STATEMENT OF MARION C. BLAKEY, ADMINISTRATOR OF THE FEDERAL AVIATION ADMINISTRATION, BEFORE THE AVIATION SUBCOMMITTEE OF THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, U.S. HOUSE OF REPRESENTATIVES, ON COMMERCIAL SPACE TRANSPORTATION

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Chairman Mica, Mr. Costello, and Members of the Subcommittee:

Good afternoon. It is a pleasure to be here today at the Subcommittee's first hearing of the 109th Congress. Today I would like to provide a brief overview of the Federal Aviation Administration's activities in overseeing the commercial space transportation industry. Specifically, I will address how we plan to implement the most recent changes that Congress enacted in December, and how we see the future of this growing industry. But first, I wish to offer my congratulations to the new Members of the Subcommittee. I would also like to extend my best wishes to the new Ranking Democrat on the Subcommittee, Mr. Costello. Congressman Costello has been a valuable Member of this Committee since his election to Congress. I look forward to working with all of you, as well as the returning Members of the Subcommittee, on the important agenda ahead of us. Secretary Mineta and I truly value our partnership with Congress and the work we do together to make our nation's aviation and space transportation systems the safest and most efficient in the world.

Commercial space transportation is an increasingly important part of our nation's transportation system. Last year, the FAA completed a study examining the contributions of commercial space transportation, and other industries that are linked to space transportation. We found that in 2002, commercial space transportation and enabled industries created more than $95 billion in economic activity, $23.5 billion in earnings, and 576,400 jobs. Commercial space launches deliver communications, weather and science satellites to orbit. Satellite communications are integrated now into our daily lives, providing us with television, access to the Internet, credit card purchasing, and digital radio.

The timing of this hearing is particularly appropriate given that tomorrow is the opening of the FAA's annual Commercial Space Transportation Conference here in D.C. This event will feature remarks by some of the key individuals in both industry and government and will include panels on the X Prize and Beyond, Emergent ELV Technologies, Regulating Outside the Box, Space and Air Traffic Management, and Educating Tomorrow's Engineers.

The FAA's Commercial Space Transportation Office is responsible for protecting public health and safety through the licensing and regulation of commercial space launches and reentries and the operation of launch and reentry sites. Our Commercial Space Office encourages, facilitates and promotes commercial launches and reentries and to facilitate the strengthening and expansion of the U.S. space transportation infrastructure. As always, our first priority is the safety of the public at large.

The Commercial Space Office was originally established in 1984, by President Reagan, following the passage of the first law governing the commercial space industry. It was located at that time in the Office of then Secretary of Transportation Elizabeth Dole. The Office was later transferred to the FAA in 1995. The Office licensed its first launch of an expendable, vertically launched rocket in 1989. Since then there have been 168 licensed launches by U.S. companies such as Lockheed Martin, Boeing, Orbital Sciences, and most recently Scaled Composites. Headed by Mr. Burt Rutan, Scaled Composites SpaceShipOne was the first private, *manned* vehicle to reach space. While the FAA does not license launches performed by and for the U.S. government—we do work very closely with our colleagues at NASA and the Air Force to establish seamless safety rules for both government and private launch facilities.

As you may know, commercial space launches are inherently dangerous and risky operations-- a fact that is recognized not just by those who are directly involved but also by the law and regulatory regime that governs the industry. As a result, the approach to safety in the commercial space arena differs from the approach for civil aviation, where

safety is achieved with the high reliability of today's aircraft. The FAA's safety focus in commercial space transportation has been on protecting the general public and their property from the dangers inherent in such operations. For launches, the safety approach is to contain the hazards. As noted above, rocket failures occur with some regularity. Historically, the failure rate has been approximately 10 percent for licensed launches. The mission of the FAA is to ensure that each rocket that fails has a safety system that ensures no damage is done to life or property on the ground.

Our licensing process includes a pre-licensing consultation period during which our technical team begins a dialogue with launch applicants regarding what they propose and requirements they must meet to receive a license. After this initial dialogue, we proceed to a more comprehensive review and analysis during which we analyze and evaluate every possible aspect of a proposed space launch operation. This includes a policy review, payload review, safety evaluation, financial responsibility determination, and an environmental review. We issue a license only after we determine that an applicant's launch or reentry proposal will not jeopardize public health and safety, the safety of property, or conflict with U.S. national security or foreign policy interests and obligations.

In addition to licensing launches, the FAA is also responsible for licensing and regulating the operation of launch sites. We have licensed four launch sites in the U.S. – in California, Florida, Virginia, and Alaska. Last year, we added a fifth—the Mojave Airport in California, which is a dual use facility. In fact, it is the first inland launch site in the country to receive a license. States are increasingly interested in hosting a launch site because they see spaceports as potential sources of future economic growth. We are currently in discussions with Oklahoma, New Mexico, and Texas about their license applications. In the future, we anticipate there will be a network of non-federal launch sites throughout the U.S.

During the 20-year history of the government's oversight of commercial space launches, there have been no launch accidents that have resulted in loss of life, serious injuries, or

major property damage. While there have been rocket launch failures, where, for example, the rocket malfunctioned or had to be destroyed deliberately because it veered from its intended trajectory, or where a satellite payload was not successfully inserted into orbit, the uninvolved public was still protected. We believe that this is an impressive safety record that speaks to the skill, dedication, and commitment to safety of the FAA's team, our industry partners, and of our government partners like NASA and the Air Force.

