

## **FUTURE OF U.S. SPACE LAUNCH**

The Aerospace States Association

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### ***“State Perspective Presentation”***

I want to start by thanking the Aerospace States Association (ASA) for holding this forum and for their steadfast leadership in bringing states together that share an interest in the aerospace industry. One of the most well regarded efforts of ASA is their work in conjunction with the Aerospace Industries Association (AIA), Embry-Riddle Aeronautical University, and others to increase our education in Science, Technology, Engineering and Math (STEM) through the Real World Design Challenge program, which allows students to apply classroom lessons to technical real world problems. From a states perspective, this type of education is a key part of developing the next generation of technically trained professionals to advance the United States in the world market and ensure states have a sufficient skilled workforce to compete.

My mission today is to summarize issues from the states perspectives concerning the U.S. space launch program. While I represent Alaska Aerospace Corporation, today I will be reflecting on the common interests that a number of states hold in regards to states contribution to our national space program and ways that states and the federal government can work in closer cooperation to decrease the cost of space launch and increase United States competitiveness in space operations.

Fifty years ago the United States was the leader in space exploration and operations. Over time, we have lost a significant share of the space marketplace to foreign competition, i.e. Europe/French Guiana, Russia, Japan, India, etc. As we look to the future, China appears to be a rising challenge to our space program and to our ability to recapture the marketplace. How the United States responds in the next few years will determine whether we cede space to others, or regain a leadership role in space for generations to come.

One of the definitions of insanity is trying to do the same thing over and over again and expect different results. What a great way for us to look at our current approach to space and the possibility that this is the reason we have lost so much of the market to off-shore providers.

Following the vision of President John F Kennedy and his proclamation in 1961 to land a man on the moon by the end of the decade, we stalled in a bureaucratic quicksand. We must rekindle the excitement, vision, and fortitude to once again reclaim leadership in space. But, our nation can no longer pursue space operations under the same construct that has been used these past fifty years, where space was virtually the sole domain of government. Under the traditional model, we have simply priced ourselves out of the marketplace and the result is that the majority of U.S. commercial payloads are now launched off-shore. It is no secret that the United States faces a significant financial challenge with the federal budget. And with the cost of government launches rising, we are now making program decisions that will most probably further limit our capabilities in space due to an inability to afford launch and operations.

Today the average American relates space in the U.S. to Cape Canaveral, Kennedy Space Center, and Vandenberg AFB. These facilities are certainly the historical icons of our past leadership in space. But unknown to many Americans, the United States has developed a series of other space facilities which provide us with exceptional launch capacity but, which I will argue, are grossly underutilized.

One of America's oldest launch facilities is the NASA complex at Wallops Island, Virginia. While Wallops is a Federal complex, the states of Virginia and Maryland joined together, in association with Old Dominion University, to create the Mid Atlantic Regional Spaceport Authority (MARS) and they are making investments at Wallops to support commercial operations. Led by the Virginia Commercial Space Flight Authority, MARS is completing one of the most aggressive investment programs currently being pursued to modernize America's space program: The construction of a medium-lift, liquid fuel rocket launch facility that will be used by Orbital for their east coast Antares operations. This is an excellent example of space infrastructure support by states to support our national space program. MARS operates an FAA licensed commercial spaceport.

In Florida, the legislature created Space Florida as an Independent Special District of the State of Florida for the purposes of fostering the growth and development of a sustainable and world-leading space industry in Florida. Space Florida has acquired the lease for two launch facilities within the Cape Canaveral Air Force Station, one for liquid-fuel launches and one for solid-fuel launches, and they are aggressively pursuing launch opportunities under the state sponsored spaceport. In addition, Space Florida has a single suborbital launch pad, as well as the recent acquisition of facilities at Cecil Field. Space Florida has also been active in the development of many diversified space capabilities for Florida. In 2010 alone, the State of Florida invested \$43.0 million in infrastructure improvements supporting space, including business development credits and transportation capital projects. Space Florida operations are FAA licensed.

The New Mexico Spaceport Authority was created in 2006 to pursue orbital and suborbital space operations as America's first purpose-built spaceport. After signing a Memorandum of Agreement between Governor Richardson and Sir Richard Branson to locate Virgin Galactic World Headquarters in New Mexico, from which Virgin Galactic will operate commercial passenger spaceflights, New Mexico took the lead to develop the necessary infrastructure. Groundbreaking of the spaceport occurred in 2009. The runway was dedicated in 2010 with terminal construction currently underway. The State of New Mexico has invested over \$200.0 million in the development of Spaceport America and Spaceport America is also an FAA licensed spaceport.

