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SENATE ARMED SERVICES COMMITTEE  
SUBCOMMITTEE ON STRATEGIC FORCES  
UNITED STATES SENATE**

**DEPARTMENT OF THE AIR FORCE  
PRESENTATION TO THE SUBCOMMITTEE ON STRATEGIC FORCES  
COMMITTEE ON ARMED SERVICES  
UNITED STATES SENATE**

**SUBJECT: FISCAL YEAR 2012 AIR FORCE SPACE POSTURE**

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## I. Introduction

Chairman Nelson, Senator Sessions, distinguished members of the Subcommittee; I'm honored to be in front of you to discuss a challenging but exciting topic: space acquisition. I'm also honored to be with these leaders of the National Security Space Enterprise including members of other services, displaying the inherent joint nature of space. This Subcommittee oversees some of the most important aspects of our national security – nuclear weapons, ballistic missile defense, and our space programs. I want to thank you for everything that you do for our Airmen and, specifically, our space cadre.

## II. Challenges in Space Acquisition

It is well documented that the Air Force has experienced significant challenges controlling cost, schedule, and performance of space acquisition programs over the last decade. We were often criticized for “over reaching” on space programs. The developmental systems promised giant single-step leaps in technology, but often over ran program budgets and failed to meet requirements in a timely manner. I acknowledge these challenges as areas where the Air Force needs to improve our acquisition practices to deliver better capabilities to the warfighter while achieving better value for the taxpayer. We have not ignored these challenges; rather, we have taken important steps to recapture space acquisition excellence.

Over the last year, the Air Force made both structural and strategic changes improving space acquisition. Structurally, my Space Directorate was recently moved back under the Air Force Assistant Secretary for Acquisition better aligning space acquisition policies and programs with those of the greater Air Force. This move consolidates all Air Force programs under one Service Acquisition Executive (SAE) providing better oversight of the full Air Force acquisition portfolio. The new organization also optimizes total obligation authority and allows greater

funding flexibility to manage all Air Force systems. Air Force acquisition can now provide an integrated, balanced service position toward our investments in weapon systems acquisitions.

In addition, we are placing new and additional emphasis on Efficient Space Procurement that includes new acquisition strategies for acquiring space and launch vehicles in the FY12 PB. One element, the Evolutionary Acquisition for Space Efficiency, or EASE, approach for procuring satellites employs the following key tenets: block buys of satellites, fixed price contracting, stable research and development investment, and a modified full funding approach. Block buys and fixed price contracts are key tenets to bring satellite unit costs down and reinvest realized savings in research and development for next generation capabilities. The modified funding approach enables affordability of the block buys by funding the satellite procurement over multiple years – specifically, under EASE, we plan to fully fund our satellite procurements by using advance appropriations. The Air Force envisions implementing the EASE approach to drive down costs, improve stability in the fragile space industrial base, and invest in advanced technology development and critical capabilities to lower risk for future programs. We appreciate the dialogue we've already had with your staff on EASE and look forward to working with the committee further, as needed.

The National Security Space enterprise couldn't reach space without our reliable launch capability. The Evolved Expendable Launch Vehicle (EELV) launch systems have a record of unparalleled success since the first launch in 2002. The Air Force recently completed the 40th consecutive successful launch of EELV, demonstrating our continuing commitment to assured access to space. In a separate and distinct acquisition strategy, the Air Force is proposing a block buy approach for the EELV program. If approved, the National Security Space enterprise would commit to block buys of at least 8 launch vehicle cores per year to stabilize launch industrial

base production rates and control launch cost. We will also support competition from vendors with proven capabilities. Our revised EELV acquisition strategy will include a new entrant approach that we are coordinating with the National Reconnaissance Office and NASA. Future competition could further drive cost savings and enhance the domestic industrial base and our operational flexibility. However, we must still closely scrutinize mission assurance practices to ensure we are safely and reliably getting our valuable space assets to orbit.

In both strategies, the Air Force is working to stabilize funding, requirements, and personnel to ensure programs are more affordable, executable, and delivered as planned. Again, we want to attain better capabilities for the warfighter while achieving better value for the taxpayer.

### III. Completed Development and Launch of Space Systems

Despite the challenges encountered in space program development, our resilient workforce has persevered ensuring the warfighter receives greater capability in key mission areas. Over the past year, we have completed development of essential, first-of-their-generation systems. Just last week, we achieved the launch of the first Space Based Infrared System (SBIRS) Geostationary Earth Orbit (GEO) satellite to enhance our Overhead Persistent Infrared (OPIR) capability. The SBIRS GEO system will provide improved infrared capabilities with a faster revisit scanning rate and greater sensitivity than the legacy DSP system. Moreover, with a taskable staring capability, it will provide higher fidelity and persistent coverage for areas of interest.

