DEFENSE PRODUCTION ACT

Agencies Lack Policies and Guidance for Use of Key Authorities

June 2008
Defense Production Act. Agencies Lack Policies and Guidance for Use of Key Authorities

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DEFENSE PRODUCTION ACT

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What GAO Found

The Department of Defense (DOD) routinely exercises the DPA Title I priorities and allocations authority, which allows rated contracts and orders to be delivered before others, to ensure the availability of defense resources. However, civilian agencies have generally not used the Title I authority and most differ from DOD in deciding when to apply it. For example, DOD places ratings on most of its contracts before critical defense items are needed. In contrast, agencies such as the Department of Homeland Security (DHS) generally request ratings after delivery needs are identified, potentially delaying critical items during emergencies. Also, agencies responsible for responding to domestic emergencies and procuring resources in the areas of food and agriculture, health resources, and civil transportation, lack policies and guidance that could facilitate execution of the Title I authority and delivery of items needed in an emergency. While the Departments of Agriculture (USDA) and Health and Human Services are developing regulations to establish a framework for considering priority ratings, the Department of Transportation (DOT) has not yet begun to do so.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Area of authority</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Commerce</td>
<td>Industrial resources</td>
<td>In place</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>Defense and water resources</td>
<td>In place</td>
</tr>
<tr>
<td>Department of Energy</td>
<td>All forms of energy</td>
<td>In place</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>Homeland security programs</td>
<td>In place</td>
</tr>
<tr>
<td>Department of Health and Human Services</td>
<td>Health resources</td>
<td>In development</td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Food and agriculture resources</td>
<td>In development</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>Civil transportation</td>
<td>Not in place</td>
</tr>
</tbody>
</table>

Note: DHS is currently developing additional policies and guidance on implementing its authority.

Other DPA authorities have been used exclusively by DOD or have not been triggered by recent events. For example, DOD has generally been the sole user of the Title III authority for expansion of production capabilities, while events that would activate some Title VII authorities—such as the National Defense Executive Reserve and voluntary agreements—have not occurred.

Agencies have taken steps towards fulfilling their offset reporting requirements to Congress, but data collected by the Department of Commerce limits the analysis of the economic effect of offsets. Commerce officials noted that a more detailed analysis could be provided if they requested more specific product data from prime contractors. Also, a DOD-chaired interagency team—required to report on its consultations with foreign nations on limiting the adverse effects of offsets—has reached consensus with other nations that adverse effects exist, but not yet on best practices to address them. Actions by the National Commission on Offsets have similarly been limited in the assessment of economic effects.
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BIS</td>
<td>Bureau of Industry and Security</td>
</tr>
<tr>
<td>DHS</td>
<td>Department of Homeland Security</td>
</tr>
<tr>
<td>DOD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DOE</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>DPA</td>
<td>Defense Production Act of 1950</td>
</tr>
<tr>
<td>DPAS</td>
<td>Defense Priorities and Allocations System</td>
</tr>
<tr>
<td>EDS</td>
<td>Explosives Detection Systems</td>
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<tr>
<td>FEMA</td>
<td>Federal Emergency Management Agency</td>
</tr>
<tr>
<td>IIHS</td>
<td>Department of Health and Human Services</td>
</tr>
<tr>
<td>MRAP</td>
<td>Mine Resistant Ambush Protected Vehicle</td>
</tr>
<tr>
<td>NAICS</td>
<td>North American Industry Classification System</td>
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<tr>
<td>NASA</td>
<td>National Aeronautics and Space Administration</td>
</tr>
<tr>
<td>NDER</td>
<td>National Defense Executive Reserve</td>
</tr>
<tr>
<td>SIC</td>
<td>Standard Industrial Classification</td>
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<tr>
<td>TSA</td>
<td>Transportation Security Administration</td>
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<tr>
<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<tr>
<td>USDA</td>
<td>United States Department of Agriculture</td>
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</tbody>
</table>

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June 26, 2008

Congressional Committees:

During the Korean War, Congress enacted the Defense Production Act of 1950 (DPA)\(^1\) to ensure the availability of industrial resources to meet the needs of the Department of Defense (DOD). Over time, DPA has been amended to include energy supply, emergency preparedness, and critical infrastructure protection and restoration activities, thereby allowing civilian agencies to rapidly respond to crises such as natural disasters and terrorist attacks. Only Titles I, III, and VII of the DPA remain in effect. These titles allow the President to require preferential performance on government contracts with private companies, provide financial incentives to increase production capabilities for critical security needs, and collect information related to domestic industrial base issues.

As the nation confronts new threats and rising security challenges, it is critical that agencies are able to quickly obtain the necessary resources to respond. In fiscal year 2008, Congress directed GAO to review recent use of the DPA in the areas of defense, energy, domestic emergency and disaster response and recovery, and critical infrastructure, as well as to review issues related to the economic impact of foreign offsets—incentives provided to foreign governments to purchase U.S. military goods and services.\(^2\) In response, we (1) examined the extent to which agencies use DPA authorities and (2) assessed agencies’ response to reporting requirements on the economic impact of foreign offsets.

To conduct our work, we analyzed applicable agency regulations, policies, and guidance for the use of DPA authorities and reviewed documentation on circumstances in which selected agencies have exercised the authorities since DPA was last reauthorized to respond to defense, energy, domestic security, disaster response and critical infrastructure protection and restoration requirements. We also reviewed DPA reporting requirements and the resulting reports. Finally, we spoke with officials from DOD and the Departments of Agriculture (USDA), Commerce

\(^1\) Pub. L. No. 81-774 (1950); codified at 50 U.S.C. App. §§2061-2171, as amended.

(Commerce), Energy (DOE), Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT), as relevant to our objectives. We conducted this performance audit from January 2008 through June 2008 in accordance with generally accepted government auditing standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. For more on our scope and methodology, see appendix I.

DOD routinely exercises the priority and allocations authority under Title I of the DPA to place priority ratings on contracts, ensuring preferential delivery of industrial resources and capabilities for defense needs. However, civilian agencies have generally not used the Title I authority and most differ from DOD in deciding when to apply it. For example, DOD proactively places priority ratings on most of its contracts at the time of award and before critical defense items are needed to ensure timely execution of the authority. In contrast, agencies such as DHS place priority ratings on contracts that support approved programs after delivery issues are identified, potentially delaying delivery of critical products during emergencies. Also, we found that civilian agencies responsible for responding to domestic emergencies in the areas of civil transportation, health resources, and food and agriculture resources have not developed and implemented policies or guidance to use the Title I authority that could facilitate more timely execution. Instead, the process for implementation is unclear and could potentially cause delays in emergencies as agencies navigate the process. While HHS and USDA are beginning to develop regulations that will establish a framework for considering requests for priority ratings, DOT officials stated that they have not yet begun to develop such policies. Other DPA authorities have been used exclusively for defense needs or have not been triggered by recent events. For example, DOD has generally been the sole user of the Title III authority for expansion of production capabilities, while events that would trigger the use of some Title VII authorities—such as the National Defense Executive Reserve and voluntary agreements—have not occurred.

