we will use to plan our efforts with the industry on a future safety framework.

Financial Responsibility: On March 15, 2023, DOT established the Financial Responsibility Aerospace Rulemaking Committee (Financial Responsibility SpARC) to engage the commercial space transportation industry and solicit information, concerns, opinions, and recommendations about updating the financial responsibility regime for licensed launch and reentry operations. The financial responsibility requirements for a launch and reentry license have not been updated in years, and the Financial Responsibility SpARC's recommendations, due in early 2024, will help the FAA modernize the financial responsibility regulations.

Conclusion

I once again would like to reiterate the importance of the commercial space transportation industry and express the strong commitment of the Department of Transportation, especially the Office of Commercial Space Transportation, to ensuring the U.S. continues to be the global leader in space. The U.S. must remain the world's preeminent commercial space country of choice, and the Administration's proposal on in-space authorization will ensure that. We will continue leveraging our licensing and regulatory capabilities, as well as other programs and initiatives, to enable the growth of the U.S. commercial space transportation industry, and we are committed to continued growth. Thank you again for the opportunity to be here to discuss the

important role DOT plays in ensuring the safety and economic competitiveness of U.S. commercial space activities. This concludes my testimony, and I will be glad to answer any questions from the Committee.