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COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS
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Chairman Johnson, Ranking member Crapo and distinguished members of the committee, thank you for this opportunity to discuss the important role of the Defense Production Act (DPA) in supporting our Nation's defense needs.

The DPA provides important authorities for the Department of Defense (DOD), both to ensure timely delivery of equipment and services essential to our armed forces, and to promote domestic industrial capabilities to produce superior defense systems at affordable costs. My testimony today will discuss the need for reauthorization of the Defense Production Act (DPA), provide an overview of the current projects operating under DPA, and outline the activities of the Defense Production Act Committee. I will discuss the priorities authority, business incentives and other important directives provided in Titles I, III and VII, all of which are important to the continued health and responsiveness of the United States defense industrial base.

NEED FOR REAUTHORIZATION

The Defense Production Act, currently set to expire September 2014, is a fundamental enabler for the Department to successfully produce and deliver needed capabilities to our warfighters. Over the last six decades, we have relied on this act to assist in the modernization and acceleration of critical defense elements and to help the Department meet urgent operational requirements such as: Counter Improvised Explosive Device (IED) systems, Mine Resistant Ambush Protected Vehicles (MRAPs), and Intelligence, Surveillance and Reconnaissance (ISR) platforms. This act has facilitated the success of a large number of Joint Urgent Operational Needs acquisition processes – a key element to our accomplishments in recent and ongoing contingency operations. The DPA is also essential in transitioning new and next-generation technologies that are indispensable to meeting national security requirements identified by Government customers; a priority for the Department of Defense as we work to increase and maintain the technological superiority of our nation.

Without the authorities provided under the Defense Production Act, our efforts to protect and support the men and women of our all-volunteer force would not be as effective. Our ability to maintain a healthy, lean and vibrant United States industrial base would also be reduced. Both of

these goals are crucial elements to our National Defense Strategy. I urge the Committee to again support reauthorization of the Defense Production Act, an Act which has served us so well for over 60 years.

CURRENT DPA PROJECTS AND ACTIVITIES

TITLE I

Title I of the Defense Production Act is essential to ensure timely DOD access to industrial resources during both peacetime and periods of conflict. Title I authorizes the President: (1) to require U.S. industry to prioritize and allocate materials, services and facilities as necessary to promote our national defense and (2) to allocate materials, services, and facilities, as necessary or appropriate to promote the national defense[1]. These Presidential authorities are delegated to the Department of Commerce with respect to industrial resources. Commerce has re-delegated to DOD authority under the Defense Priorities and Allocations System (DPAS) to place priority-rated contracts and orders for industrial resources in support of DOD Approved Programs. The Department uses DPA authorizations in a standard contacting provision for most weapon system related procurements that require industrial resources.

DPAS priority ratings help to assure that rated orders will be performed on time. For the most part, contractors and suppliers act on their own to fulfill their obligations under rated orders, without further action required by the Government. However, when problems occur that cannot be resolved by the contractors and suppliers, the DPAS provides for Special Priorities Assistance (SPA), whereby problems can be resolved with the assistance of DOD or, ultimately, the Department of Commerce.

Although important in peacetime, the DPAS as implemented under Title I authority is indispensable in times of conflict. It provides the ability and flexibility to address the critical procurement needs of the warfighter. Even though Title I and DPAS were first enacted over 60

[1] The DPA defines the term "national defense" to mean programs for military and energy production or construction, military or critical infrastructure assistance to any foreign nation, homeland security, stockpiling, space, and any directly related activity.

years ago, experience with providing direct support to the operations in Afghanistan and Iraq demonstrates their continued importance. The DPAS played an important role during these operations in expediting delivery of equipment needed to counter new threats and protect the lives of our armed forces. The DPAS was instrumental in speeding the deployment of new and increased quantities of personal body armor, Counter Improvised Explosive Device (IED) systems, Mine Resistant Ambush Protected Vehicles (MRAPs), and Intelligence, Surveillance and Reconnaissance (ISR) platforms, night vision equipment, weapon targeting systems, and many more items needed to support our Armed Forces.

