

HOLD UNTIL RELEASED BY THE  
U.S. SENATE

STATEMENT OF

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FOR ACQUISITION, LOGISTICS AND TECHNOLOGY

BEFORE THE

SENATE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION

AND THE

SENATE COMMITTEE ON ARMED SERVICES SUBCOMMITTEE ON STRATEGIC  
FORCES

ON

OPTIONS FOR ASSURING DOMESTIC SPACE ACCESS

JULY 16, 2014

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Chairmen Udall and Nelson, Ranking Members Sessions and Cruz, and distinguished members of the Committees, I appreciate the opportunity to testify to you about assuring space access.

## **Introduction**

Defense space capabilities are central to our national security. Our assured access to space provides national security decision-makers with unfettered global access and unprecedented advantages in national decision-making, military operations, and homeland security. We cannot achieve this without an efficient and reliable space launch capability. The nation requires robust, responsive, and resilient space transportation capabilities that enable and advance our space operations.

## **Reducing the Cost of Space Launch**

The Evolved Expendable Launch Vehicle (EELV) program has provided launch services for critical national security payloads since 2002 with an unprecedented record of success. The Air Force and the Office of the Secretary of Defense took steps in 2012 to significantly restructure the EELV program based on a significant concern over the escalating cost of domestic space launch. Our goal was to maintain this critical capability through a more cost effective and efficient execution of the program. The Air Force devised a strategy that balances efficient procurement of launch services, maintains mission assurance, and reintroduces competition into the EELV program. The strategy was structured to allow for competition between the United Launch Alliance (ULA) and certified New Entrants as early as possible. As a direct result of this strategy and our concerted efforts to apply Better Buying Power principles to the program, in December of last year, we successfully negotiated and awarded a contract for launch services over five years with ULA for the procurement of 36 EELV cores. A core is generally one launch vehicle, with the exception of the Delta IV Heavy, which requires three cores. This contract award has had two significant impacts: 1) it effectively stabilizes the U.S. launch industrial base and; 2) saves the DoD and taxpayers more than \$4.4 billion dollars when compared to the FY12 President's Budget baseline.

Since restructuring the program, we have stopped the burgeoning cost of maintaining a domestic launch capability, without sacrificing the rigor required to maintain mission success, thus concurrently achieving the program's two most important goals. At the same time, the

Department is encouraged by the potential for competition to include capable and certified New Entrant launch providers in the years to come.

## **Competition**

The Under Secretary of Defense for Acquisition, Technology & Logistics approved the Air Force's strategy to reintroduce competition into the EELV program on November 27, 2012. To facilitate competition, the program is working with multiple potential launch service providers, such as Space Exploration Technologies Corporation (SpaceX) and Orbital Sciences Corporation, to successfully complete the New Entrant Certification process. The Air Force received the first Statement of Intent (SOI) from SpaceX on February 7, 2012, and it was revised in August 2012. Subsequently, the first New Entrant Assessment Certification Plan was developed by SpaceX for the Falcon 9 v1.1 launch system and was documented in a joint Air Force/SpaceX Cooperative Research and Development Agreement signed on June 7, 2013. SOIs have also been received and initially assessed for the Orbital Sciences Corporation Antares launch vehicle and the SpaceX Falcon Heavy variant.

The Air Force competitively procured launch services from SpaceX for the joint NASA/NOAA Deep Space Climate Observatory payload and a Space Test Program mission, STP-2 on November 30, 2012, through the Orbital Suborbital Program OSP-3 (non-EELV) contract. These missions allow the New Entrants to provide launch services for lower risk missions to the government while gaining operational experience and exposing them to the Government's Mission Assurance processes. This experience positions a new Entrant, once certified, to compete more effectively for future EELV-class National Security Space (NSS) missions.

Based on the current New Entrant certification schedule, we expect that the SpaceX Falcon 9 v1.1 could be certified to lift NSS missions as early as late 2014. In the meantime, SpaceX will continue to prove its capabilities through a combination of launch operations for NASA and commercial customers along with the launch services already awarded for the more risk tolerant NASA/NOAA Deep Space Climate Observatory and STP-2 missions. The Air Force and National Reconnaissance Office have also issued leading edge integration contracts to SpaceX for several NSS missions in advance of their actual certification. These contracts are just one more active step the Department is taking to ensure that once a New Entrant, such as SpaceX, is

certified as an EELV provider, they will be prepared to compete for NSS launch services. The Air Force is also working with other potential new entrants, such as Orbital Sciences Corporation, that are in various stages of the certification process. In support of the Department's effort to aggressively introduce competition at the earliest opportunity, we have included a request to realign \$100 million in the FY14 Omnibus Reprogramming for additional competitive launch procurement in FY15.