Agencies have taken steps towards fulfilling their offset reporting requirements to Congress, but the type of data collected by the Department of Commerce limits the analysis of the economic effect of offsets. According to Commerce officials, a more detailed analysis could
be provided if they requested more specific product data from prime contractors. At the same time, an interagency team chaired by DOD—which is required to report on its consultations with foreign nations on limiting the adverse effects of offsets—has reached consensus with these nations that adverse effects exist, but not yet on best practices to address them. Other related reporting actions, such as those initiated by the National Commission on Offsets, have also been limited in their assessments of economic effects.

We are recommending that the Secretaries of Agriculture, Health and Human Services, and Transportation develop and implement a system for using the priorities and allocations authority for food and agriculture resources, health resources, and civil transportation, respectively. We are also recommending that the Secretaries of Agriculture, Energy, Health and Human Services, Homeland Security, and Transportation consider approving programs and placing priority ratings on contracts in advance of emergencies for items that are likely to be needed in an emergency situation. In addition, we are recommending that the Secretary of Commerce update regulations to improve the assessment of the economic effect of offsets.

In official comments on a draft of this report, USDA generally concurred with our findings and recommendations. Other agencies did not officially comment on our recommendations, but provided technical comments that were incorporated as appropriate. In their technical comments, HHS and DOT indicated that they will implement our recommendations.

Background

The DPA is intended to facilitate the supply and timely delivery of products, materials, and services to military and civilian agencies in times of peace as well as in times of war. Since it was enacted in 1950, DPA has been amended to broaden its definition beyond military application. Congress has expanded DPA’s coverage to include crises resulting from natural disasters or “man-caused events” not amounting to an armed attack on the United States. The definition of “national defense” in the Act has been amended to include emergency preparedness activities conducted pursuant to Title VI of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and critical infrastructure.

protection and restoration.\(^4\) In 2003, the DPA was reauthorized through September 30, 2008.\(^5\)

Currently, only Titles I, III, and VII are in effect:

- **Title I** authorizes the President to require priority performance on contracts or orders and allocate materials, services, and facilities as necessary or appropriate to promote the national defense or to maximize domestic energy supplies for national defense needs.\(^6\) The authority allows priority-rated contracts or orders to take preference over any other unrated contract or order if a contractor cannot meet all required delivery dates. The authority is delegated among various agencies, including DOD, USDA, and Commerce, with respect to different types of resources such as water, food and agriculture, and industrial resources.\(^7\) Currently, Commerce administers the only priorities and allocations system that is actively used—the Defense Priorities and Allocations System (DPAS)—which is used for industrial resources. Commerce has delegated its authority to use priority ratings for industrial resources to DOD, DOE, and DHS in support of approved national defense, energy, and homeland security programs.\(^8\)

- **Title III** allows agencies to provide a variety of financial incentives to domestic firms to invest in production capabilities to ensure that the domestic industrial and technological base is capable of meeting the critical national security needs of the United States. It may be used when domestic sources are required and firms cannot, or will not, act on their own to meet a national defense production need. Title III financial incentives are designed to reduce the risks for domestic suppliers associated with the capitalization and investments required to


\(^6\) For the purposes of this report, Title I authorities are referred to collectively as “priorities and allocations authority.”


\(^8\) The Department of Commerce has also delegated the authority to use priority ratings for industrial resources to the General Services Administration for use with contracts and orders in support of the General Services Administration supply system to acquire items for approved DOD and DOE programs.
establish, expand, or preserve production capabilities. Executive Order 12,919 authorized the authority to implement Title III actions to the Secretary of Defense and the heads of other federal agencies and designates the Secretary of Defense as the DPA Fund Manager. DOD’s Office of Technology Transition provides top-level management, direction, and oversight of the DPA Title III program. The Air Force serves as the Executive Agent for DOD’s Title III program, and maintains a program office to execute the authority under the guidance of the Office of the Secretary of Defense.

- Title VII provides for a range of authorities, which include giving private firms that participate in voluntary agreements for preparedness programs, defenses from aspects of the antitrust laws and protecting contractors who honor priority-rated contracts from lawsuits brought by other customers. Title VII allows for establishing a National Defense Executive Reserve (NDER) composed of recognized experts from the private sector and government, which could be activated in the event of an emergency. Title VII also provides for investigative authority to collect information on the U.S. industrial base, which has been used by Commerce to conduct surveys and prepare reports at the request of the armed services, Congress, and industry.

DPA also requires the President to report annually to Congress on the effect of offsets—a range of incentives or conditions provided to foreign governments to purchase U.S. military goods and services—on U.S. defense preparedness, industrial competitiveness, employment, and trade.\(^9\) Additionally, DPA requires Commerce to prepare a report to the Congress on the cumulative effects of offsets on defense trade, with a focus on the U.S. defense subcontractor base.\(^10\)

Defense offsets include coproduction arrangements and subcontracting, technology transfers, in-country procurements, marketing and financial assistance, and joint ventures. Foreign governments use offsets to reduce the financial effect of their defense purchases, obtain valuable technology and manufacturing know-how, support domestic employment, create or expand their defense industries, and make the use of their national funds for foreign purchases more politically palatable. Views on defense offsets range from beliefs that they are both positive and an unavoidable part of

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\(^9\) 50 U.S.C. App. § 2099, as amended.

doing business overseas to beliefs that they negatively affect the U.S. industrial base. U.S. prime contractors have indicated that if they did not offer offsets, export sales would be reduced and the positive effects of those exports on the U.S. economy and defense industrial base would be lost. Critics charge that negative aspects of offset transactions limit or negate the economic and industrial benefits claimed to be associated with defense export sales.

The effect of offsets on the U.S. economy has been a concern for many years, and Congress has on numerous occasions required some federal agencies to take steps to define and address offset issues. DPA, as amended, provided for an interagency team to consult with foreign nations on limiting the adverse effects of offsets in defense procurement—without damaging the U.S. economy or defense preparedness—and provide an annual report on their consultations and meetings. Other steps have been taken to address offsets outside of the DPA, including establishing a national commission to report on the extent and nature of offsets.

DOD is the primary user of the DPA, but other agencies can use Title I priorities and allocations authority for emergency support functions. Agencies other than DOD generally do not apply the authority and would do so after an issue affecting delivery needs had been identified, which could add delays to the delivery of critical products during emergencies. We found a lack of developed policies or guidance also may limit agencies’ ability to use the authority in emergencies. Other authorities in the DPA have had limited use. Specifically, Title III authority to expand production capabilities for industrial resources or critical technology essential to the national defense has been used almost exclusively for defense needs, and circumstances have not required use of some Title VII authorities, such as the National Defense Executive Reserve or voluntary agreements.

