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SUBCOMMITTEE ON STRATEGIC FORCES
HOUSE ARMED SERVICES COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE
SUBCOMMITTEE ON STRATEGIC FORCES
HOUSE ARMED SERVICES COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: Joint Space Launch

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Introduction

Chairman Rogers, Ranking Member Cooper, and distinguished Members of the Subcommittee, it is an honor to appear before this Subcommittee to discuss assured access to space and the dedicated men and women of Air Force Space Command (AFSPC) who provide foundational space capabilities to this Nation. These capabilities provide mission-critical global access, persistence, and awareness for our national security, which are vital to the global community and the world economy. They play a critical role in our Nation's ability to deter aggression and are essential across the entire range of civil and military operations; from humanitarian and disaster relief through major combat. Space assets have been a key element of warfighting for over 30 years, providing a unique vantage to observe activity around the globe, relay terrestrial communications, and provide precision position navigation and timing information on which warfighters and the global economy depends. Space launch itself is a critical national capability enabling not just military, but civil and commercial space programs, contributing to the United States economic success.

The challenge before us is to ensure space services continue to be available at the time and place of our choosing in an increasingly challenging space domain. The first step in this process is to assure our ability to provide safe, reliable, and available access to space for national security payloads. Assured access to space is our prime directive, our highest priority. It is also an extremely expensive enterprise. Foundational to this priority is taking into account risk management, affordability, and competition among providers. We must preserve assured access while driving down costs.

In recent years, we have established an unprecedented launch success record by placing an uncompromising premium on mission assurance. Such strict processes and standards were

developed in response to major failures in the late 1990s. I remember those failures, and I remember how we took our eyes off the ball, off the critical standards we must follow to ensure every single launch has the highest probability for success. These standards, which have helped ensure no major failures in national security launches since 1999, helped inform our new entrant certification process. We will continue to maintain a high standard for mission assurance principles in order to do all that is humanly possible and fiscally responsible to guard against launch failure. Launch is rocket science. The satellites on top of each and every rocket we launch represent hundreds of millions, even billions, of taxpayers' dollars; and, perhaps even more importantly, provide our warfighters unprecedented asymmetric advantages on the battlefield. We have developed a very good formula for mission success. We cannot afford to lose it.

Assured Access to Space

Assured access to space is AFSPC's highest priority; it is essential we sustain a reliable capability to deliver national security satellites to space. The Evolved Expendable Launch Vehicle (EELV) team continues an unprecedented string of successful national security space (NSS) launches. In 2014, the Atlas V and Delta IV launch vehicles executed 13 launches, nine of which supported NSS missions, extending the record of EELV total launch successes to 78 as of March 2015. These launch vehicles carry our most precious spacecraft into orbit including global navigation and timing, missile warning, communications, weather, and intelligence spacecraft.

In addition to building on the unprecedented string of launches, the launch enterprise team executed two launches in a span of only four days on the same coast, a never-before-seen turnaround. Furthermore, the team also executed two launches in seven days, but from different

coasts. The launch enterprise and EELV team remain focused on ensuring 100 percent mission success, one launch at a time.

Within the context of assured access to space, the Command's launch priorities are to eliminate the use of the Russian RD-180 rocket engine, and to reintroduce competition into the EELV program using the mission assurance process that has made the EELV program successful. This commitment is exemplified by the dedicated professionals at the Space and Missile Systems Center, under the command of Lieutenant General Sam Greaves, who have worked tirelessly to develop a plan to transition off the RD-180 without sacrificing assured access to space and mission assurance, and to certify new entrants into the space launch enterprise. I want to assure the members of this distinguished subcommittee of our continued commitment to transparency and due diligence as we move forward with these important activities.

Launch Competition

Since 2006, to safely launch our capabilities we have relied on a single industrial partner whose mission success is beyond question. This was necessary when there was a critical need for robust launch vehicle performance and limited business opportunities; however, the market is now growing in commercial space. U.S. commercial companies want to invest in, and compete for, government contracts. The U.S. Government now has an opportunity to leverage the commercial launch market more than we have in the past in order to drive price points on the NSS launch solution that would be more competitive for commercial launch. We are absolutely committed to support competition and a healthy space industrial base. In order to sustain an affordable assured access to space, we must have a healthy industrial base. There are good reasons for exacting standards and rigorous certification; however, we must continue to welcome

new partners into this arena. The Air Force is committed to getting new entrants certified as quickly as possible.

Finally, it is important to note that the Secretary of the Air Force has directed a review of our new entrant certification process by an independent team to capture lessons learned so we can enhance competition for launch services. I strongly support the Secretary's initiative to streamline the current certification process and make it more efficient, while protecting mission assurance.

New Engine Development

Russian aggression in Ukraine is a cause for great international concern and creates uncertainty in our future ability to rely on the Russian made RD-180 rocket engine that powers United Launch Alliance's Atlas V launch vehicle. While the RD-180 is a fine engine, uncertainty regarding its future availability highlighted the need to consider other options for assured access to space. The United States should not be dependent on another nation, particularly Russia, to assure our national security access to space. Upon the completion of an RD-180 Risk Mitigation Study directed by the Secretary of Defense, it became clear that a prolonged interruption would result in increased risk for our national security space posture due to unavoidable delays. Under the direction of Congress, we are collaborating with private partners to invest in industry solutions for U.S.-made rocket propulsion systems. We have developed a strategy to eliminate the use of the RD-180 and reintroduce competition for National Security Space launch. The strategy starts with investment in U.S.-based rocket engine technology.

In December 2014, the FY15 National Defense Authorization Act approved \$220 million for a new rocket propulsion system to help transition from the Russian RD-180. Air Force Space

Command fully supports domestic launch capabilities. However, we must maintain mission success and assured access to space for our NSS assets by ensuring this effort results in a launch system. With the FY15 congressional add, we plan to invest in the first two steps of a four step process to attain domestic, commercially viable launch system providers. The initial investment of roughly \$60 million will go towards improving U.S. hydrocarbon boost capability with NASA, national labs, universities, and industry. The remaining FY15 funds will be used to start the investment in the development of rocket propulsion systems. Starting with the funds in the FY16 budget, we intend to expand the investment into the corresponding launch systems, leveraging investments in Rocket Propulsion Systems started with the FY15 funds. Finally, we will onramp the launch providers, in which we invested and once certified, to achieve price competition. The ultimate goal is to have at least two domestic, commercially viable launch system providers that also meet all our nation's NSS launch requirements.

A sustained focus on rocket propulsion technology and the required launch systems allows the United States to operate in a broader trade space, helping to mitigate disruptive events affecting external supply lines. Also, launch systems developed with domestic engines will revitalize the launch and rocket propulsion industrial base, end reliance on a foreign supplier, and aid the competitive outlook for the entire domestic launch industry. This will be a multi-year effort and require significant congressional support to maintain adequate funding in future years.

Conclusion

Our Nation's strength in space is built on a foundation of a healthy space launch capability and Air Force Space Command plays a critical role. We are committed to sustaining the highest levels of mission assurance, and our ultimate objective is to safely and reliably launch

national security payloads on a schedule determined by the needs of the national security space enterprise.

We have an incredible track record of success and strive to maintain this record. I would like to thank the Subcommittee for their support and look forward to our continued partnership to provide resilient, capable, and affordable space capabilities for the Joint Force and the Nation.