Over the passed decade, DPA's Title I authority has proven invaluable in supporting both our Armed Forces and those of allied nations. From the onset of the conflicts in Afghanistan and Iraq, DOD saw a need for lighter and stronger personal body armor. However, the capability to ramp up production of such body armor was constrained by the limited availability of Small Arms Protective Insert plates that provide the hard armor component of the Improved Outer Tactical Vest. From 2002 to 2006, we used a Priority Allocation of Industrial Resources (PAIR) Task Force with multi-service and Department of Commerce participation to prioritize DOD requirements and then used the DPAS to direct the manufacture and distribution of this product in order to support our highest priority requirements. By 2006, U.S. manufacturing capacity had grown sufficiently to satisfy all rated order delivery requirements, eliminating the need for further SPA directives.

In 2003, in support of Operation Enduring Freedom, the Department asked Commerce to issue a Directive to a key supplier supporting the Predator program that required the supplier to satisfy the orders it had received related to the Predator ahead of other competing rated orders based on urgent operational requirements. Commerce issued the Directive the same day it was requested and the critical supplier was able to meet the required delivery date because the directive "reprioritized" work in its facility, moving the Predator-related order to the front of the production queue.

In 2006, we used the DPAS to accelerate production of Counter IED systems. Insurgents in Iraq had changed tactics, planting more powerful bombs and using different triggering methods to

defeat vehicle armor and evade U.S. countermeasures. To counter this threat, the Department dramatically increased its investment in electronic jamming technology to detect and disarm IEDs. To ensure production priority, the Secretary of Defense approved the use of the highest rating authority available under the DPAS, known as the "DX" rating, to support the rapid delivery of Counter IED systems.

In 2007, we formed an MRAP PAIR Task Force to review and prioritize DOD requirements for materials used in MRAPs and competing programs. We identified potential industry bottlenecks and quantified our vehicle component requirements for items such as steel plate, axles, and tires. By combining the information accumulated from these activities, we were able to identify production capacity gaps in industry that would impact the MRAP and other DOD vehicle and armor programs. This knowledge of the industrial base, along with the Secretary's highest rating authorization for the MRAP enabled us to clearly and quickly communicate the Department's prioritized requirements to industry. As lower-rated programs were impacted by the surge to meet MRAP demand, we also increased industrial capacity through information sharing, capital investment, developing new sources, and by accelerating changes to specifications and standards that permitted increased production rates without sacrificing quality.

In late 2008, we received an urgent request from the DOD's Central Command to increase production of ISR systems. In this case, we determined that simply elevating priority status to the highest level would not effectively address constraints among competing, equally important, acquisition programs. We mitigated many of the production constraints through the use of the SPA process. In one case involving the procurement of hundreds of sensor arrays/antennas from a contractor in a Security of Supply country, we were able to accelerate delivery to meet operational requirements, despite the fact that the DPAS has no standing outside the United States. We made the foreign supplier aware that DOD had a reciprocal Security of Supply arrangement with the partner nation and the foreign supplier agreed to meet DOD's required delivery dates.

In 2010, the Department engaged with industry to address numerous delivery issues on behalf of the Special Operations Command (SOCOM) to expedite the fielding of night vision systems in

Afghanistan. An Industrial Capability Assessment was done to determine industry's ability to deliver these systems quickly and an arrangement was brokered between the Command and competing Service requirements to preserve access for all while meeting the urgent needs of SOCOM. The assessment provided insight into industry constraints and enabled the prioritization of delivery requirements by using DPAS priority rating authority to reconcile competing Service needs.

In 2012, a partner nation asked for help expediting the refurbishment of submarine environmental control systems. These atmospheric controls were urgently needed by both U.S. and the ally's navies to avoid disruptions of fleet deployments, but the contractor was limited in its ability to meet the needs of both customers. The Department mediated the dialog between the buying activities and contractor to improve refurbishment rates. Additional Government Furnished Equipment was supplied to the contractor to improve throughput rates and both nations' schedules were aligned to improve contractor efficiency.