While other agencies have used or have considered using Title I’s priorities and allocations authority, DOD has been the primary user. DOD places priority ratings as a proactive measure on almost all of its contracts for industrial resources, which number approximately 300,000 annually, to facilitate timely execution of the authority. The Title I authority allows rated contracts or orders to take preference over any other unrated contract or order if a contractor cannot meet all required delivery dates. DOD has used the authority in recent years to prioritize the delivery of material for body armor for the Army and Marine Corps and to ensure that the military’s Counter-Improvised Explosive Device systems and the Mine...
Resistant Ambush Protected Vehicle program receive high industrial priority. DOD employs this approach to ensure that its use of the priorities and allocations authority is self-executing, which it reports should mitigate the risk of not having critical items to meet defense requirements. The U.S. Army Corps of Engineers (USACE), which executes the authority for water resources, also uses this approach to procure water through advance contracts for emergency response purposes, according to a USACE official.

In contrast, officials from other agencies indicated that they would decide to place priority ratings on contracts or modifications on a case-by-case basis after a triggering event had identified an issue affecting delivery. DHS reported that it has authorized or endorsed to the Department of Commerce the use of priority ratings 15 times since 2003, which includes endorsing other federal agencies’ use of priority ratings in support of homeland security programs. DHS makes endorsements with respect to programs, not specific contracts. Over half of these have been in support of critical infrastructure protection and restoration requirements. For example, a railroad company used a priority-rated contract to procure switch equipment and generators to help restore rail service in the Gulf Coast region following Hurricane Katrina. DHS also endorsed the use of a priority rating for a Department of State continuity of operations facility for which Commerce authorized a priority rating for a contract to procure a generator to provide emergency power. However, DHS officials told us that, unlike DOD, its contracts, including those placed for emergency preparedness purposes, do not automatically receive priority ratings.

DOE, HHS, USDA, and DOT have had little or no experience using Title I priorities and allocations authority. The National Nuclear Security Administration, a separately organized agency within DOE, has applied priority ratings to contracts primarily in support of defense and atomic energy programs. Aside from these purposes, DOE has not encountered a need requiring the use of its priority and allocations authority for energy resources in the past several years. However, DOE also reported that it has considered using the authority in response to a number of emergency preparedness and disaster response cases, such as the restoration of refinery services affected by fire and flooding in 2007. Upon consideration, DOE determined that use of the authority was not necessary. DOT has not used the Title I authority since the DPA was reauthorized in 2003, but has used it in the past for airport security and in support of DOD during the Gulf War. Appendix II describes DOT’s current and past use. While HHS and USDA officials said that they have not encountered circumstances to date that would require the use of priority rated orders, HHS officials
anticipated that they could use the authority to place priority ratings on contracts prior to an emergency for a selected number of health resources needed in an emergency, such as masks, respirators, and antibiotics. In contrast, USDA and DOT officials indicated that they would place a rating on a contract once it was determined that the private sector could not otherwise respond to a need.

Most of the agencies we reviewed play a key role in an emergency—under the National Response Framework—to execute contracts to procure needed goods and services in areas such as transportation, human services, and energy.\(^{11}\) We have previously recommended that DHS provide guidance on advance procurement practices and procedures for those federal agencies with roles and responsibilities under the National Response Plan.\(^{12}\) Our prior work identified a number of emergency response practices in the public and private sectors that provide insight into how the federal government can better manage its disaster-related procurements, including developing knowledge of contractor capabilities and prices, establishing vendor relationships prior to the disaster, and establishing a scalable operations plan to adjust the level of capacity to match the response with the need. DHS and Commerce officials recognized that while the priorities and allocations authority cannot be used for procurement of items that are commonly available in sufficient quantities, emergency situations can quickly affect the availability of items. Further, priority ratings can be placed on procurement documents that provide for items as needed but would not be considered rated until a specific delivery date was identified and received by the supplier. However, agencies have generally not considered placing priority ratings on contracts for critical emergency response items before an emergency occurs and, instead, would wait until there is an issue that affects delivery of needed goods and services.

\(^{11}\)The National Response Framework presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. The Emergency Support Functions in the framework provide the structure for coordinating federal interagency support for response to an incident. Agencies we reviewed may play a role in coordination, execution, or support for one or more of the 15 emergency support functions.

Agency officials acknowledged that there is a need to have policies and guidance in order to implement the Title I priorities and allocations authority, but the degree to which agencies have accomplished this varies. Currently, the Defense Priorities and Allocations System (DPAS) is the only active system for implementing the authority in operation, used primarily by Commerce, DOD, DOE, and DHS for industrial resources. Commerce has established a regulation governing DPAS, and DOD and DOE have internal policies and procedures for using the authority. DHS is in the process of establishing policies and procedures to fully implement its priorities and allocations authority. Despite these efforts, gaps remain. Currently, there is no system for using the priorities and allocations authority for food and agriculture, health, and civil transportation resources. USDA and HHS officials told us they are in the process of developing regulations for using Title I for food and agriculture and health resources, respectively, modeled on DPAS. DOT officials acknowledged that they do not have an established system for using the authority for civil transportation needs, but have internal protocols in place to contact Commerce and DHS should the need arise. DOT officials said they have not yet begun the process to develop regulations for priorities and allocations system. Table 1 provides a summary of the status of agencies’ priorities and allocations policies and guidance.

DOT also has a regulation on priority use and allocation of shipping services for national defense purposes under Title I. See 46 C.F.R. Part 340.
Table 1: Status of Priorities and Allocations Policies and Guidance by Agency

<table>
<thead>
<tr>
<th>Agency</th>
<th>Area of authority</th>
<th>Status of policies/guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Commerce</td>
<td>Industrial resources</td>
<td>Operates under DPAS regulation</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>Defense</td>
<td>Operates under DPAS regulation, DOD directive, and DOD Priorities and Allocations Manual</td>
</tr>
<tr>
<td></td>
<td>Water resources</td>
<td>US Army Corps of Engineers operates under DOD Priorities and Allocations Manual for executing water resource priorities and allocations authority</td>
</tr>
<tr>
<td>Department of Energy</td>
<td>All forms of energy</td>
<td>Operates under DPAS regulation and procedures described in DOE priorities and allocations regulation and order</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>Homeland security programs</td>
<td>Operates under DPAS regulation and is currently establishing policies and procedures for implementing authority, which it expects to complete this year</td>
</tr>
<tr>
<td>Department of Health and Human Services</td>
<td>Health resources</td>
<td>In process of developing regulations for a priorities and allocations system modeled on DPAS, but has no timeline for completion</td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Food and agriculture resources</td>
<td>In process of developing regulations for a priorities and allocations system modeled on DPAS, which it expects to complete by the end of this year</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>Civil transportation</td>
<td>Currently does not have a priorities and allocations system</td>
</tr>
</tbody>
</table>

Source: GAO.

a 15 C.F.R. Part 700.
c 10 C.F.R. Part 216; DOE Order 0544.1.
d There are eight approved homeland security programs, which include emergency preparedness and response and critical infrastructure protection and restoration activities.

