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THE SENATE ARMED SERVICES COMMITTEE

STATEMENT OF

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Committee on Armed Services

Chairman Udall, Ranking Member Sessions, and Members of the Subcommittee, I am pleased to join General Shelton, Lieutenant General Formica, Dr. Zangardi, and Ms. Chaplain to testify on Department of Defense space programs and policies. A year ago, Assistant Secretary Madelyn Creedon testified here about the progress in implementing the National Security Space Strategy. I am pleased to continue that discussion today.

Space remains vital to our national security, but the evolving strategic environment increasingly challenges U.S. space advantages. U.S. space capabilities allow our military to see with clarity, communicate with certainty, navigate with accuracy, and operate with assurance. Those capabilities, however, are being provided in a space environment that is increasingly congested, contested, and competitive. Space is increasingly congested, with tens of thousands of trackable man-made objects in orbit, contested, by an ever-increasing number of man-made threats, and competitive, as the U.S. technological lead in space is challenged.

As a country, we are providing these capabilities in an environment that is severely cost-constrained. Space programs are, by their very nature, expensive, and as vulnerable to budget pressure as other government activities. Poorly planned past approaches to space programs have trapped us in a vicious cycle of delayed capability, mounting cost, and increased risk. The growing challenges of the budget, in addition to increasing external threats, compel us now to think and act differently so that in the future what we choose to procure, and how we choose to provision it, will reflect the changed space and fiscal environments.

At the same time, it is not all doom and gloom. Over the last decade, we have seen a welcome growth in the U.S. space sector as newer entrepreneurial suppliers have begun to enter the space arena in both the launch and satellite markets. They are creating a burgeoning commercial space market that can provide significant advantage to DoD if we formulate the

policies and strategies to encourage their growth and use. The policies and strategies that I will discuss today begin to address these challenges and opportunities, but these are just initial steps in an area that will continue to demand attention and action from us all.

I would like to begin with a success story, one that not only energizes our industrial base, but also illustrates that our response to the challenges we face must involve the whole U.S. government – DoD, State, Commerce, Congress, and others—as well as industry. A robust, competitive, and healthy industrial base underpins everything that we do in space. Over the past two decades, the health and competitiveness of the U.S. space industrial base has been challenged by overly restrictive export controls on satellites and related items. The changes made in the Fiscal Year 2013 National Defense Authorization Act put us on a path to modernize and appropriately tailor those export controls to allow industry to compete for sale of those items that are widely available, while focusing export controls on those items most critical to national security. I extend my thanks to Congress, and particularly this Committee, for all of the hard work that went into enacting this legislative change.

Updating satellite export controls will provide the U.S. satellite industry with an opportunity to restore its leadership by allowing it to compete on a more level playing field with its international competitors. This will be particularly beneficial to small- and medium-sized second and third tier U.S. companies that manufacture parts and components for satellites. These reforms will reduce the current incentives for satellite and component manufacturers in other countries to design out or avoid U.S.-origin content. In addition to improving the health and competitiveness of our industrial base, tailoring satellite export controls benefits national security by facilitating cooperation with our Allies and export control regime partners while maintaining robust controls necessary to protect national security.

Moving forward, satellites and related items will follow the existing procedures of the President's Export Control Reform Initiative for rebuilding the categories of the U.S. Munitions List (USML) and their corresponding Commerce Control List (CCL) categories. The interagency team of Commerce, State, Defense, NASA, and the intelligence community will build on the substantial technical work they put into the report required by Section 1248 of the Fiscal Year 2010 National Defense Authorization Act to revise Category XV, Satellites and Related Items, of the USML and its CCL complement. Following a period of public comment on the draft categories, which should begin this spring, the interagency team will make changes based on those comments and consult with Congress both informally and formally before publishing final revised categories, hopefully by the end of the year. We look forward to working with you and our interagency partners to make these important changes to benefit the space industrial base and ultimately our national security.

I view this as an extremely positive first step. But if we are to fully empower our commercial sector, as well as continue to derive the substantial benefits space confers, it will require more than just enhanced supplier access. It requires that we create a safe, stable, and secure space environment. We are pursuing several initiatives that seek to do just that.

Space situational awareness (SSA) is foundational to all of our space activities. SSA capabilities provide the ability to avoid collision with debris or other active spacecraft, as well as rapidly detect, warn, characterize, and attribute natural or man-made phenomena affecting space systems. But effective SSA requires cooperation among space actors – we cannot do it alone. The increasingly congested space environment means that an unprecedented level of information sharing is needed among those actors to promote safe and responsible operations in space and to reduce the likelihood of mishaps, misperceptions, and mistrust. This year, the Commander of

U.S. Strategic Command (STRATCOM) signed the first SSA data sharing agreement with a foreign government, and many more are in varying stages of negotiation. These agreements will complement STRATCOM's more than thirty-five existing SSA sharing agreements with commercial satellite operators. With the extension of this authority to foreign governments, the United States will be able to better assist our partners with current space operations and lay the groundwork for future cooperative projects. Consistent with existing legislative authority, we are committed to providing SSA services to increase the safety of spaceflight for space-faring nations.

As more countries and companies field space capabilities, it is in everyone's interest to act responsibly and protect the safety and sustainability of the space domain. Much as we promoted the now well-accepted rules of the sea in centuries past to stimulate commerce, enhance security, and isolate irresponsible actors, the United States is taking a leading role in international efforts to promote responsible, peaceful, and safe use of space. A more cooperative, predictable environment enhances U.S. national security and discourages destabilizing crisis behavior. Working closely with the Department of State, we are supporting development of data standards, best practice guidelines, and transparency and confidence-building measures for responsible space operations. For instance, we are actively participating with other U.S. departments and agencies in the United Nations (UN) Committee on the Peaceful Uses of Outer Space's work on furthering the long-term sustainability of space, as well as U.S. inputs to a study by a UN Group of Government Experts, which is examining possible transparency and confidence building measures.