In 2013, the Army requested SPA on behalf of a supplier of 120mm Enhanced Mortar Targeting Systems (EMTAS). The purpose was to expedite delivery of bearings, used in these systems. The Joint Chiefs of Staff had highlighted the military importance of deploying these systems to Afghanistan as rapidly as possible under a "Joint Urgent Operational Need" (JUON) statement. The Department worked with the EMTAS supplier, the bearing vendor and Commerce to develop a plan for expediting delivery. This plan was implemented in a matter of a few days under a Department of Commerce Directive.

The above examples are a sampling of successes we've seen through the use of the Defense Production Act over the past decade. Title I authorities continue to assist us effectively both in an operational environment and also domestically with our industrial base. Reauthorizing this act and the activities outlined in Title I will ensure the Department remains successful in the expeditious delivery of critical defense capabilities.

TITLE III

Title III of the DPA authorizes various actions by the President to develop, maintain, modernize, restore, and expand the productive capacities of domestic sources for critical components, critical technology items, materials, and industrial resources essential for the execution of the national security strategy of the United States. Title III authorities were initially used during the Korean War era to establish the industrial infrastructure needed to transition aircraft production into the jet age and for other industrial base needs. Jet aircraft production required vastly increased quantities of such materials as aluminum and titanium. Much of the U.S. processing capabilities for these and dozens of other key materials can trace their roots to Title III projects that were undertaken during the 1950s.

Today's Title III projects continue to support the transition to new and next-generation technologies that are essential to meeting national security requirements identified by Government customers. Once a critical need for an innovative technology is established by a Government acquisition program, DPA Title III has the ability to provide a variety of financial incentives to industry to make investments in production capabilities that will increase capacity to meet the national defense requirement.

Title III projects help promote the use and insertion of new technologies for defense purposes in several ways. First, Government purchases and purchase commitments reduce the financial risks that discourage potential new producers from creating new capacity. Second, the new production capabilities stimulated by Title III incentives are generally more efficient and result in lower production costs and product prices. Third, Title III projects commonly generate information about the performance characteristics of new materials and support testing and qualification to promote the broader use of these materials in defense systems.

Without Title III efforts to promote and incentivize the transition of new technologies to affordable use, beneficial use of new technologies can be delayed for many years. Potential producers do not invest in efficient production capacity without financial incentives and potential users are reluctant to commit to new technologies due to high first adoptor costs and lack of

assured supply. Title III projects effectively overcome these market barriers to production expansion and technology adoption, accelerating insertion into defense applications.

The primary objective of every Title III project is to improve domestic production capabilities to support national defense requirements. New, expanded, and modernized domestic industrial capabilities: (1) reduce the risks of foreign dependencies caused by geo-political factors or other economic issues; and (2) strengthen the economic and technological competitiveness of U.S. manufacturers. Improvements in production capabilities, due to Title III projects, have resulted in reduced production costs, lowered acquisition prices, and improved product quality. Domestic production sources supported by Title III actions provide an added element of trust regarding product integrity. Trusted sources are increasingly important for such products as microelectronics, in which malicious defects can be difficult to detect.

The broad impact of Title III projects in supporting production of state-of-the-art defense systems and in strengthening domestic production capabilities for leading-edge technologies is illustrated in the following five examples:

1. In April 2013, a new manufacturing facility that produces specialized materials for lithium ion batteries opened in California. The facility, created with Title III support, will provide a secure, domestically-owned, and domestically-based source of materials that are critical to the production of batteries for Government satellite and space programs. These materials, which have never before been manufactured in the United States, will enable production of satellite batteries that last more than 10 years with more than 60,000 charge-discharge cycles. Title III support has enabled a U.S. manufacturer to expand from manufacturing lithium ion cells exclusively for high-technology medical applications to become a leading designer and supplier of lithium ion cells for aerospace and other military applications.

