



The Breath of Life

Rising From the Valley of Death

Melinda Woods

When you come home tonight and turn on your LED lights, you can thank the Defense Production Act (DPA) Title III Program of the Department of Defense (DoD).

In 2006, the DoD began looking for ways to reduce the cost of silicon carbide (SiC), an important but expensive material used for semiconductor electronic devices that operate at high temperatures or high voltages. By assessing the industry that created these devices, the Title III Program determined that the indoor LED lighting technology and the semiconductor electronics device utilized the same SiC material. The Title III Program concluded that the expansion of LED production would drive down costs for the military's devices. The DPA Title III Program partnered with the leading LED lighting company and dramatically expanded its LED manufacturing line, which used the same production line required for the military devices.

So what is the DPA Title III Program? Its specific mission is to help bridge the gap between prototype development and production. The DPA Title III Program is distinct from other research and development (R&D) funding

Woods is the director of the Defense Production Act Title III Program within the office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy (DASD[MIBP]). She previously was the assistant director of strategic programs and was action officer team lead conducting Department of Defense reviews on foreign investment. Earlier, Woods was technical advisor for the Defense Technology Security Administration and an analyst at Defense Intelligence Agency. Prior to her public service career, she worked for various semiconductor companies. She is an electrical engineer who received a B.S. and M.S. in Electrical Engineering from the University of Michigan and the Georgia Institute of Technology, respectively.

authorities because it provides the incentives to companies to create, maintain or expand any domestic production capability needed for national defense. Enacted to support the rapid production of domestic materials during the Korean War, Title III investments played a vital role in the establishment of the domestic manufacturing capabilities in aluminum and titanium.

TITLE III: Presidential Approval Required

Title III is such a unique and critical funding authority that each proposed project requires case-by-case approval by the President himself. Specifically, the President must make a determination in writing that:

- The industrial resource, material or critical technology item is essential to the national defense.
- Without presidential action, U.S. industry cannot reasonably be expected to provide the capability for the needed industrial resource, material or critical technology in a timely manner.
- Purchases, purchase commitments or other action are the most cost-effective, expedient and practical alternative methods for meeting the need.
- Title III purchases, purchase commitments, or other actions are the most cost effective, expedient, and practical alternative method for meeting the need.

Title III: A Record of Success

In recent years, Title III has played an instrumental role in supporting cutting-edge, high-impact defense capabilities based on successful DoD/commercial industry collaboration:

Title III recently helped expand the U.S. domestic industrial base capability for the production of large aerospace composite products employing advanced fiber placement technologies. The newly installed production platform generated in excess of 123 separate parts equating to more than 30 complete F-35 aircraft wing sets while achieving a zero part defect rating. The project also supports the F-18 and advanced naval warfare communications.

Title III also helped expand the domestic production capacity of carbon dioxide (CO₂) absorbent products and develop improvements for several CO₂ absorbent applications. It is used in military scuba, submarine, space, anesthesia, firefighting and rescue applications to “clean” CO₂ from air needed for breathing. Compared with previously used absorbent products, the emergency CO₂ absorbent curtains used onboard military submarines allow significant space savings, longer product life, easier and safer product handling, and reduced product life-cycle cost.

Title III also plays a critical role in the expansion of space and satellite capabilities. The DoD approved in 2011—

Title III incentives are especially appropriate for companies that have made the R&D efforts to create a product but lack an on-ramp for commercialization, a situation that some have termed the “valley of death.” DPA Title III breathes new life into the R&D efforts, creating the necessary manufacturing capability and matching the product with the DoD buyer. In many cases, a supplier develops a promising new technology and demonstrates it to a DoD customer. The customer wants to obtain the technology but cannot commit to a product that has yet to be produced in volume. The supplier is unwilling or unable to commit to the investment needed to establish production. Neither customer nor supplier can accept the risk. As a result, the technology, and in some cases the company, can no longer survive on its own.

The Title III process effectively addresses the “valley of death” problem. While many government organizations fund R&D and many others buy high-tech items, the Title III Program has the authorities to bridge the gap between the prototype and full-scale stages of production.