Last September, we launched the Space-Based Space Surveillance Block 10 system to enhance awareness of deep space objects of interest for safety of flight, threat detection, and warning. SBSS Block 10 significantly improves the timeliness of data on space objects in transit

to deep space orbits. This satellite is currently in operation and is exceeding performance expectations, demonstrating excellent focus, high stability, and superb photometric sensitivity.

This past August, the Air Force launched the first Advanced Extremely High Frequency satellite. While we encountered initial issues with the propulsion system, the team revised the orbit-raising plan and has been successful in executing this plan to achieve the required on-orbit design life. The AEHF team's dedication and resolve is a testament to government and industry space team cooperation. AEHF satellites accommodate ten times the throughput and greater than five times the data rate of the current MILSTAR II Satellite Communication System.

Finally, in May 2010, we launched the first of twelve GPS IIF satellites that will broadcast a third civil signal, in addition to legacy signals provided. These satellites will sustain a healthy, but aging, GPS constellation providing ubiquitous position, navigation, and timing capabilities for military and civil users.

#### IV. Modernizing our Mission Areas

While the Air Force provides new space capability for the joint warfighter today, we are keeping an eye on the needs of the future and developing the next generation systems to meet those requirements. For example, the GPS III program is progressing on schedule to deliver the first IIIA satellite in 2014. The next generation of GPS will deliver significant enhancements including better anti-jam capabilities, a Galileo-compatible L1C civil signal, and improved accuracy, availability and integrity. The GPS IIIA program received its Milestone C approval in January 2011, following a very successful Critical Design Review – two months ahead of schedule. The program office is also advancing the Next Generation Control Segment and Military GPS User Equipment programs.

Regarding defense space weather, the DoD approved a plan to modify the existing NPOESS contract to procure two Defense Weather Satellite System (DWSS) spacecraft for the early-morning orbit, with the first launch planned for 2018. This system will replace the Defense Meteorological Satellite Program (DMSP) in the early-morning orbit, ensuring continuity of detailed overhead weather imagery and sensing information.

In the space situational awareness mission area, the Air Force awarded two Space Fence contracts early in 2011 for Phase A development leading to a Preliminary Design Review in early 2012. Ultimately, the Space Fence will replace the Air Force Space Surveillance System, which is rapidly becoming unsustainable. The two ground-based radar sites comprising the Space Fence will provide timely information on launch detection, maneuvers and breakups to support protection of space assets. We are also seeking international cooperation on the Space Fence program through establishment of an SSA partnership with Australia to jointly employ and operate a site in Australia. This partnership will establish a foundation for continuing nation-to-nation cooperation.

Similar to efforts on the Space Fence program, the Air Force is taking steps on international partnerships in our Wideband Global SATCOM (WGS). In addition to providing critical communications capabilities, WGS has also become the keystone for international cooperation measures in space, with our Australian allies funding WGS-6 in return for a portion of the overall bandwidth. In accordance with the National Security Space Strategy (NSSS), the Air Force is pursuing other international agreements to further expand space-based communication capability through the procurement of a ninth WGS satellite.

Finally, as discussed earlier, we are proposing the EASE strategy for procurement of AEHF satellites five and six in FY12 and SBIRS GEO satellites five and six in FY13. These

procurements will enhance our protected communications and overhead persistent infrared mission areas, respectively.

#### V. Fundamentally Changing the Way we do Business

To effectively modernize our space systems, the Air Force must fundamentally change the way we do business in space acquisition and incorporate these changes into our strategies going forward. We have already made adjustments by adopting a “Back to Basics” approach to space system procurement, which ensures more rigorous systems engineering and program management enacted early in development and maintained throughout its lifecycle. “Back to Basics” focuses on: mission success through clear and achievable requirements; disciplined systems engineering; proven technology; and appropriate resourcing. The Air Force has also implemented the Acquisition Improvement Plan to establish an experienced, skilled, empowered, and accountable workforce, and ensure proper requirements and adequate and stable funding. Improvement of acquisition processes and training of our personnel is essential to the success of space system development.

As we incorporate these changes, it is critical that space acquisition professionals gain a better understanding of the business principles behind system development and procurement. Mission assurance is fundamental, but not at any cost. Not only do we have a responsibility to the warfighter in achieving better capability, we also have an equal responsibility to the taxpayer in achieving better value. Striking that balance is essential to acquiring affordable systems for the future. These fundamental shifts in acquisition perspective require a considerable culture change in our space acquisition workforce. It will take time for these changes to have measured impact on performance, but I’m confident the space acquisition community is moving in the right direction.

## VI. Conclusion

The Air Force has been, and continues to be, committed to achieving excellence in space acquisitions. Our effort in refining acquisition practices and proposing efficiency initiatives coupled with our work to modernize and recapitalize the space inventory exemplifies our dedication to supporting the Nation's national security space objectives. The Air Force FY12 budget reflects that commitment as we seek to maintain critical space capabilities for our nation and our warfighters.

I am grateful for the continued and dedicated support of the space capabilities we provide for this nation and the service of each member of this committee. I look forward to answering your questions.