2. Another Title III project is supporting development of production capabilities for a next-generation military GPS device, which is the smallest, lightest weight and lowest power-consuming device of its type available today. It enables the creation of GPS receivers that provide significant size, weight and power reduction for military systems in use

around the world. Title III support has been a critical element of the "low-cost GPS program," which has already saved the Government an estimated $100 million and is expected to provide DOD over $300 million more in savings and cost avoidance over the next five years.

3. A Title III project involving GaN on SiC X-Band Monolithic Microwave Integrate Circuits (MMIC) caps a decade of substantial investment from the Government and the contractor (including DARPA's Wide Bandgap Semiconductor program). The project prepared GaN technology for insertion into a broad range of military systems, delivering better value to the taxpayer and warfighter. Benefits of GaN technology includes enabling radar systems to track a target 78 percent farther in range with the same accuracy or, for a different mission, reduce the radar antenna size by half while more than doubling the radar search area. Over the course of this program the contractor's GaN process yield improved by more than 3X. The improved yield (along with other fab operations improvements) corresponds to a greater than 76 percent reduction in the cost of a MMIC power amplifier since the start of the program. In addition to the improved yield the contractor accumulated over a million hours of reliability data, demonstrating reliability that supports military system lifetimes with significant margin. As a result of this initiative, GaN technology is mature and available for immediate insertion in a variety of defense systems.

4. Another Title III project has been instrumental in re-establishing the infrastructure, facilities, and equipment necessary to support a production capacity of 160,000 pounds per year of high-purity beryllium metal. High-purity beryllium is used extensively in structures and instruments found in defense weapon systems where stiffness, low weight, good thermal and electrical conductivity, and dimensional stability are required. Essential strategic uses, where no suitable substitute exists for high-purity beryllium, include: airborne Forward Looking Infrared (FLIR) systems for fighter aircraft and attack helicopters; guidance systems on existing strategic missiles; surveillance satellites; ballistic missile defense systems; and reflectors for high flux, nuclear test reactors.

Beryllium imports are unable to meet the purity levels required for many critical defense applications.

5. In partnership with the Departments of Agriculture and Energy, another Title III project is catalyzing a domestic capability to produce cost-competitive, commercial-scale, renewable fuels for the military. As one of the world's largest consumers of petroleum, the Department has an interest in the long-term diversification of fuel supplies. If successful, the project may produce more than 170M gallons per year of drop-in, military-compatible renewable fuels with initial production capacity by 2016 and at an average cost of less than $4 per gallon.

While Title III projects target national defense needs, they generally result in more broad-based benefits to the U.S. economy. The benefits I just cited – reduced foreign dependencies, greater economic and technological competitiveness, as well as the creation of high-tech American jobs – are all important to the U.S. economy. Title III projects can also support other important goals, such as reduced energy consumption and CO2 emissions.

An example of this is a Title III project that was undertaken to improve production capabilities for monolithic microwave integrated circuits (MMICs) needed for next-generation radar systems resulted in improved production capabilities for solid state lighting (SSL), using light emitting diodes (LEDs). LED lighting reduces energy consumption by three quarters compared to fluorescent lighting, while reducing CO2 emissions and use of toxic mercury.

Another Title III project to improve production capabilities for reactive plastic CO2 absorbent material, used to improve breathing equipment for diving, has also resulted in improved anesthesia technology for use in operating rooms. This innovative Title III material absorbs more CO2 and fewer anesthetics than granular absorbent. It also eliminates temperature concerns and the toxic waste associated with granular lithium.

Most people in this hearing room are carrying a device, which performs better and is cheaper, due to a Title III project that was completed several years ago. The project involved

manufacturing capabilities for gallium arsenide wafers. The primary purpose of this project was to support defense needs for advanced integrated circuits, but gallium arsenide devices are also important components in cell phones. U.S. Title III contractors more than doubled their share of the world market for gallium arsenide wafers over the course of the Title III effort and reduced wafer prices by more than one third. So, everyone's cell phone is cheaper, performs better, and is more likely to contain integrated circuits fabricated using domestically-produced wafers, due to Title III actions.

These three examples are representative of the many commercial spill-over benefits resulting from Title III projects, beyond the benefits to our national defense.