Looking Ahead

This could prove to be a banner year for the expansion of Title III. The 2014 reauthorization allowed Title III to make

and revised and upgraded in 2015—a Title III project that covered a wide range of newly enhanced components, including semiconductor imagers, solar cells and cadmium zinc telluride substrates. These components enhance the capabilities of unmanned aerial vehicles (UAVs) and intelligence, surveillance and reconnaissance (ISR) functions such as imaging, geospatial awareness, intelligence and weather monitoring and missile defense. Many of these recommendations came from a DoD-supported Space Industrial Base Council that is fast-tracking the space and missile sector.



The F-35 Lightning II Joint Strike Fighter.
Department of Defense photo

provisions for the increased use of emerging technologies in security program applications and the rapid transition of emerging technologies from government-sponsored R&D to commercial applications—and from commercial R&D to national defense applications. This evolution dovetails with important DoD strategic initiatives such as “Better Buying Power 3.0,” which fosters public-private sector partnerships in defense innovation.

Title III also has started to partner with nonmilitary agencies. In partnership with the Department of Energy, Title III has begun a project to scale up production capacity for biofuels. The Department of Homeland Security has partnered with Title III to define projects that will establish affordable pro-

duction of technologies to protect critical U.S. equipment shipped overseas.

In today’s complex and far-reaching threat environment, Title III of the Defense Production Act has become a vital tool for the DoD. The program protects vulnerable sectors of the industrial base and ensures that advanced defense capabilities are fully integrated into our weapons systems. Title III is part of the expanding future of American defense innovation that will preserve our technological superiority—on the battlefield and off.

See website: http://www.dpatile3.com/dpa_db/.



The author can be contacted at melinda.k.woods.civ@mail.mil.

Defense AT&L Magazine—A Multiple Winner

Defense AT&L magazine, published by the Defense Acquisition University (DAU), recently won two more awards for publication excellence.

The National Association of Government Communicators (NAGC) at its June 8 meeting awarded *Defense AT&L* its second-place award in the magazine category. Also in June, the magazine for the third consecutive year won an APEX Award for Publication Excellence in the category of magazines of 32 pages or more per issue.

DAU President James Woolsey said, “*Defense AT&L* has long been and continues to be an important way to get information to the workforce and to share insights and ideas. The magazine does this in a compelling and professional way, demonstrating the high standards we have at DAU, as well as the professional commitment of our professors and the broad Defense Acquisition Workforce to sharing, and learning, and improving acquisition outcomes.”

The NAGC judges for the 2016 Blue Pencil & Gold Screen Awards included representatives of private industry, consultants and research organizations as well as federal, state and local agencies. There were 265 entries in all categories. NAGC, with offices in Falls Church, Virginia, is an association of public information officers, spokespersons, social media developers and managers and graphic designers and other government communications specialists.

The 28th APEX Competition for Communications Professionals received more than 1,600 entries. The judges included editors, publishers and consultants. The APEX awards are an annual event sponsored by the editors of



Writer's Web Watch, published by Communications Concepts Inc., a consulting group in Springfield, Virginia.

Both awards name *Defense AT&L* Managing Editor Benjamin Tyree, Art Director Tia Gray and the Editorial and Production Staffs and Art and Graphics Team of the DAU Visual Arts and Press department headed by Randy Weekes. Those staff contributors to *Defense AT&L* include Copy Editor and Circulation Manager Debbie Gonzalez; Production Manager Frances Battle; and Noelia Gamboa and Michael Shoemaker, who provide online and editing

support, respectively. Collie Johnson adds extra information to *DAT&L's* online site.

Judges in the NAGC competition praised the writing, editing and graphics of *Defense AT&L*. One judge from NASA wrote: “All three selections showed a very creative and visually appealing layout. The publication overall was a fascinating analysis of complex subjects and very readable” and “Very nice publication for a small staff. The images illustrated the subject of the features very well.” Another judge from a Mississippi state agency wrote: “Although it seems you have very few staff writers, the writing style seems consistent” and “The articles were clear and can be easily understood by this lay person reading them.”

The three issues of *Defense AT&L* that were awarded recognition in the NAGC competition included those of January-February 2015, May-June 2015 and November-December 2015 (covers shown above). The winning entry for APEX was the single May-June 2015 issue.