DOD, DHS, and DOE have supplemented their policies and guidance with training and outreach efforts to increase awareness of the authority and its potential applications. DOD has developed online training on the use of its priorities and allocations authority, and DHS is currently developing a Web site and a training program for its personnel and other groups such as contractors and state and local government personnel. DOE is updating its energy emergency support function operations manual with references to the authority, and has incorporated information on use of the authority in its emergency responder training.

Given the status of available policies and guidance for certain resources, additional time could be required to react to emergency situations as agencies determine the proper procedures for using the authority. In addition, agencies may have to rely on less-efficient means for using the authority. For example, a DOD official stated that the Defense Logistics
Agency has been working with HHS to establish a Memorandum of Understanding to use priority ratings to procure auto-injector medical devices for the military, as DOD’s priorities and allocations authority does not apply to health resources. 14 Further, DOT lacks a system for exercising the authority for civil transportation that could help facilitate more timely delivery of critical items and services and could avoid additional steps to identify the appropriate processes each time an emergency situation arises. 15

Other DPA Authorities Have Been Used Primarily for Defense Needs as Events Have Not Triggered Their Use in Other Areas

DOD has generally been the exclusive user of Title III’s authority to stimulate investment and expand production capabilities and is currently the only agency with a program office prepared to readily use the authority. DOD has used the authority, for example, to modernize and preserve two domestic manufacturing sources for next-generation radiation-hardened microelectronics for space and missile systems and to reestablish a domestic production source for high-purity beryllium metal that was lost when the sole domestic production facility was shut down. It is also being used to establish a domestic source for lithium ion battery production and to expand production of lightweight, transparent armor for the military. Appendix III includes examples of DOD’s use of the Title III authority. DOE officials stated that they have worked with the DOD Title III Program Office on cooperative projects. For example, they noted that they actively managed a project to supply high temperature superconductors. Additionally, DOE and National Aeronautics and Space Administration (NASA) have contributed money in support of DOD-managed projects. Other agencies have considered using the authority for non-defense needs but pursued other alternatives. For example, DHS had committed funds toward a potential project on biological agents, but pulled back planned funding because DHS was pursuing an alternative project. Similarly, HHS considered using Title III authority to expand production of vaccines, but no project resulted. USDA officials stated that, based on the availability of suppliers for items they typically purchase, they did not see a need to use Title III.

1415 C.F.R. 700.18(b).

According to DOT officials, while DOT has responsibility for civil transportation, DHS and DOT have entered into a memorandum of understanding specifying that FEMA will have the lead for the movement of commodities, goods, equipment and teams during an emergency.
DOD officials noted that statutory limitations on the use of Title III authority present challenges to efficient use of the authority. For example, the requirement that Congress be notified of new projects via the annual budget cycle creates a waiting period of up to one year before new projects can be initiated and can hinder use of the authority to meet rapidly evolving defense industrial base needs. To address this and other challenges, DOD has proposed amendments to DPA. These include allowing for notification to Congress of new projects in writing throughout the year rather than through the budget cycle, as well as reducing the required waiting period for awarding contracts from 60 to 30 days and increasing the statutory limitation on actions under Title III from $50,000,000 to $200,000,000 before specific authorization in law is required.\textsuperscript{16} According to officials, past Title III projects were primarily initiated and funded through DOD based on the needs of particular programs or through information received from industries. However, as shown in figure 1, a growing number of projects have been funded through Congressionally directed projects.\textsuperscript{17}

\textsuperscript{16} 50 U.S.C. App. § 2091, as amended.

\textsuperscript{17} All projects, including these Congressionally directed projects, must meet four statutory criteria, except during periods of declared national emergencies, which serve to ensure that only appropriate projects receive funding. See appendix III for specific criteria.
Some civilian agency officials identified other limitations in initiating new projects under Title III, such as a lack of institutional willingness to use the authority and available funds. For example, DOE officials stated that it would be difficult to defend, fund, and manage a project from a departmental standpoint. However, they added that DOE’s involvement in current projects suggests that Title III may be used to enhance production capabilities for industrial resources needed for energy production and distribution.

The Title VII authority to collect information on the U.S. industrial base has been used by Commerce almost exclusively to address capabilities of industries supplying DOD. Because DOD has a diverse supplier base, these assessments have covered a range of industries from biotechnology to textiles and apparel. While Commerce officials recognized that the DPA’s definition of national defense has been expanded to include emergency preparedness and the protection of critical infrastructure, they stated that an assessment at the request of agencies other than DOD would require additional resources based on current and projected workloads.

In general, agencies have policies and guidance on using Title VII’s other authorities but have never had to employ them in an actual event. The
Federal Emergency Management Agency (FEMA), under DHS, has interim
guidance and is preparing a new regulation on forming and activating
NDER units—reserves composed of government and industry experts—in
the event of an emergency, yet has not activated its NDER and is currently
assessing the need for it. While DOE and DOT no longer have active
NDER units, which were associated with Cold War threats, a DOE official
stated that the department is interested in continuing to work with DHS to
restore its unit while DOT officials expressed similar interest in re-
establishing an NDER should a justifiable reason be established under
existing crisis management programs and authorities.

DOT officials stated that it is positioned to use Title VII’s authority to
develop voluntary agreements and plans of action for preparedness
programs and expansion of production capacity and supply that make
defenses from antitrust laws available to participating industry
representatives. DOT currently has voluntary agreements with commercial
tanker and maritime shipping industries to rapidly mobilize resources in
support of defense needs, but noted that events have not triggered the
activation of the established plans of action. DHS reported that because of
the time needed to use this authority it could take 21 to 50 days to
establish a voluntary agreement following a disaster, affecting the
usefulness of the authority in an emergency. HHS officials told us that
another statute provides similar authority that the agency could implement
more quickly for certain health-related purposes.

