

STATEMENT OF WILL WHITEHORN,
PRESIDENT,
VIRGIN GALACTIC
BEFORE THE HOUSE SUBCOMMITTEE ON SPACE AND AERONAUTICS
APRIL 20, 2005

Chairman Calvert, Ranking Member Udall, and other Members of this distinguished Subcommittee, on behalf of Virgin Galactic, thank you for the opportunity to testify today. Virgin Galactic appreciates the chance to explain how, with an unwavering commitment to safety, we plan to make available and affordable an adventure of a lifetime. We are proud to be on the leading edge of the commercial space industry and honored to have Burt Rutan as our future partner.

I am Will Whitehorn, the President of Virgin Galactic. I also am Group Corporate Affairs and Brand Development Director for Virgin Management Limited. I have nearly 30 year of aviation experience having previously worked for British Airways and Thomas Cook before joining Virgin in 1987.

At the outset, I wish to acknowledge the invaluable leadership the House Science Committee and this Subcommittee provided last year for the nascent commercial space industry. You ensured Congress struck a proper balance in the Commercial Space Launch Amendments Act of 2004. Had it not been for that sensitivity in crafting a proper regulatory oversight regime consistent with the goal of permitting our emerging industry to realize its full potential, it is unlikely the Virgin Group would have made our considerable commitment to Virgin Galactic.

Virgin Galactic is a private sector venture. We receive no state aid. Frankly, we think that is the way it should be. Entrepreneurs like Sir Richard Branson who are willing to shoulder the economic risk and challenge of commercializing space will be the most successful innovators who lead this industry and chart its course. Government's proper role is regulatory oversight and creating a climate in which entrepreneurs can translate their vision into reality and innovation can flourish.

The history of Virgin Galactic goes back to the mid-1990s when Sir Richard Branson identified that new technologies in composite materials, rocketry and computing could easily lead to the development of safe, economical reusable spacecraft in the future. At that time, we registered the Virgin trademark in the area of space travel. In 1999, we registered the Virgin Galactic name.

Virgin has a long history of working with Burt Rutan going back to the early 1990s. When Mr. Rutan informed us he was building a spaceship for a private customer to win the X Prize, we made a commitment to him that we would be prepared to develop a commercial version of SpaceShipOne should he be successful. Over the last year we have negotiated with Paul G. Allen, the visionary and financier behind SpaceShipOne, to buy the rights to use his technology. Following the successful conclusion of these negotiations, we signed a \$21.5 million deal for the use of that technology and developed a \$100 million investment plan to build up to five spaceships at Mr. Rutan's factory in Mohave, California. The plan for the ships themselves is being developed by Mr. Rutan to a specification created by Virgin Galactic.

Safety obviously is our first priority. Our commitment to safety extends beyond the Virgin name, one of the best-known and most valuable brands in the world. Sir Richard Branson has said that he, along with his parents, son and daughter plan to travel in Virgin Galactic's first space flight. If the Federal Aviation Administration permits me to do so, I hope to be on an earlier test flight. Our commitment to safety is very real and personal to us. Safety is and will continue to be Virgin Galactic's North Star.

Suffice it to say that the Virgin Group has considerable experience in issues regarding passenger carriage and an unwavering commitment to safety. Virgin currently operates three separate airlines around the world which together carry over 50 million passengers a year. The best-known of these is Virgin Atlantic Airways whose main business is operating scheduled services between the United Kingdom and a variety of destinations in the United States, as well as flights to the Far East, Africa and Australasia. We have an unblemished safety record having never lost a single passenger in over 21 years of operation. All of our airlines also are profitable without ever having received any state subsidy. We also operate the UK's largest long-distance rail company which also has an unblemished safety record despite carrying 35 million passengers per year at speeds over 125 miles per hour.

Let me briefly describe the out-of-this-world service Virgin is known for that, quite literally, we intend to offer to Virgin Galactic customers. It is envisaged that the astronauts we carry will experience a two hour trip. Half of that will involve the thrill of climbing to a safe altitude with the mother ship and then our astronauts will experience

the exhilaration of spending an hour on SpaceShipTwo as it accelerates to over three times the speed of sound and climbs to well in excess of the 100km altitude officially recognized as entering space, and becoming one of the few humans to have left the planet. Our current plan is to begin operations in Mohave and then develop a second site in another location that could possibly be either Florida, Texas or New Mexico. The flights will be what is known as sub-orbital. The pioneers who become astronauts with Virgin Galactic will initially pay \$200,000 for the trip but the Company hopes to reduce the cost over time as the business develops. Our long-term goal is to develop commercial space tourism into an orbital business which could in the future carry payloads as well as people into orbit.

Chairman Calvert, the Subcommittee asked that I address several specific questions in my testimony. Let me turn to them now.

