Private Human Space Flight:
Real and Imminent

Remarks by

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Good afternoon. It's a pleasure to be with you.

The two most important things I can tell you today about private human space flight are, <u>first</u>, it's real, and, <u>second</u>, it's imminent.

Perhaps you saw the Neiman Marcus holiday catalog last year offering a suborbital flight for six. And you've probably heard a broadcast or read an article somewhere in the last six months about agents taking reservations and people signing up for trips to space.

Maybe you shook your head, smiled at the novelty and thought, "Uh, huh. I'll believe it when I see it."

That's why I want to preface today's discussion by telling you as emphatically as I can that private human space flight is not some wildcatter's free lance pipedream. It's real and just around the corner.

Where we are in commercial space is the result of reasoned private investment decisions, technology advances, and systematic choices by policy makers.

So where exactly <u>*are*</u> we in commercial space?

To begin with, we're <u>*23 years*</u> into the existence of the Office of Commercial Space Transportation that I now lead.

We're over 180 licensed launches into the commercial space story, launches without loss of life or significant damage to private property.

We're beginning the third year of operation under the Commercial Space Launch Amendments Act of 2004. That legislation gave the Secretary of Transportation, through my office in the FAA, the responsibility for facilitating, encouraging, promoting and regulating private human space flight.

We're in the month when regulations mandated by the 2004 legislation … the regulations governing crew and space flight participants …actually take effect.

We are at the point when we now have six licensed spaceports in the United States. And more states are asking about becoming a spaceport as they foresee economic opportunities – jobs, cottage industries and the like.

Actual space vehicles are under construction, and some are undergoing flight tests like those built by Armadillo, Blue Origin, and Bigelow.

RocketplaneKistler and Space X won the competition last summer to develop commercial vehicles that NASA hopes to use to service the International Space Station.

Richard Branson's Virgin Galactic and Burt Rutan's Scaled Composites, the team that won the $10 million Ansari X Prize, have teamed up again to form the Spaceship Company and build the vehicle that will carry those passengers mentioned in the Neiman Marcus catalog. Once Virgin begins its operational flights in the 2009 time frame, the Spaceship Company plans to make these new vehicles called "SpaceShipTwo" available to others interested in purchasing them.

The fact is, commercial space has crossed many thresholds … from public awareness, to action by policy makers in both the legislative and executive branches, to legitimate investment opportunity. And private citizens will soon cross another threshold and make suborbital trips.

Well, you might say, good for them. But what does all that have to do with this panel?

Let me answer with a little story.

Two years ago, the FAA conducted an International Aviation Safety conference. It drew top aviation executives and Directors General from all over the world, about 500 to 600 people. And, for the first time, commercial space found a spot on the program. It was an afternoon panel discussion called, "Private Human Space Flight: You Can't Be Serious … Can You?"

It was an excellent panel, featuring people who have been in space as well as people developing spacecraft. But … the overall conference was, after all, an aviation venue to which policy makers from other countries came to discuss key aviation topics of mutual concern.

Fast forward one year to November 2006. The FAA's International Aviation Safety conference convenes again. The luncheon in the ballroom on the first day includes the most prized speaking slot. It's the plum. It's the place where you have all the conference attendees assemble to hear something special about the world of aviation.

The featured speaker this time was … Elon Musk, the founder and driving force behind Space X, one of the most innovative and progressive operations in the new world of commercial space … a *rocket* builder.

And the title of his speech? "Ask Yourself: What Happens When the Rockets Arrive?"… a topic *vastly* different from the you-can't-be-serious panel the year before.

He left that distinguished aviation audience with a number of questions. For example …

- **When a rocket is launched, should the surrounding air space be shut down and for how long? How do you define "surrounding?" How long is "long"?**
- **Do you restrict launches to certain locations and certain times?**
- **How far should launches be from populated areas?**
- **How do you handle a potential increase in space operations when air traffic is expected to double within the next ten years?**
- **What about rocket corridors through the air space?**
- **How do you share information on rocket flights with air traffic controllers?**

Those are questions in need of answers because the rockets actually are on the way. And more and more people understand that. For example, at the opening session of the Virginia State Legislature, a Joint Resolution was introduced requesting a study on further development of the Mid-Atlantic Regional Spaceport at Wallops Island. Among the

items listed was to identify potential state legal barriers to human space flight, including liability and assumption of risk issues.

As long as the topic is "questions," let me ask the legal experts here, does "informed consent" mean something different for a space flight participant than it means in a medical context? If different, how different? How do you know the person is informed? Whose responsibility is it? Can third parties attach themselves? Does cognizance mean the same thing? How pure is the notion that we have the right to take our own risk?

On the policy front, what would be the reason for not providing "indemnification" to space flight participants? What policy reasons could play into not requiring space flight participants to release all claims against a launch operator?

This afternoon, I don't expect we'll reach consensus on any of the questions I've raised … or even come close. But we need to be working on them. So let me stop for now where I began by repeating this simple truth.

Private human space flight is real and it is imminent. And that's truly something to think about.

Thanks very much.