Alaska Aerospace Corporation is a state-owned, independent company which owns and operates the Kodiak Launch Complex. Sitting on 3,700 acres of state land at Narrow Cape, Kodiak, KLC is configured for small-lift, solid-fuel vertical launches into polar orbit. To date, there have been 16 successful launches. The State of Alaska has invested approximately \$40.0 million against a federal investment of just under \$150.0 million. In recent news, Lockheed Martin announced they selected KLC for their exclusive west coast operations of the medium-lift Athena III rocket, which compliments their previously announced decision to launch the small-lift Athena II solid fueled rockets from KLC starting in late 2013. To support this development, Governor Parnell is requesting \$25.0 million from the Alaska legislature as the state match against private funding for construction of a new medium-lift launch pad, to be completed by 2014. KLC is an FAA licensed spaceport.

Other states are also pursuing space operations. In California, the Mojave Air and Space Spaceport was the nation's first non-federally licensed commercial spaceport; in Oklahoma, the Oklahoma Space Industry Development Authority is working to develop space operations at the former Clinton-Sherman Air Force Base; and in Colorado, the Front Range Airport is taking the initial steps at determining the viability of a spaceport in Colorado. And not to slight any state, there may be other initiatives under consideration that further bolster my position that states are an important sector of our national space program.

**Today I would like to propose a shift in the national discussion concerning space capabilities away from how much can we do under the current Federally weighted, highly expensive construct to greater utilization of cost-effective state sponsored alternatives which will allow the U.S. to increase space capabilities without increasing budgets. So you ask, How can that be done?**

Both the Bush and Obama Administrations have recognized the value of commercial space operations as a means to optimize space access. Both administrations have focused policies on developing a greater commercial market in the United States for space operations. In fact, the 2010 National Space Policy, issued by President Obama, clearly articulated that a

robust and competitive commercial space sector is vital to continued progress in space. This emphasis on stating “vital” is a clear message that commercial operations are a key cornerstone to the United States future success in space. And within the policy, the commercial space guidelines states that departments and agencies shall purchase and use commercial space capabilities and services to the maximum practical extent when such capabilities and services are available in the marketplace and meet United States Government requirements.

Likewise, the 2005 U.S. Space Transportation Policy written by the Bush Administration is clear that the government must sustain and promote a domestic space transportation industrial base, including launch systems, infrastructure, and workforce, necessary to meet on-going United States Government national security and civil requirements. This policy goes further to specifically state that the Federal Government shall encourage private sector and state and local government investment and participation in the development and improvement of space infrastructure, including non-Federal launch and reentry sites.

But while both documents are very clear on the need for the U.S. to rely more on commercial operations, to include states, our current Federal bureaucracy has been slow to implement that direction. President Obama is in the midst of rewriting the U.S. Space Transportation Policy and I want to commend Chirag Parikh for his understanding of the need for greater commercial and state facility use and his work on this effort.

I also want to acknowledge the leadership of ASA for their initiative to encourage the Obama Administration to pursue greater partnerships between states and the Federal government. In an ASA letter to President Obama, signed by a number of Lt Governors, ASA specifically suggested that the Administration issue a policy or directive that encourages Federal agencies to partner with state space agencies in pursuit of our National Space Policy goals. I believe this opportunity presents itself right now with the rewrite of the U.S. Space Transportation Policy.

Specifically, the U.S. Space Transportation Policy should be revised to more clearly delineate the federal government’s responsibility to include state sponsored space launch and operations infrastructure in providing resilient and assured access to space. A simple clarification that recognizes state sponsored infrastructure as national space assets and guidance that Federal agencies must aggressively pursue the use of state sponsored facilities which meet Federal government program objectives and are cost-effective in all competitive bid components would let Federal agencies more clearly understand that doing business with states is expected. Finally, this direction should include strong encouragement for Federal agencies to develop partnerships with state sponsored, owned, and/or operated facilities to cost-effectively meet ongoing and projected U.S. national security and civil space access requirements.

In closing, states have made significant investments in space infrastructure. Greater use of these facilities by the Federal government creates the potential of increasing space access for our nation and providing cost-effective operations, allowing the U.S. to bring back some of the commercial business that has moved off-shore, while concurrently lowering the cost and increasing reliability for space operations. It also incentivizes states to continue investing in space infrastructure and facilities. Let's not miss this opportunity.