Agencies have taken steps towards fulfilling their offset reporting
requirements, but the information in these reports does not provide a basis
for fully evaluating the effect of offsets on the U.S. economy or take steps
to address them. In its annual reports to Congress, Commerce provides
useful summaries of offsets issues, but the type of data collected from
prime contractors limits their analysis. Efforts from an interagency team
chaired by DOD to consult with other countries on limiting harmful effects

18FEMA is responsible for developing policies and planning guidance for NDER and overall
coordination of the NDER program.

the Act provides a limited antitrust exemption to allow the Secretary of Health and Human
Services to conduct meetings and consultations with persons engaged in the development
of a security countermeasure, a qualified countermeasure, or a qualified pandemic or
epidemic product for the purpose of the development, manufacture, distribution, purchase,
or storage of a countermeasure or product.
of offsets have resulted in a consensus with other nations that negative
effects exist, but not yet on best practices to address them. Other related
efforts to report on offsets have yet to be completed and are limited in
their assessments of economic effects.

A Lack of Specific Industry Data has Limited the Analysis of Economic Effects of Offsets

The DPA requires Commerce to provide an annual report to Congress on
the impacts of offsets on the defense preparedness, industrial
competitiveness, employment, and trade of the United States.\textsuperscript{20}
Commerce’s annual reports provide a summary of total offset agreement
and transaction activity entered into between U.S. defense contractors and
foreign governments in connection with U.S. defense related exports.
Commerce’s efforts to quantify the employment effects of offsets are
based on limited data. For example, the employment analysis relies on
aggregated defense aerospace data, which do not include other defense
sectors nor delineate between subsectors of the aerospace industry.
Further, the most recent annual report on offsets noted that its analysis
does not include the potential effects of nearly $1 billion of technology
transfer, training, and overseas investment offset transactions,
representing nearly 24 percent of average annual offset transactions.\textsuperscript{21}

The 2003 DPA reauthorization also requires Commerce to report on the
impact of offsets on domestic prime contractors and, to the extent
practicable, the first three lower tier subcontractors. These reports are to
address domestic employment, including any job losses on an annual
basis.\textsuperscript{22} The August 2004 report, produced in response to the 2003 DPA
reauthorization, provided useful data on the scope of offset agreements
and transactions during the preceding 5-year period, but data collected in
surveys of prime and subcontractors limited the analysis on employment
effects. To assess the effect of offsets on domestic employment,
Commerce surveyed prime contractors and three tiers of subcontractors.
While Commerce acknowledged that it could have requested
documentation for all of the nearly 700 weapon systems and components
contracts for the 5-year period (1998 through 2002), documentation was
requested for only two weapon systems from each of the 13 U.S. prime

\textsuperscript{20} 50 U.S.C. App. § 2099(a).


contractors. Commerce cited sensitivity to not burdening contractors and a desire to be responsive to reporting time frames as a cause. The analysis was further limited by a less than 40 percent response rate to the survey of the three tiers of subcontractors. Moreover, this survey used subjective measurements by asking for subcontractors’ perceptions of the influence of offsets on employment, asking respondents to rank offsets among a variety of factors as they related to increases or decreases in U.S. employment.

We have previously stated that, in evaluating offsets and identifying their effects on the U.S. economy as a whole, it is difficult to isolate the effects of offsets from the numerous other factors affecting specific industry sectors. Despite such difficulties, Commerce officials stated that they could request more specific product data from prime contractors that would allow for more detailed analysis of the effect of offsets on the U.S. economy. Under DPA, the Secretary of Commerce is given authority to promulgate regulations to collect offset data from U.S. defense firms entering into contracts for the sale of defense articles or services to foreign countries or firms that are subject to offset agreements exceeding $5 million in value. The Secretary of Commerce designated this authority to the Bureau of Industry and Security (BIS), which published its first offset regulations in 1994. The regulations, which have never been updated, require companies to annually report information such as a name or description of the weapon system; defense item or service subject to the offset agreement; the name of the country of the purchasing entity; the approximate value of export sale subject to offset; and the total dollar value of the offset agreement. The regulations also require prime contractors to report on the broad industry category, based on outdated four-digit Standard Industry Classification (SIC) codes, in which offset transactions are fulfilled. Currently, 84 percent of the value of export contracts involving offsets submitted by prime contractors are for the aerospace industry and there is no delineation among subsectors of the aerospace industry.

According to Commerce officials, their analysis of the economic effect of offsets could be improved by requesting more detailed sector and product information based on updated six-digit North American Industry


Classification System (NAICS) codes from prime contractors. As the NAICS has replaced the SIC, such improvements would allow Commerce to provide greater insight into the effects of offsets on specific subsectors of the economy and would more closely match employment data already used in their analysis. BIS is currently conducting a review of the data and methodology used to assemble their annual reports on offsets. BIS officials have stated that they will review additional sources of data from sources such the Bureau of Labor Statistics and Commerce’s Bureau of Economic Analysis. Commerce officials anticipate the outcome of this review to be represented in their next annual report. However, changes to the regulation would not affect data collection for the next annual report.

Other Efforts to Report on Offsets Have Been Limited

In the 2003 DPA reauthorization, Congress created an interagency team to consult with foreign nations on limiting the adverse effects of offsets in defense procurement—without damaging the U.S. economy, defense industrial base, defense production, or defense preparedness—and prepare an annual report detailing the results of their foreign consultations. In February 2007, the interagency team—chaired by DOD, as designated by the President—issued its third and final report, which identified concerns shared by the United States and foreign nations about the adverse effects of offsets. This report, developed in consultation with representatives from U.S. government agencies, U.S. industry, and foreign nations, provided findings, recommendations, and strategies for limiting these adverse effects. The interagency working group went on to engage in bilateral dialogue with Australia in May 2007 and multilateral dialogue with six other countries in November 2007 and reached consensus to pursue the possibility of developing a statement of best practices for limiting the adverse effects of offsets. However, participants identified challenges including a lack of agreement on terminology and differences in views between national defense sectors and government agencies. While the interagency working group established a goal of producing a


27The interagency team issued a fourth annual report in December 2007, which agency officials refer to as a progress report on consultations held by the interagency working group that was delegated responsibility to conduct consultations on behalf of the team. The six countries with which they consulted include France, Germany, Italy, Spain, Sweden, and the United Kingdom.
preliminary statement by the latter half of 2008, participating nations noted in the report that it will be difficult and time-consuming to do so.

Additionally, the Defense Offsets Disclosure Act of 1999 established a national commission, requiring the President to submit a report to Congress addressing all aspects of the use of offsets in international defense trade within a year of its establishment. The commission, whose members included representatives from government, business, labor, and academia, produced an interim report in 2001 that described the extent and nature of defense-related offsets in both defense and commercial trade. It also described a variety of effects of offsets on the U.S. defense supplier base. For example, the commission reported that while offsets may facilitate defense export sales—which can help maintain the economic viability of certain U.S. firms—offsets can also supplant a significant amount of work and jobs that would go to U.S. firms if export sales occurred without offsets. The commission also reported that U.S. technology transfers through offsets often improved foreign firms’ competitiveness, but rarely resulted in technology transfer back to the United States. The commission was to provide a final report with areas for additional study including the effects of indirect and commercial offsets, the effects of offsets on industries other than aerospace as well as concrete policy recommendations. Due to the 2001 change in the presidential administrations, which resulted in vacancies in the five executive branch positions on the commission, the final report and recommendations were never produced and no further activity by the commission occurred.