The Subcommittee asked about the timetable for taking possession of the Virgin Galactic spacecraft, first flight and expected profitability. At this time, Virgin Galactic has a memorandum of understanding with Mr. Rutan's company, Scaled Composites, to customize the SpaceShipOne vehicle for commercial use. Design work to that end continues. However, we have not yet formally ordered the spacecraft. After US Government technology transfer issues are clarified and addressed if deemed necessary, we hope to place a firm order for the spacecraft. At this point, due to uncertainty about possible licensing requirements, we are not able to even view Scaled Composites' designs for the commercial space vehicle.

Mr. Chairman, we are not concerned about this lack of clarity on the technology licensing issue and the nominal delay it has caused to date. Like any nascent industry overseen by government oversight agencies faced with issues of first impression, we understand instances such as this are to be expected. We are continuing a robust and cordial dialogue with the Department of Defense and other agencies that provide input on technology licensing issues. We hope a consensus can soon be reached that will clear the way for us to move forward with a formal order for Mr. Rutan's spacecraft.

In terms of first flight, we are hopeful Virgin Galactic will begin service in either 2008 or 2009. Let me be clear, this is an estimate only. As I testified earlier, safety is our North Star and it will determine our launch date. We will launch as soon as our safety assessments and training dictate we do so, and not a day before. Our launch date estimate also assumes prompt clarification of the US Government technology licensing issue I just mentioned. The longer it remains unresolved, it could adversely impact our projected launch date.

As far as profitability is concerned, our business plan projects that we will attain profitability in our fourth or fifth year of operation. Importantly, this estimate assumes five spaceships, two launch aircraft or mother ships, and two launch bases in the United States. If the schedule for deploying any of these assets slips, it would negatively impact our target date for profitability.

Mr. Chairman, the Subcommittee asked that I comment on the differences in procuring a commercial spaceship fleet and Virgin Atlantic's experience acquiring a fleet of commercial aircraft. At the risk of sounding trite, the short answer is everything. Virgin Atlantic is a customer of both Boeing and Airbus aircraft. Being a customer of commercial aircraft essentially is a passive process. While you can request some custom features, the aircraft as designed by the manufacturer essentially is a complete unit and customer suggestions and requests tend to relate to the margin. Virgin Galactic's relationship with Scaled Composites is very different. It is an active partnership. It is envisaged that we will work very closely together designing the aircraft and sharing our complementary expertise. Simply put, it will be a symbiotic relationship where ideas and intellectual capital are shared by the customer and manufacturer to ensure a successful product that benefits both.

This active partnership dynamic is precisely why we are so pleased to have Burt Rutan as our future partner. Incidentally, in a decade or so when the history books are written describing the birth of the commercial space industry, I am confident that just as the Boeing brand is synonymous with ushering in the age of commercial jet travel, Scaled Composites will deservedly receive similar recognition for its trailblazing role in our industry.

Mr. Chairman, let me now turn to the question the Subcommittee asked about what preparations we presently are undertaking for the use of the spaceships we plan to purchase from Mr. Rutan. We are focused on complying fully with the letter and spirit of

the Commercial Space Launch Amendments Act of 2004. Scaled Composites will have sole responsibility to certify the spacecraft. However, together, we are engaged in an active dialogue with the Federal Aviation Administration on other aspects of our business. At the same time, we are designing a program to prepare our astronauts for an incredible sensory experience and to allow them to gain the maximum from their journey to space. That program will include training in all areas from physiological to psychological. We want to ensure our passengers have the optimum sensory experience but, even more importantly, that the operation will be undertaken with the utmost safety, consistent with safety being our absolute priority.

Finally, Mr. Chairman, you asked what, if anything, should the government be doing to encourage commercial space. Let me reiterate a point I made earlier. Virgin Galactic is a private venture. Consistent with our belief that the proper role for government in encouraging the commercial space industry should not include financial subsidies, we receive no state aid. We believe there is great potential for mutually beneficial partnerships between NASA and private companies involved in our emerging industry. In other words, we support public-private partnerships. For instance, NASA should seek opportunities to contract with private sector manufacturers for cutting-edge designs and outside-the-box thinking. I am encouraged by signs of progress in NASA's willingness to engage with the private sector in idea sharing. This spirit of cooperation should be encouraged and broadened whenever practical to do so. Virgin Galactic, for example, would welcome the opportunity to provide assistance to NASA for aspects of astronaut training. If NASA's first instinct is to look to private sector commercial space

partners for opportunities to work together, I believe both NASA and our industry will be the better for it.

Mr. Chairman, let me conclude by again thanking you, Ranking Member Udall, and other Subcommittee Members for the opportunity to testify today. Virgin Galactic looks forward to working with you and your staff. Burt Rutan has expressed his wish to put the first private spacecraft on Mars. It may be several more years before I get the chance to address the Subcommittee on that subject! I am pleased to respond to your questions today and to keep you apprised of relevant developments as we prepare to take-off.