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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  
U.S. HOUSE OF REPRESENTATIVES

SUBJECT: Assuring National Security Space: Investing in American Industry to End Reliance  
on Russian Rocket Engines

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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 once more to discuss assured access to space. It has been my distinct privilege to lead and represent the 38,000 dedicated men and women of Air Force Space Command (AFSPC), serving at 134 locations around the world, who provide foundational space capabilities to this Nation. It is through their efforts we are able to secure, defend, and enable space capabilities vital to our way of life and integral to national security.

As this Subcommittee is well aware, space assets impact the breadth of our daily lives. For example, our Global Positioning System is used in banking, global commerce, agriculture, and even in the distribution of utilities from our power companies. We have come to depend on our satellites for communications, remote sensing to deter against nuclear war, forecast weather, and manage our critical natural resources. No question, space capabilities are integral to every aspect of our Nation's defense. Today, military planners optimize the use of space capabilities to enhance the effectiveness of our military forces whether they are in training, engaged in humanitarian assistance, or conducting combat operations. Space isn't just an enabler for the other domains; it directly impacts the calculus of national security.

These capabilities however, are impossible unless we maintain our assured access to space and maintain a vigorous space launch industrial base. The loss of assured access to space would be extremely damaging to national security and without it, Air Force Space Command cannot accomplish one of our highest priority missions.

## **Assured Access to Space**

With the Nation's deep reliance on space capabilities, assured access to space remains one of our highest priorities. 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, carrying some of our most precious spacecraft into orbit including global navigation and timing, missile warning, communications, weather, and intelligence. In 2014, the Atlas V and Delta IV launch vehicles executed 13 launches, nine of which supported NSS missions, and with the launch of the AFSPC-5 mission on May 20, 2015, extended the record of EELV total launch successes to 83.

### **New Engine Replacement**

A complex international supply chain fills gaps in domestic production capability for some launch vehicle components, but has led to the exposure of certain key components that are reliant on potentially non-cooperative nation states. Chief of these is the Russian RD-180 rocket engine in ULA's Atlas V. Within the context of assured access to space, it is absolutely critical we move expeditiously to eliminate reliance on the RD-180. Uncertainty regarding its future availability results in increased risk to our national security space posture.

Therefore, the Air Force has developed a four-step plan to transition off the RD-180, which will preserve our assured access to space and mission assurance while we maintain our objective to reintroduce competition. First, which started last year, is to mature the technology to reduce the technical risks going forward. We have obligated approximately \$50 million toward this effort and will invest an additional \$45-50 million in the next 6 months. Second is to initiate investment in Rocket Propulsion Systems, in compliance with the FY2015 NDAA. We will award multiple contracts with propulsion system or launch system providers to partner with on-going investments in domestic propulsion systems. Third, we will continue our public-private partnership by entering into agreements with launch system providers to provide domestically powered launch capability for the Nation. Finally, we will compete and award contracts with

certified launch providers for launch services for 2018 and beyond. These providers will on-ramp the systems developed under our shared investment while off-ramping legacy systems, which use Russian engines. With this approach, we are confident that we can partner with American industry to develop a domestic propulsion system, integrate it into a launch system, reintroduce competition to national security launch, and transition off the reliance of the Russian RD-180.

However, it is important to emphasize the fact that any new engine still has to be integrated into a new space launch system. More importantly, we do not want to be in a position where significant resources have been expended on a rocket engine and no commercial provider has built the necessary rocket. Of course, even if that rocket is significantly comparable to any of our existing launch vehicles, integrating a new engine still requires comprehensive testing and certification which will likely take another year or two. For this reason, I support the recent Department of Defense request to Congress that allows ULA to complete the 2012 purchase agreement they made for additional RD-180s. Fulfilling the terms of that agreement will allow them to compete in the next competitive phase until a new rocket is ready to deliver capabilities into space. Without access to the RD-180 during that time, we severely limit our assured space access, undermine the competition we have worked so diligently to enable and will have traded one monopoly for another in the medium and intermediate vehicle classes.

### **Launch as a Service**

Our approach to space lift has fundamentally changed over the last decade. The Air Force no longer owns the vehicles that we launch; therefore, we purchase access to space as a service. Industry is now investing large amounts of private capital in developing new engines

and launch vehicles and we are collaborating closely with them to determine how best to invest in public-private partnerships toward U.S.-made propulsion systems.

A robust and diverse industrial base that can deliver launch capability safely and at a competitive price is central to assuring access to space. Nevertheless, launch is a risky and difficult business. We must encourage a business model among our industry partners that is stable, predictable, and able to anticipate launch failure without collapsing. It will be a significant challenge, but we believe with the efforts and ingenuity of our government and industry teams, it is possible to develop an American engine by 2019 and have two commercially-viable, certified, launch providers by the end of FY 2022.

### **Conclusion**

Access to space has not only fundamentally changed warfare, but also our Nation's way of life, providing essential assets for the global community and world economy. However, our space capabilities are merely an illusion if we cannot deploy space based capability. Therefore, we must ensure unfettered delivery of effects such as satellite communications, missile warning, position, navigation and timing, environmental sensing and supporting ground architecture.

I remain committed to sustaining the highest levels of mission assurance and ensuring our objective to safely and reliably launch national security payloads on a schedule determined by the needs of the national security space enterprise. This requires a collective responsibility to safeguard the health of our Nation's space industry, expand the launch business to encourage new entrants into the market, and end reliance on foreign rocket propulsion systems.

I 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.