Conclusion

Since the DPA was last reauthorized in 2003, there has been little use of its authorities for areas other than defense. Lessons learned from catastrophic events have emphasized the importance of ensuring that needed capabilities and contracts for key items are in place in advance of a disaster. Without an established system for considering and acting on requests to use priorities and allocations authority, additional time could be required to react to emergency situations as agencies determine the proper procedures for using the authority. Placing priority ratings on contracts only after a delivery problem has arisen could also limit agencies’ ability to make timely use of the authority in an emergency.

Agencies’ efforts could be strengthened by placing priority ratings on contracts for critical emergency response items before an event occurs.

DPA also requires Commerce to report on the potential impact of offsets on the U.S. economy, which has been a concern for many years. The lack of usable data in the Department of Commerce’s reports limits the government’s ability to gain knowledge on the economic effects of offsets and to take steps to address them.

Recommendations for Executive Action

To ensure that the full range of Defense Production Act authorities can be used in an effective and timely manner, we recommend the Secretaries of Agriculture, Health and Human Services, and Transportation, in consultation with the Department of Commerce, develop and implement a system for using the priorities and allocations authority for food and agriculture resources, health resources, and civil transportation respectively.

To maximize effective use of the priorities and allocations authority, we recommend the Secretaries of Agriculture, Energy, Health and Human Services, Homeland Security, and Transportation consider, in advance of an emergency, approving programs and placing priority ratings on contracts for items that are likely to be needed in an emergency.

To position the Department of Commerce to respond to offset reporting requirements, we recommend the Secretary of Commerce update regulations to, for example, request more specific industry information from prime contractors that would improve the assessment of the economic effects of offsets.

Agency Comments

We provided a draft of this report to USDA, Commerce, DOD, DOE, HHS, DHS, and DOT for comment. In official comments, USDA generally concurred with our findings and recommendations. Other agencies did not officially comment on our recommendations, but provided technical comments that were incorporated as appropriate.

In its technical comments HHIS noted that it is beginning to develop a regulation to establish a framework for considering requests for priority ratings. In line with GAO’s recommendations, the regulation would allow for priority ratings for health resources to be approved in advance of an emergency situation.
DOT noted in its technical comments that, based on its review of the draft, it will develop regulations for a priorities and allocations system.

We are sending copies of this report to the Secretaries of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, and Transportation. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

Please contact me at (202) 512-4841 or calvaresibarra@gao.gov if you have any questions regarding this report. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were John Neumann, Assistant Director; Marie Ahearn; Julie Hadley; Lauren Heft; Kevin Heinz; Marcus Lloyd Oliver; and Karen Sloan.

Ann Calvaresi Barr, Director
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United States Senate

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Ranking Member
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Committee on Armed Services
House of Representatives

The Honorable Barney Frank
Chairman
The Honorable Spencer Bachus
Ranking Member
Committee on Financial Services
House of Representatives
Appendix I: Scope and Methodology

To determine the extent to which agencies use the authorities in the Defense Production Act of 1950 (DPA), we reviewed the current legislation and recent amendments. In defining our scope we referred to Section 889 of the National Defense Authorization Act for Fiscal Year 2008 and focused on use of authorities since the 2003 reauthorization to respond to defense, energy, domestic security, disaster response, and critical infrastructure protection and restoration requirements. We reviewed and analyzed applicable regulations, policies, and guidance from seven agencies that have been delegated authority to use the DPA by Executive Order or federal regulation or have exercised the authorities. These agencies included the Departments of Agriculture (USDA), Commerce, Defense (DOD), Energy (DOE), Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT). At each of these agencies, we met with officials to discuss agency-specific DPA policies and guidance, recent use and implementation of the authorities, and challenges related to the authorities. Where available, we collected and reviewed documentation on circumstances in which agencies have used the DPA.

In examining use of the Title I priorities and allocations authority, we met with several agencies to discuss experiences, policies, and guidance. We met with officials from the Department of Commerce, Bureau of Industry and Security, to examine and discuss the delegation of the authority as well as the regulations that guide several agencies' use. We also met with officials from the U.S. Army, Navy, and Air Force and DOD’s Office of the Deputy Under Secretary of Defense (Industrial Policy) to review DOD’s policies for use of the authority and specific policies at each service. These discussions addressed specific application of the authority as well as challenges in implementation. Further meetings were held with other agencies regarding experiences, policies, and guidance related to use of the Title I authority for specific types of items including,

- USDA, Farm Service Agency, to discuss food and agriculture resources;
- U.S. Army Corps of Engineers, to discuss water resources;
- DOE, Office of Electricity Delivery and Energy Reliability, to discuss energy resources;
- HHS, Biomedical Advanced Research and Development Authority and Office of the Assistant Secretary for Preparedness and Response, to discuss health resources; and
- DOT, Office of Intelligence, Security and Emergency Response to discuss civil transportation.
In reviewing the use of the Title I authority by DHS, we reviewed documents from the Federal Emergency Management Agency (FEMA) including reports on its use of the authority, a consolidated report to Congress on use by it and other agencies, and endorsement and approval documents related to specific uses of the authority.

Additional discussions were held with officials at each of the seven agencies on experiences and awareness of DPA authorities in Titles III and VII. We specifically met with the Air Force DPA Title III Program Office to obtain documents related to the management of the program and discuss efforts to coordinate with other agencies. We reviewed documents related to authorities in Title VII, including the National Defense Executive Reserve and voluntary agreements and discussed both with each agency. Specific voluntary agreements were discussed with the Maritime Administration. We also reviewed industrial capability assessments from the Department of Commerce, for which the Department of Commerce uses the Title VII authority to collect information.

To identify the efforts of U.S. government agencies in assessing the economic effect of foreign offsets, we reviewed the DPA and other statutes to determine specific reporting requirements. To determine the extent to which the Department of Commerce has assessed the economic effects of offsets, we analyzed their annual offset reports since 2005 as well as a 2004 special report on the impact of offsets on the U.S. subcontractor base. We also spoke with officials from the Commerce Department’s Bureau of Industry and Security to identify the methodology used in assessing the economic effect of offsets as well as additional efforts that could allow for a more detailed analysis in the future. To determine DOD’s response to the offsets reporting requirements contained in the DPA, which provides for an interagency team to consult with foreign nations on limiting the harmful effects of offsets in defense procurement, we reviewed and analyzed the interagency team’s annual reports since 2004. We also contacted DOD’s Office of International Cooperation to discuss experiences and challenges associated with the interagency team and to determine their future plans with respect to foreign consultations. Finally, we reviewed prior GAO reports to identify challenges associated with assessing the economic effect of offsets.