### **Mission Assurance**

The Department of Defense has conducted 72 successful EELV missions since 2002, after refocusing on the importance of Mission Assurance following a string of failures in the late 1990's. The Department intends to retain this focus on Mission Assurance as we reintroduce competition into the Department's EELV program and evaluate the options for future rocket propulsion. In cooperation with each of the prospective EELV New Entrants, we are implementing a multi-step certification process designed to ensure all new launch service providers meet the existing high U.S. Government levels of design and operational reliability prior to awarding a NSS launch service certification. The Mission Assurance process has evolved over the last 15 years into a flexible and efficient process that is tailored to a particular set of mission requirements based on the risk tolerance of the payload to be launched. We intend to continue to evolve this process as new entrants are on-ramped into the EELV program.

### **Use of the Russian RD-180 Rocket Engine**

The United States is not dependent or reliant on Russian technology to launch our critical space assets. The Delta IV launch vehicle has a domestically produced propulsion system that is capable of lifting all National Security payloads. Additionally, once certified, New Entrants are expected to be able to lift a large portion of the NSS manifest. The ultimate goal is the entire manifest being competed using domestically produced propulsion systems.

Approximately 18 years ago, we chose to utilize the Atlas V with the Russian RD-180 engine as a cost effective way to meet the National Space Transportation Policy Assured Access to Space policy.

As a result of the recent Russian aggressive action in the Ukraine, we have begun to reevaluate our utilization of the Russian manufactured RD-180 rocket engine. The RD-180 rocket engine is used to power the Atlas V first stage and provides access to space for critical

national security space payloads. There were sound policy and cost saving reasons for the original decision to allow the incorporation of this engine into a U.S. launch vehicle. One of the considerations explicitly addressed at the time of that decision -- and periodically since that time -- was the risk associated with utilizing a non-U.S.-manufactured article for a critical national security capability. Recent events have renewed our existing concerns with this practice.

The Department believes the Nation needs to eliminate our utilization of Russian propulsion systems in the most efficient and affordable manner possible. This requires evaluation of a range of alternatives. For this reason, and because the possibility of an engine supply interruption continues to exist, the Department initiated a review of the options available in order to mitigate a supply interruption, should it occur. The study included evaluating both immediate and longer term responses to a potential interruption of supply; including re-manifesting of missions to the Delta IV launch vehicle, evaluating the options for developing a new domestically produced engine, as well as the possible utilization of EELV New Entrants to supplement existing government space lift capability. The Department continues to evaluate the range of mitigation measures for the longer term. The study clearly identified that any deviation from the current program of record will require a significant near-term investment. As an initial step, the Department has requested \$40 million be reprogrammed to initiate engine risk reduction activities. Today, the incumbent contractor, ULA, maintains a reserve stock of engines in the U.S. Currently there are 15 in stock, with an expected delivery of 5 more before the end of the year, which will support launches through late FY16. In addition, as noted above, we have maintained an alternative domestic capability with the Delta IV variant of the EELV to launch national security payloads. That capability will be increased and diversified as new U.S. providers are certified to launch national security payloads. Nevertheless, the long-term U.S. national security interests, and those of significant elements of our space industrial base, would be enhanced by shifting to next generation U.S. developed engines.

## **Conclusion**

The goal of the Department has been, and continues to be, to stabilize the EELV program to make spacelift more affordable while leveraging the advantages of competition. We have accomplished this goal by implementing the principles of Better Buying Power, saving over \$4.4B for the taxpayer since the FY12 President's Budget, and setting in motion a sound strategy

to foster future competition. We will continue to stress the importance of mission assurance that has already resulted in 72 straight successful EELV launches.

The continued use of Russian manufactured propulsion systems has been and continues to be a difficult question. The Department will continue to work with its partners in creating an affordable and technically low-risk plan to reduce the nation's use of Russian manufactured rocket propulsion systems. Once we have formalized our preferred approach, we will be happy to return and share it with you and your staff.

Thank you again for this opportunity to discuss the Nation's space launch capability. I look forward to answering your questions.