The Department of Defense supports U.S. efforts to work with the European Union and other spacefaring countries to develop an International Code of Conduct for Outer Space

Activities. A widely-subscribed Code will encourage responsible space behavior and help identify those who act otherwise, thereby reducing risk of misunderstanding and misconduct. The draft International Code of Conduct focuses on reducing the risk of debris creation and increasing the transparency of space operations. It reflects U.S. best practices and is consistent with current U.S. practices such as notification of space launches and sharing of space data to avoid collisions.

It is important to note that the draft Code of Conduct is not legally binding and that it recognizes the inherent right of self-defense. It focuses on activities, rather than unverifiable capabilities, and better serves our interests than the legally-binding but unverifiable ban on "space weapons" proposed by others. We are committed to ensuring that any Code of Conduct for space activities advances, rather than hampers, our national security, and we will continue to actively participate in international negotiations to shape the Code. With each subsequent draft of the Code, we will assess the text for any potential adverse programmatic or operational impact to ensure that a final Code fully supports our national interests. We are committed to working with the Department of State to keep you informed on the process of developing an international Code of Conduct.

Working with international partners to encourage responsible behavior in space is only a part of our engagement with other space actors. We are also pursuing opportunities to partner with responsible nations, international organizations, and commercial firms to augment the U.S. national security space posture. Through these partnerships, we can ensure access to information and services from a more diverse set of systems. This provides a direct advantage in a contested space environment. Decisions on partnering are made consistent with U.S. policy and

international commitments and take mutual performance benefits, costs, protection of sources and methods, and effects on the U.S. industrial base into consideration.

While space is a domain in which we once operated unchallenged and independent, increasingly we need to operate in space as we do in other domains: in coalitions. Led by General Kehler at STRATCOM, the Department is working with close allies to develop the Combined Space Operations (CSpO) concept. CSpO is a multinational effort focused on cooperation, collaboration, and the integration of military space activities to strengthen deterrence, improve mission assurance, and enhance resilience while optimizing resources across the participating countries. We have completed an initial period of discovery with close allies and are working to further refine the concept and eventually broaden participation to include additional spacefaring countries.

Our allies have significant and growing space-based capabilities in a range of mission areas. By leveraging their systems, we can augment our capabilities, add diversity and resilience to our architectures, and complicate the decision-making of potential adversaries. For example, last year we signed an agreement with Canada to incorporate data from their recently launched Sapphire sensor into the U.S. Space Surveillance Network, and an agreement with Australia to jointly operate a C-band ground-based radar system from the southern hemisphere. We are also exploring jointly operating a Space Surveillance Telescope (SST) on Australian soil. These efforts enhance our collective SSA capabilities, and will directly contribute to the long-term safety and sustainability of the domain. Cooperation can also better enable coalition operations on land, at sea, and in the air, since space-based capabilities are critical enablers of capabilities in these other domains.

As I already mentioned, commercial entities are increasingly important to the Department, and we are pursuing strategic partnerships with these firms to stabilize costs and improve resilience. We are exploring innovative approaches, such as multi-year contract authority or co-investment for commercial space services, hosted payloads, and disaggregated architectures in order to take advantage of the most competitive sectors of our space market. The Department has developed criteria to certify the reliability of new space launch vehicles and will openly compete up to fourteen national security space launches in the next five years. To spur that certification and competition, we recently awarded two scientific missions to one of these firms and placed several other launch providers on contract for future similar missions. Those efforts will help to demonstrate the full range of capabilities necessary to launch the existing range of national security missions.

At the same time, we have guaranteed our current launch provider at least twenty-eight launches. Doing so provides stability to an industrial base that provides critical services, but also ensures a level playing field for competition that can spur innovation, improve capabilities, and most importantly reduce costs without increasing risk. To spur continued growth in the commercial space sector and to foster the competition that creates benefits, which DoD can reap, we will complement these efforts with policies that guarantee a level playing field in the future. Over the next few years we will begin those same steps on the satellite side of our architectures, emphasizing the use of the competitive market and diversity of capability to not only drive down costs but also to enhance resilience and U.S. industrial competitiveness.

All of these efforts across the Department are being led and overseen by a rejuvenated governance structure. The changes to the management and coordination of the national security space enterprise, including the establishment of the Defense Space Council, and the designation

of the Secretary of the Air Force as the Executive Agent for Space, have resulted in significant improvements in information flow across DoD and among U.S. departments and agencies. It has also improved the process for acquisition and policy decisions. We understand Congress's action to reinstate the Operationally Responsive Space (ORS) office and funding, and are working to ensure its goals are realized across future space programs.

Many of the things that I discussed today have been briefed to you previously as part of the National Space Policy and National Security Space Strategy. We have continued our implementation of the National Space Policy and the National Security Space Strategy (NSSS) this year, incorporating these concepts into our first update of the Department of Defense's Space Policy in thirteen years. The DoD Space Policy implements the National Space Policy and NSSS within the formal DoD system of directives, regulations, and guidance, and reflects the Department of Defense's 2012 Strategic Guidance. Together with the June 2012 National Military Strategy for Space Operations, the policy update institutionalizes the changes that DoD is making in a constrained budget environment to address the complex set of space-related challenges and opportunities it faces.

The Department looks forward to working closely with Congress, our interagency partners, our allies, and U.S. industry to continue implementing this new approach to space.