Each Title III project is a cooperative Government/Industry business partnership involving shared funding and planning. Project goals and contract terms are tailored to the market and technological conditions for each industrial resource or critical technology item. Potential Title III projects undergo a rigorous vetting process to ensure that they are both eligible for Title III action and likely to result in commercially viable production capabilities. Eligibility is based primarily on a Determination, required by the Defense Production Act, that specific criteria have been met. A project may not be initiated unless the President determines that:

1. The targeted resource or item is essential to the national defense;
2. Industry cannot reasonably be expected to provide the needed resource or item in a timely manner, without Title III action.

Once a potential project is determined to be eligible for Title III action, it is assessed in terms of various market factors. For example, Title III generally targets materials that are required by multiple defense programs. Title III action to address an industrial resource shortfall is particularly important, when the cost of addressing the shortfall cannot be justified by individual programs. Multiple defense programs have benefited from Title III projects involving such items as radiation-hardened microelectronics, structural composite materials, and high-performance batteries. Market conditions are also assessed to determine how best to structure and incentivize a possible Title III effort and whether production capabilities resulting from such an effort would remain economically-viable after the Title III commitment has concluded.

Title III provides a number of important tools to support needed improvements in domestic production capabilities. The purchase and purchase commitment authorities provide the foundation for virtually all Title III actions. Purchases are used to assist in the creation of new production capabilities, and purchase commitments are used to guarantee a market for new production output. Title III also authorizes installation of Government-owned equipment in production facilities and the development of substitutes for strategic and critical materials. These authorities are used, as appropriate, to supplement purchase and purchase commitment actions.

There are currently forty-one Title III initiatives. Thirty-seven of these are under contract, and the other four are expected to be under contract by the end of the fiscal year. Many of these projects can be grouped into three broad categories – electronic materials and devices, advanced structural materials and power and energy. There are also projects involving ammunition, optical materials and devices, machining technologies, and a variety of other technologies.

The electronic materials and devices projects involve enabling technologies, without which potential advances in microelectronics would be far more limited. These materials offer advantages in terms of faster device performance, greater resistance to radiation and temperature, reduced power requirements, reduced circuit size, increased circuit density, and the capability to operate at higher frequency levels. Advances in electronic materials enable new capabilities for defense systems and improvements in old capabilities. The advanced structural materials offer improvements in terms of strength, weight, durability, and resistance to extreme temperatures. Power and energy initiatives focus on technologies such as flexible solar cells, advanced battery technologies and fuel cells that enable advanced operational capabilities and reduce operational and maintenance costs. These benefits are particularly important in aerospace applications.

I have already mentioned several ongoing or recent Title III projects. A sampling of other current Title III projects includes:

- Establishment of the world's first manufacturing production facility of carbon nanotube (CNT) yarn and sheet material. This project's emphasis is on expanding flexible, scalable, and modular production processes; improving product quality and yield; and

reducing manufacturing costs. Carbon nanotubes exhibit extraordinary strength and unique physical properties and result in lighter weight and greater ballistic protection for the Warfighter and vehicle armor, stronger, lighter structural components, as well as enhanced electromagnetic interference (EMI) and electromagnetic pulse (EMP) protection.

- The upgrade and refurbishment of the facilities of the sole domestic source for heavy forgings required by the U.S. Navy and other DoD services. The DoD applications for these forgings include propulsion shafts for surface and sub-surface naval vessels, periscope tubes, ring forgings for bull gears, and reactor vessels. Heavy forgings are unique and require a 10,000 ton, open die forging press (the largest in North America) in order to produce parts that begin with ingots that are up to 11 feet in diameter and weigh up to 600,000 lbs. The focus of this Title III project is to address production constraints and single points of failure that are critical to maintain the supply of heavy forgings to the DoD.

- The scale up for production of Polyhedral Oligomeric Silsesquioxanes (POSS™). POSS has been demonstrated to enhance the performance of polymers in such applications as radiation shielding for space-based microelectronics, photo-resistant material for semiconductor manufacturing, food packaging, optical lenses, and aircraft tires.