We conducted this performance audit from January 2008 to June 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence
Appendix I: Scope and Methodology

obtained provides a reasonable basis for our findings and conclusions based on our audit objective.
Appendix II: Priorities and Allocations
Authority under Title I of the Defense Production Act

Title I of the Defense Production Act of 1950, as amended, authorizes the President to require priority performance on contracts or orders and to allocate materials, services, and facilities to promote the national defense. Executive Order No. 12,919, as amended, delegates the President’s priorities and allocations authority for various resources to the following agency heads:

- Secretary of Agriculture: food and agriculture resources
- Secretary of Energy: all forms of energy
- Secretary of Health and Human Services: health resources
- Secretary of Transportation: all forms of civil transportation
- Secretary of Defense: water resources
- Secretary of Commerce: all other materials, services, and facilities, including construction materials, known as industrial resources.

The Department of Commerce (Commerce) administers the only priorities and allocations system that is actively used—the Defense Priorities and Allocations System (DPAS)—which is used for industrial resources. Commerce has delegated authority to use priority ratings on contracts for industrial resources to the Departments of Defense (DOD), Energy (DOE), and Homeland Security (DHS) for use in support of approved national defense, energy, and homeland security programs. Under the DPAS, agencies can assign a “DO” or a “DX” priority rating to orders. DO ratings are used for items critical to national defense, while a DX rating denotes the highest national defense urgency. Priority rated orders have preference over all unrated orders as needed to meet required delivery dates, and among rated orders, DX-rated orders have preference over DO-rated orders.

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2 The Department of Commerce has also delegated authority to use priority ratings for industrial resources to the General Services Administration for use with contracts and orders in support of the General Services Administration federal supply system to acquire items for approved DOD and DOE programs.

3 Only DOD, DOE, and the General Services Administration have delegated authority under DPAS to issue DX ratings for approved programs. The Secretary of Defense and the Deputy Secretary of Defense approve programs to use DX ratings.
Recent Use of Priorities and Allocations Authority by Federal Agencies: Department of Commerce

While Commerce has delegated the ability to use DPAS authority to four agencies, it may also provide Special Priorities Assistance to authorize other government agencies, foreign governments, owners and operators of critical infrastructure, or companies to place priority ratings on contracts on a case-by-case basis, or to resolve any problems that may arise in the use of priorities and allocations authority. Commerce reported that since late 2003, it has taken approximately 180 actions to provide Special Priorities Assistance, primarily to support foreign government requirements related to DOD-approved programs.

Department of Defense

With some exceptions, all DOD contracts for industrial resources receive a priority rating under DPAS, which amounts to approximately 300,000 contracts annually that receive priority ratings. For example, DOD has used its authority in the past several years to prioritize the delivery of ballistic material used in body armor for the Army and Marine Corps. In addition, DOD has worked to manage DOD-wide demand for armor plate steel and helped steel firms manage schedules in order to prevent armor plate shortages resulting from a surge in production on the Mine Resistant Ambush Protected (MRAP) Vehicle Program. The U.S. Army Corps of Engineers, which executes DOD’s priorities and allocations authority for water resources, also uses rated orders to procure water in advance of or during emergency events.

Department of Homeland Security

Since 2003, DHS reported that it has authorized or endorsed to the Department of Commerce the use of priority ratings for 15 programs, which includes approval of other federal agencies’ use of priority ratings:

- restoration of rail service in the Gulf Coast region after Hurricane Katrina;
- construction of an FBI facility in Northern Virginia;
- construction of the Department of Justice’s Terrorist Screening Center;
- procurement of perimeter security equipment for a major airport and seaport;
- upgrades to cargo seaport security;
- procurement of encrypted radio equipment for use in U.S. Park Police helicopters;
- acquisition of generator transfer switches and transformers for state evacuation centers;
- upgrade of State Department domestic facility security;
- procurement of a generator for the State Department’s Continuity of Operations facility;
Appendix II: Priorities and Allocations Authority under Title I of the Defense Production Act

- construction of an emergency Federal Support Center;
- procurement of equipment for a FEMA emergency facility;
- DHS procurement of encrypted emergency communications equipment;
- procurement of FBI night vision equipment;
- FEMA's Communications Support Infrastructure Program; and
- The Geostationary Operational Environmental Satellite, R-Series Program of the National Oceanic and Atmospheric Administration.

**Department of Energy**

DOE reported that it has used priority ratings primarily on contracts and orders supporting atomic energy or defense. Outside of this use, DOE has not encountered emergency conditions requiring the use of priorities and allocations authority to reduce interruptions in energy supplies since 2003.

**U.S. Department of Agriculture**

USDA officials reported that they have not made use of priorities and allocations authority, and that use of the authority would be needed only in very catastrophic circumstances. USDA is in the process of developing regulations to implement an Agriculture Priorities and Allocations System to support use of priority ratings to maintain agricultural operations during a national emergency. A memorandum of understanding relating to foods that have industrial uses and the domestic distribution of farm equipment, sets the priorities and allocations jurisdiction and responsibilities of USDA and Department of Commerce for defense mobilization in the event of a national security emergency.

**Department of Health and Human Services:**

HHS officials reported that they have not encountered circumstances requiring use of the authority, but have identified some health resources for which HHS could potentially use the authority in the future. HHS is currently developing a priorities and allocations system regulation for health resources, modeled on DPAS.

**Department of Transportation**

DOT officials reported that they have not routinely used priorities and allocations authority for civil transportation needs, explaining that the market has traditionally responded to civil transportation requirements without the need for priority-rated orders. For example, DOT reported that it consulted with Commerce and DHS on the possible use of DPAS authority during planning following the I-35W bridge collapse in Minnesota, but found there was no resource shortage that would have required using the authority.
In 2002, DOT obtained a priority rating to support the procurement of approximately 1,800 Explosives Detection Systems (EDS) machines for use in U.S. airports. According to DOT officials, this rating was necessary for the Transportation Security Administration (TSA), then part of DOT, to meet a statutory obligation to install a specified number of EDS machines in U.S. airports by December 31, 2002. In addition, DOT has worked with DOD to secure priority ratings under DOD's authority. During the first Gulf War, the FAA, working through DOD, sought use of DPAS to support activation of the Civil Reserve Air Fleet. This request was made after the Air Mobility Command determined that air carriers could provide more resources if they could get priority for parts. Additionally, a DOD priority rating was used to expedite one carrier’s airframe modifications to enable it to transport pallets used by DOD.
Title III of the Defense Production Act of 1950 (DPA), as amended, allows agencies to provide financial incentives to domestic firms to invest in production capabilities to ensure that the domestic industrial and technological base is capable of meeting the critical national security needs of the United States. It is used when domestic sources are required and firms cannot, or will not, act on their own to meet a national defense production need. Title III financial incentives are designed to reduce the risks for domestic suppliers associated with the capitalization and investments required to establish, expand, or preserve production capabilities. The candidate projects are evaluated in terms of four criteria:

1. The industrial resource or critical technology item is essential to the national defense;

2. Without the Title III authority, United States industry cannot reasonably be expected to provide the capability for the needed industrial resource or critical technology item in a timely manner;

3. Title III incentives are the most cost-effective, expedient, and practical alternative methods for meeting the need involved; and

4. The combination of the U.S. national defense demand and foreseeable nondefense demand for the industrial resource or critical technology item is not less than the output of domestic industrial capability, as determined by the President, including the output to be established with the Title III incentives.