One of the key ways the U.S. supports the commercial space industry is through a statutory risk-sharing program between private industry and the federal government. It consists of three major components: (1) liability and government property insurance that is obtained by the launch operator; (2) cross-waivers of liability; and (3) provisions for payment by the government of third-party liability claims in excess of required liability insurance, up to $ 1.5 billion, as adjusted for inflation. This liability risk-sharing arrangement was recently extended by Congress through 2009 with a provision for a comprehensive study on whether this program could be eliminated and what alternatives there are to maintain a viable and competitive U.S. industry. Because of the excellent safety record of the industry, the indemnification provision has never been invoked.

Let me now briefly discuss FAA's recent commercial space activities. Last year the FAA licensed 14 commercial launches, the most since 1999 and more than what both NASA and DOD launched in 2004. These included five Atlas launches, three Sea Launch missions, one Taurus Launch, and five launches by SpaceShipOne. The industry is continuing to develop and evolve to an era of reusable launch vehicles, suborbital launch vehicles and, most recently, personal human spaceflight.

You may recall that last June, we all witnessed the first privately funded launch of a manned vehicle into space. Before that day, the commercial space industry dealt only in *unmanned* vehicles. Burt Rutan and his team at Scaled Composites accomplished this historic feat. Mike Melville piloted SpaceShipOne--traveling to an altitude of 337,500 feet and reaching the X-Prize threshold of space. The FAA's Associate Administrator,

Patti Grace Smith, presented Mr. Melville with the first FAA-issued commercial astronaut wings. A few short months later, on October 4th, I had the privilege of awarding the next set of wings to Astronaut Brian Binnie. Astronaut Binnie's flight on SpaceShipOne was the flight that won the $10 million Ansari X-Prize, which was awarded to the first company to launch a vehicle that carried the equivalent of three persons on board and returned twice within a two-week span.

Mr. Rutan and his team earned the respect and admiration of the entire country with the accomplishment. I am also proud of the exceptional licensing and safety work done by our FAA team, which included not only staff from our Commercial Space Office, but also experts from our Aviation Safety Organization and from our Air Traffic Organization. Our people worked tirelessly with Mr. Rutan's company throughout the development of SpaceShipOne to enable these historic flights and to fully protect the American public.

SpaceShipOne marked the beginning of a new chapter in commercial space transportation. A new generation of vehicles shows the potential for the development of a space tourism industry. Congress recognized this new beginning in passing last December the *Commercial Space Launch Amendments Act of 2004,* designed to promote the development of human space flight. It does so by giving the FAA responsibility over the safety of the crew and passengers. Under a new regulatory regime, paying passengers, deemed "space flight participants," will now be able to fly into space on board commercial space vehicles after such passengers are informed of and assume the significant risks of the venture. The new legislation sets an ambitious schedule for issuing rules on commercial human space flight. The FAA's staff are already working on rules for experimental permits called for by the new law and for rules on medical and training requirements for crew and space flight participants.

Advocates of this new law were concerned that "over-regulation" by the Federal Government might stifle development of new launch vehicles. Today's commercial space innovators have been compared to the barnstorming aviators that created the

foundation for what is now the safest form of transportation. Like those early pioneers, the innovators of today need an environment that will allow them to develop the spacecraft of the future. We agree that government regulation should not be the enemy of innovation, particularly where design concepts and standard are unknown. At the dawn of aviation, industry pioneers were left to create aircraft designs without benefit of government oversight. The government requirements for building or designing an aircraft date from 1926, more than 20 years after the Wright Brother's historic flight. Ensuring safety often is an evolutionary process. Part of the improvement to safety involves the simple result of mitigating risks and learning from mistakes.

Government oversight of civil aviation evolved as the aircraft industry developed. Likewise, government oversight of commercial space transportation must also evolve appropriately as the industry matures. This may mean permitting more risk now to those who choose to assume those risks in order to achieve an ultimately safer, more advanced launch vehicle. At the same time, the new law does not disturb the FAA's current authority to fully protect the safety of the uninvolved public. I assure you, we will continue to take that responsibility very seriously in conducting our licensing and permitting reviews under the new law.

Finally, Mr. Chairman, let me say a few words about the current economic condition of and outlook for the industry. In the orbital segment of the industry, there has been a downturn in the launch of expendable launch vehicles (ELV's) from 2000 to the present. Today, the supply of available launch vehicles internationally has increased while demand has not. As a result, launch prices have dropped compared to the mid-1990s. In addition, U.S.-manufactured launch vehicles have to compete against low-cost Russian rockets. At this time, the future outlook for 2004-2013 is for only slight growth in the expected demand for commercial launch services.

We see future potential growth in the suborbital segment of the industry, as new U.S.-built vehicles are developed to meet the demand for human space travel and tourism. As noted above, SpaceShipOne's five launches have led the way. Additional entrepreneurs

are expected to enter the market. For example, Sir Richard Branson, owner of Virgin Airlines, announced plans to fly customers into space aboard a fleet of five passenger rockets on a service he will call Virgin Galactic. We understand he plans to lease or buy these spacecraft from Scaled Composites, no doubt a welcome investment for the innovative American company.

In conclusion, I want to assure the Committee that the FAA will continue to strive to be proactive, vigilant, and responsive to the needs of the commercial space transportation. We will create a sound regulatory framework that protects public safety while enabling the industry to manage risk, evolve its technology, and bring its products to the global marketplace with appropriate regulatory oversight. As Secretary Mineta recently said before the Aero Club here in Washington: "The first rule, to quote an old adage, is 'do no harm.' This means that your government will not stand in the way of airlines as they seek to innovate. It means giving the fledgling commercial space industry the freedom to develop, and I am very pleased that we now have a streamlined legislative foundation in place to support this exciting new area of transportation." I agree with the Secretary.

That concludes my prepared statement, Mr. Chairman. I would be happy to answer any questions you and the Members of the Subcommittee may have.