- Establishment of a long-term, viable, world-class domestic manufacturer of high-energy density lithium-ion (Li-ion) batteries that is responsive to customer requirements with respect to performance, reliability, quality, delivery, and price. High energy density Li-ion batteries are suitable for a number of military systems including enhancing the endurance of Unmanned Aerial Vehicles (UAVs) and providing portable power to support the mission for the dismounted soldier, long endurance autonomous systems, tactical vehicles, unattended sensors, and reconnaissance and surveillance systems. The intent is to create a flexible production line capable of producing multiple battery form factors for both military and commercial applications, as well as achieving performance results needed to meet unique Warfighter requirements.

- Establishment of a domestic source for the production of light-weight ammunition cartridge casings using a high-strength polymer material. Ammunition casings produced with this material may provide significant advantages over traditional brass casings, such as decreased combat carrying weight for ground and air operations, with cost savings obtained through reduced fuel consumption, as well as lower transportation/shipping and material costs. Other potential benefits may include increased muzzle velocities, improved weapons accuracy, and prolonged barrel and weapon life. The initial focus of the project is the development and qualification of lightweight .50 caliber machine gun rounds that can be utilized in conventionally fielded weapon systems at a comparable cost to standard brass ammunition.

TITLE VII: ACTIVIES OF THE DEFENSE PRODUCTION ACT COMMITTEE

I also wish to express support for DPA Title VII authorities. Title VII contains a range of provisions, including enforcement mechanisms, which help protect the Nation's security. Of particular importance are Section 705, which provides authority to collect industrial base information; Section 708, which provides authority to enter into voluntary agreements (and antitrust protections for participants in such agreements); Section 721, which authorizes the President to suspend or prohibit a foreign acquisition or merger with a U.S. firm, when the transaction provides a credible threat to U.S. national security (reviews of foreign acquisitions under Section 721 are conducted by the interagency Committee on Foreign Investment in the U.S. (CFIUS)); and Section 722, which established the Defense Production Act Committee. These enforcement mechanisms enable the Department, as well as our interagency counterparts, to effectively manage and deliver critical elements as permitted through the DPA. Without it, our Nation’s security would be put at risk.

Newly created during the last DPA reauthorization, the Defense Production Act Committee (DPAC) is an interagency body, established by Section 722, which identifies whole-of-government approaches to strengthen domestic industrial base capabilities to meet national defense supply requirements under normal and emergency conditions. The Committee advises the President on the effective use of the DPA and develops recommendations for changes to the

law and the effective use of the delegated authorities under this Act. To achieve these objectives, the Committee engages in assessment activities and enables information sharing related to the industrial base and DPA authorities.

The DPAC has established Industrial Capability Study Groups to conduct assessments and develop long-term strategies for addressing the supply chain problems of various industrial sectors. Each of these study groups is chaired by a senior subject-matter expert from a civilian agency who directs the group's work, while DOD provides operational staff and budgetary support for assessment activities. Currently, the Committee is operating four study groups to analyze supply chain issues that are essential to national defense: (1) metal fabrication, led by the Department of Commerce; (2) power and energy, led by the Department of Energy; (3) telecommunications, led by the White House Office of Science & Technology Policy; and (4) lightweight materials, co-led by the Department of Energy and the Army. The work of the DPAC analysis led to a DPA Title III investment earlier this year to preserve and modernize the sole domestic source for heavy forging products for Navy applications including propulsion shafts and nuclear reactor containment vessels. I expect that another recommendation for investment will be made later this year.

CONCLUSION

The Defense Production Act continues to provide unique and important authorities that directly support the continued health of our Defense industrial base. The Department of Defense fully supports a reauthorization of all the existing DPA provisions currently scheduled to expire in September of 2014. The DPA enabled us to meet the challenges of the last sixty years and provides important mechanisms that continue to be of vital importance to our national security. Thank you for the opportunity to discuss the reauthorization of this important act, I look forward to taking your questions.