As shown in Table 2, Title III has been used to promote a variety of technologies with dedicated funds ranging from $88,000 to approximately $164 million.
## Table 2: Title III Project Descriptions and Dollar Costs

<table>
<thead>
<tr>
<th>Title III project</th>
<th>Description</th>
<th>Funds (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projects over $20 million</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation Hardened Microelectronics Capital Expansion</td>
<td>Provides substantially higher electronic operating speeds and will lower the power/size of electronics in spacecraft</td>
<td>$163.91</td>
</tr>
<tr>
<td>Beryllium Industrial Base Production Initiative</td>
<td>Provides a supply of primary (high-purity) beryllium metal available to the United States and its allies</td>
<td>$67.10</td>
</tr>
<tr>
<td>Titanium Metal Matrix Composites for Aircraft</td>
<td>Supplies material properties that enable aircraft designers to engineer components that are stronger, lighter, and more durable than existing steel and pure titanium components</td>
<td>$20.41</td>
</tr>
<tr>
<td><strong>Projects $10 million-$20 million</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SiC MMIC Devices</td>
<td>Provides silicon carbide metal semiconductor field effect transistor monolithic microwave integrated circuits that can satisfy military requirements for advanced radar systems</td>
<td>$16.42</td>
</tr>
<tr>
<td>Lithium Ion Batteries</td>
<td>Supplies long-life lithium ion batteries for spacecraft use</td>
<td>$16.20</td>
</tr>
<tr>
<td>High Temperature Flexible Aerogel Material Supplier Initiative</td>
<td>Provides nanoporous solids with up to 99 percent open porosity often called &quot;frozen smoke&quot;</td>
<td>$14.62</td>
</tr>
<tr>
<td>Integrated Advanced Composite Fiber Placement</td>
<td>Provides expansion of the domestic supply base for automated composite technologies</td>
<td>$13.96</td>
</tr>
<tr>
<td>Polyhedral Oligomeric Silsesquioxane (POSS) Nanotechnology Scale-up Initiative</td>
<td>Provides a nano-sized material used as a chemical additive that enhances the performance of polymers</td>
<td>$13.73</td>
</tr>
<tr>
<td>High Performance Thermal Battery Production Initiative</td>
<td>Establish, strengthen, and expand a domestic source for advanced thermal batteries</td>
<td>$11.44</td>
</tr>
<tr>
<td><strong>Projects under $10 million</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation Hardened Cryogenic Read Out Integrated Circuits (ROIC)</td>
<td>Establishment of a domestic foundry for production of ROICs, which are used in manufacturing focal plane arrays used in space-based imaging and missile systems</td>
<td>$9.87</td>
</tr>
<tr>
<td>Next Generation Radiation Hardened Microprocessors</td>
<td>Scaling up production capacities for high performance radiation-hardened microprocessors</td>
<td>$9.18</td>
</tr>
<tr>
<td>Thin Silicon-On-Insulator Wafers</td>
<td>Enables the fabrication of radiation-hard, ultra large scale digital devices</td>
<td>$9.14</td>
</tr>
<tr>
<td>Reactive Plastic CO₂ Absorbent Production Initiative</td>
<td>Secures the CO₂ absorbing material to a plastic sheet in a polymer matrix bond</td>
<td>$8.37</td>
</tr>
<tr>
<td>Miniature Compressors for Electronics &amp; Personal Computing</td>
<td>Establishing a facility to produce personal cooling systems for soldiers and vehicles</td>
<td>$7.95</td>
</tr>
<tr>
<td>ALD Hermetic Coatings</td>
<td>Establishes a domestic manufacturing capability for increased corrosion protection, reduced size, weight and cost factors, improved manufacturing yields, and much greater operational life of coated items</td>
<td>$5.42</td>
</tr>
<tr>
<td>ALON &amp; Spinel Optical Ceramics</td>
<td>Provides light-weight, higher performance, lower cost optical materials</td>
<td>$5.34</td>
</tr>
<tr>
<td>TWT Amplifiers for Space</td>
<td>Provides vacuum electronic devices which amplify a radio-frequency signal</td>
<td>$5.30</td>
</tr>
</tbody>
</table>
### Appendix III: Title III Authority for Expansion of Production Capabilities for Critical Security Needs

<table>
<thead>
<tr>
<th>Title III project</th>
<th>Description</th>
<th>Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>YBCO Superconductors</td>
<td>Provides critical component for defense applications which require high electrical power</td>
<td>$4.00</td>
</tr>
<tr>
<td>Photovoltaic Solar Cell Encapsulant</td>
<td>Enables protection of solar cells from natural elements while insulating the imbedded electrical circuits</td>
<td>$3.38</td>
</tr>
<tr>
<td>Silicon Powder &amp; Ceramic Armor</td>
<td>Provides high quality, light weight, and cost competitive SiC ceramic armor for the Warfighter</td>
<td>$3.09</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Military Lens Systems</td>
<td>Provides night vision optical systems to be used in surveillance systems</td>
<td>$2.84</td>
</tr>
<tr>
<td>Methanol Fuel Cell Components</td>
<td>Replacing batteries with reliable electrical power to lighten the loads of soldiers</td>
<td>$2.43</td>
</tr>
<tr>
<td>Coal Based Carbon Foam</td>
<td>Provides inexpensive, lightweight, fire-resistant, impact-absorbing material fabricated in many shapes, sizes, and densities</td>
<td>$1.91</td>
</tr>
<tr>
<td>Amplifying Fluorescent Polymer Based IED Detection Devices</td>
<td>Expands capacity of a small lightweight explosive detector device</td>
<td>$1.06</td>
</tr>
<tr>
<td>Continuous Filament Boron Fiber Production</td>
<td>Provides boron fiber needed for aircraft structure reinforcement and repair</td>
<td>$0.88</td>
</tr>
<tr>
<td><strong>Projects with Contracts Not Yet Awarded</strong></td>
<td></td>
<td>$31.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$449.3</strong></td>
</tr>
</tbody>
</table>

Source: GAO analysis of DOD data.
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